

SAWYER CONSULTANTS INC.

*Prospectus*  
*Oct. 10, 1980.*  
*062024*

REPORT ON THE PLACER GOLD PROPERTIES

on

**BOUCHER CREEK**

Dawson Mining District

and

**RUDE CREEK**

Whitehorse Mining District

YUKON

for

**GOLD CREEK MINING LTD.**

FEBRUARY 25th, 1980



## TABLE OF CONTENTS

	Page
INTRODUCTION .....	1
SUMMARY .....	1
PROPERTY AND OWNERSHIP .....	3
Boucher Creek .....	3
Rude Creek .....	6
LOCATION AND ACCESS .....	6
PHYSIOGRAPHY .....	8
HISTORY .....	9
GEOLOGY .....	12
PLANNED OPERATIONS .....	14
<u>Rude Creek</u> .....	15
Mining Schedule and Program Timetable .....	16
<u>Boucher Creek</u> .....	17
Mining Schedule and Program Timetable .....	17
Mining Camp .....	18
CAPITAL EQUIPMENT AND FUNDING .....	18
Table 1 - Capital Requirements - 1980 - Rude Creek and Boucher Creek .....	19
Table 2 - 1980 Field Operating Budget - Rude Creek and Boucher Creek .....	20
CERTIFICATE .....	22
SELECTED BIBLIOGRAPHY .....	23

### List of Illustrations

Figure 1 - General Location Sketch, scale 1" = 80 miles	2
Figure 2 - Claim Map of Boucher Creek property, scale 1" = 1 mile	4
Figure 3 - Claim Map of Rude Creek property, scale 1" = 1 mile	5
Figure 4 - Location Map, scale 1:2,500,000	7
Figure 5 - Photo of Rock Walls at Old Workings on Rude Creek	11

## INTRODUCTION

Gold Creek Mining Ltd. has acquired title to certain placer leases and placer claims covering a total of over fourteen miles on Boucher Creek and its tributary Huot Gulch, and on Rude Creek in the western Yukon. Visits to these two areas were made by the writer in the period October 13th to October 17th, 1979. This report, prepared at the request of Mr. D. Owen, President of Gold Creek Mining Ltd., describes the geological and physical setting of the areas and gives a proposed mining and operating plan for the 1980 season.

## SUMMARY

Placer gold occurrences have been known in the Sixtymile and Klondike areas of the western Yukon since before the turn of the century. The source of the gold which occurs in these placers is believed to be the quartz veins and quartz bearing schists which occur over fairly large areas of this part of the Territory. Gold Creek Mining Ltd. has acquired placer leases on Boucher Creek and one of its tributaries in the Sixtymile River area southwest of Dawson City, and on Rude Creek which lies to the south-southeast of Dawson.

There is ample physical evidence on the ground of quite extensive former hand mining operations on both of these creeks and sampling carried out in the fall of 1979 has provided sufficiently encouraging results to justify resumption of mining operations on both creeks. An evaluation of the physical characteristics of the creeks themselves, as well as of the sampling results suggests that the bulldozer and sluice box type of operation which would produce approximately 480,000 cubic yards of gold bearing gravels from each operation, on Boucher Creek and Rude Creek, is feasible, operating on a 120 day season. Operating plans call for camp set up beginning in March followed by ground preparation to enable mining operations to begin by May 15th, or as soon as local weather conditions permit. Using a gold price of \$400 Canadian per ounce a cash flow of approximately 2.6 million dollars is projected through the end of the season for each of the two lease groups, i.e. \$5,216,400 for both operations.



# GOLD CREEK MINING LTD. PLACER LEASES

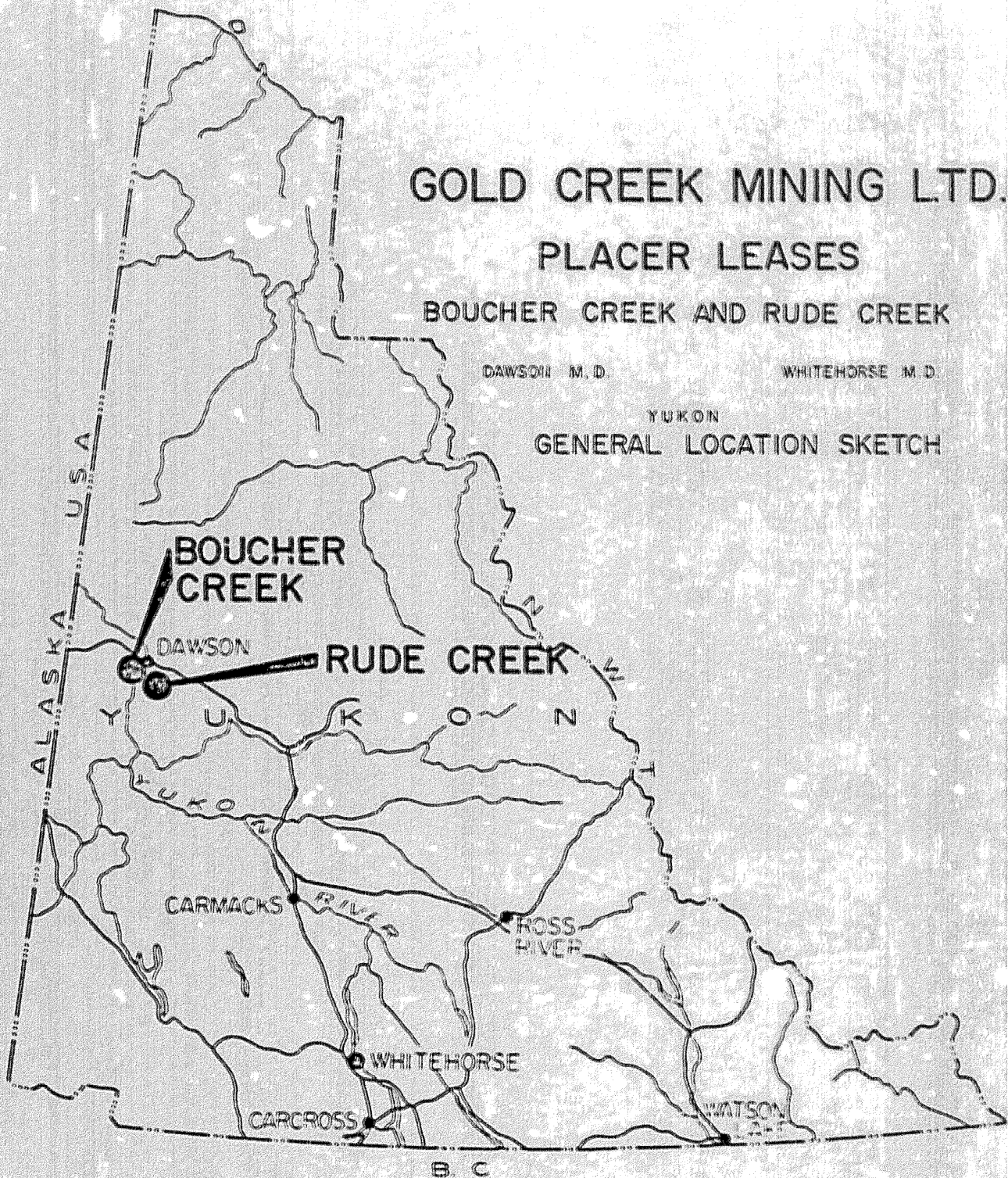
## BOUCHER CREEK AND RUDE CREEK

DAWSON M. D.

WHITEHORSE M. D.

YUKON

### GENERAL LOCATION SKETCH



Scale: 1" = 80 Miles, (approx.)

Figure 1

## PROPERTY AND OWNERSHIP

The two groups of leases are in separate areas, Boucher Creek being southwest of Dawson City in the Sixtymile River area, and Rude Creek lying south-southeast of Dawson City.

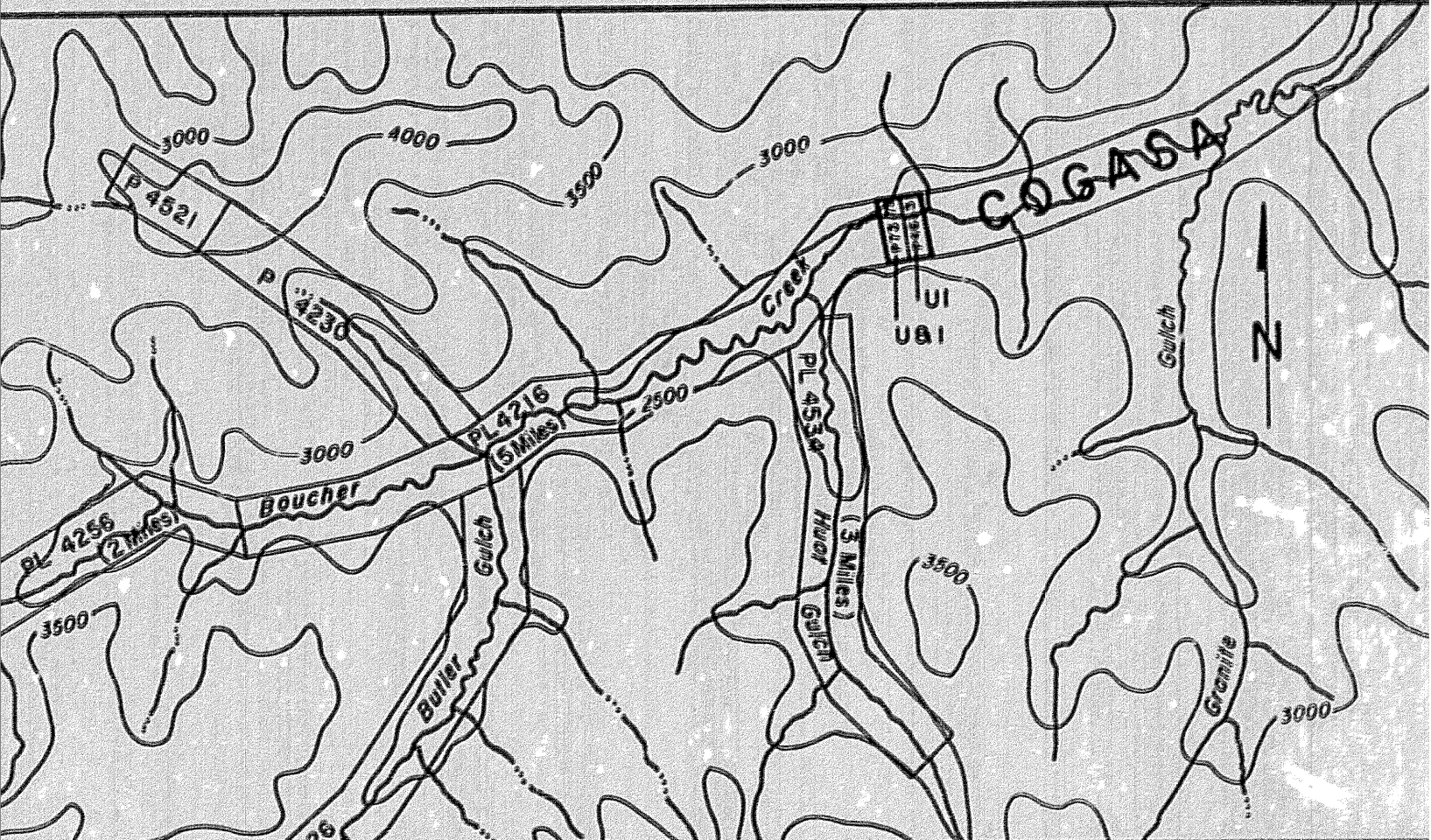
### Boucher Creek

The Boucher Creek property includes one lease on Boucher Creek itself, Placer Lease No. 4216 covering five miles, and two staked claims, the U I and the U and I claims having Tag Nos. P4635 and P7379 respectively, also on Boucher Creek, and Placer Lease No. 4534 covering three miles on Huot Gulch, a tributary draining into Boucher Creek from the south. The greater part of the five mile lease, No. 4216, is in the north-east quadrant of 115N/15 NTS quadrangle and is shown on Yukon Placer claim sheets of that number. The easternmost one-third of Placer Lease 4216, the two staked claims, and Placer Lease 4534 on Huot Gulch are in NTS quadrangle 115N/16 and are shown on the Yukon Placer claim map bearing that number. The claims are recorded in the names of the stakers from whom Gold Creek Mining Ltd. has purchased them for a consideration of cash and royalty from production. The following table summarizes the pertinent data for these properties and Figure 2 is a claim map of them.

Lease/Claim	Located	Recorded	Expiry Date	Staked By	Recorded Owner
PL 4216 Boucher Creek 5 miles	July 4/78	July 5/78	July 5/80	J.R. Stevenson	G.L. Schneider
U I P4635	July 4/78	July 5/78	July 5/80	G.L. Schneider	G.L. Schneider
U and I P7379	July 8/79	July 10/79	July 10/80	G.L. Schneider	G.L. Schneider
PL4534 Huot Gulch 3 miles	July 8/79	July 18/79	July 23/80	Carolyn Morrison	Carolyn Morrison

Lease 4256 which starts near the headwaters of Boucher Creek and is adjacent to and upstream from Lease 4216 is not part of the Gold Creek holdings. Similarly leases held on Butler Gulch, a tributary draining into Boucher Creek from the south and Bourdelais Gulch, a tributary draining into Boucher Creek from the north, are held by other parties. Downstream from the two staked claims, which are at the eastern extremity of Placer Lease No. 4216 the placer mining rights are covered by a number of claims held by Cogasa Mining Company.





GOLD CREEK MINING LTD.

**BOUCHER CREEK  
PLACER LEASES & CLAIMS  
SIXTY MILE RIVER AREA  
YUKON**

SCALE: 1" = 1 MILE

N.T.S. Ref. 115.

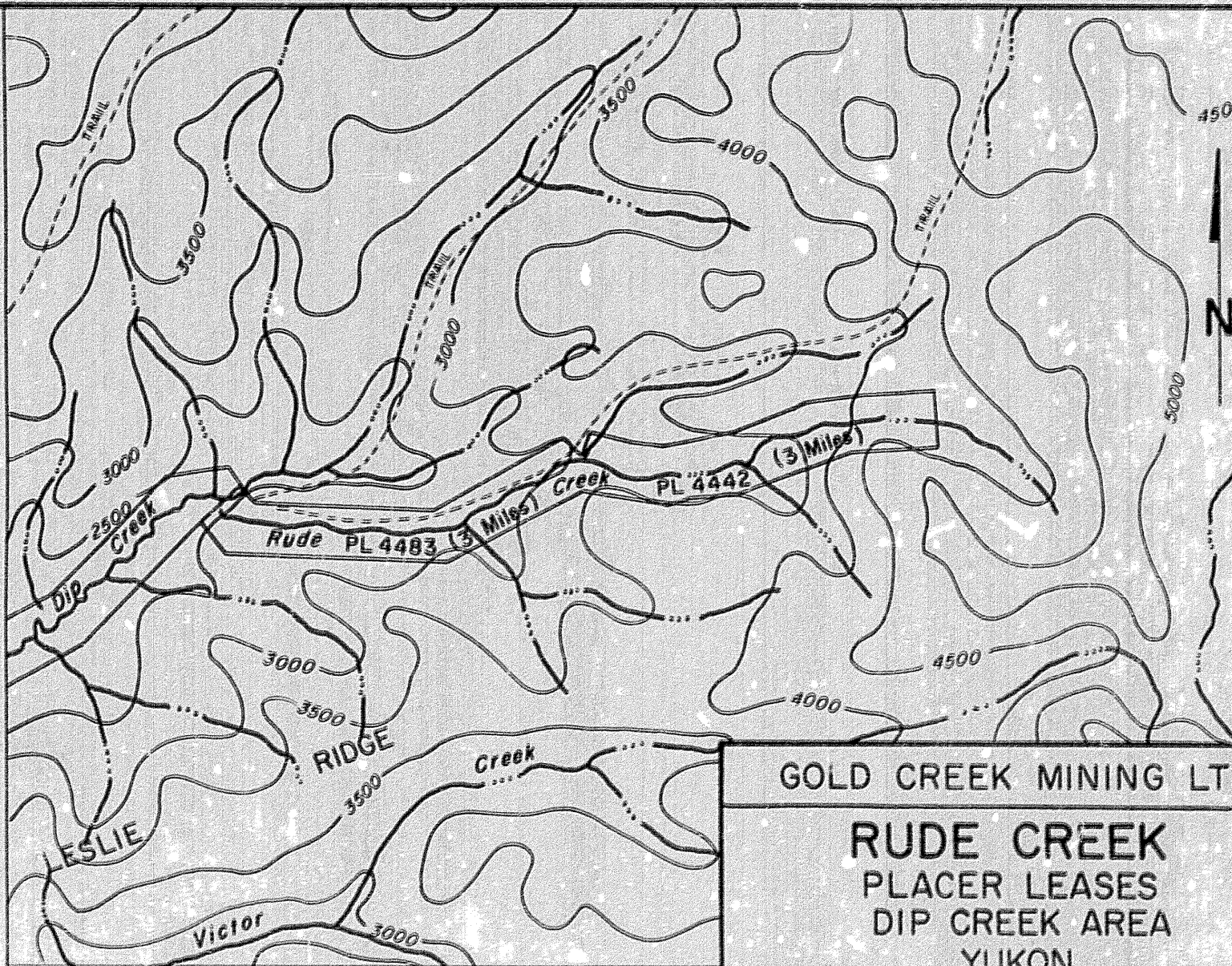
SAWYER CONSULTANTS INC.

Date: Nov., 1

Drawn by: C. L. C.

Fig. 2





GOLD CREEK MINING LTD

**RUDE CREEK  
PLACER LEASES  
DIP CREEK AREA  
YUKON**

SCALE 1" = 1 MILE N.T.S. Ref. 115 N/

SAWYER CONSULTANTS INC Date: Nov.

Drawn by C L C Fig. 3

## Rude Creek

Gold Creek Mining Ltd. holds two placer leases each covering three miles of stream on Rude Creek which is a tributary of Dip Creek near its headwaters, located east of Casino Creek and southeast of the Casino porphyry copper occurrence owned by Teck Corporation. Placer Lease No. 4442 is the more easterly of the two 3 mile leases, that adjoining it to the west being No. 4483. Reference to Yukon claim sheet No. 115J/10 on which these leases are shown indicates that no other placer leases or claims are currently held in the immediate area. Some leases exist on Canadian Creek to the south of the Casino property some six miles to the northwest and on Coffee Creek. The following table summarizes the pertinent data of these leases which are recorded in the name of Larry Smith, from whom they have been purchased by Gold Creek Mining Ltd. for a consideration of cash and royalty from production. Figure 3 is a claim sketch of these leases.

Lease/Claim	Located	Recorded	Expiry Date	Staked By	Recorded Owner
PL 4442 Rude Creek 3 miles	Apr. 29/79	May 3/79	May 14/80	V. Dikatis	Larry C. Smith
PL 4483 Rude Creek 3 miles	May 26/79	June 7/79	June 13/80	D. Langtree	Larry C. Smith

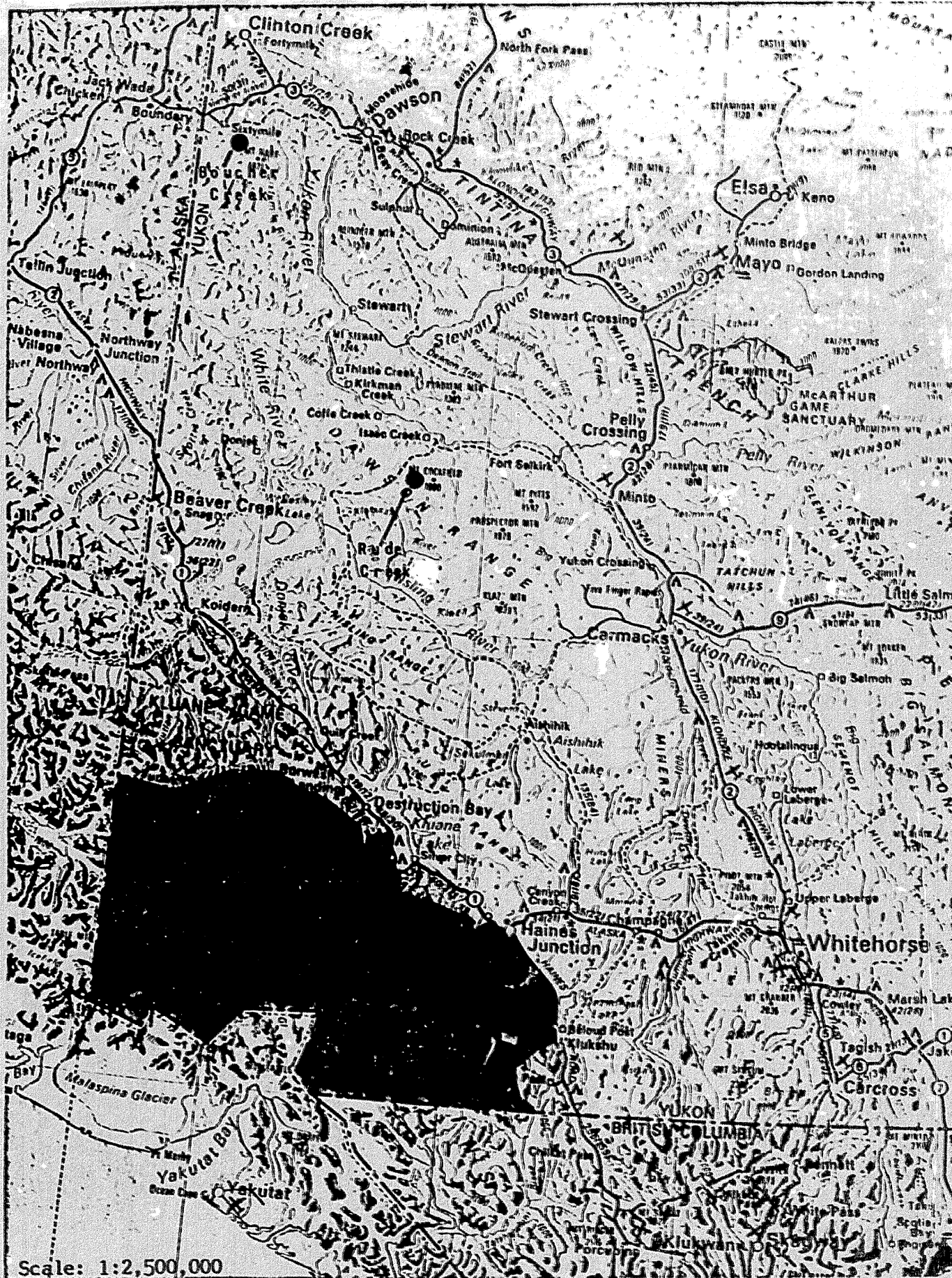
## LOCATION AND ACCESS

Boucher Creek is shown on topographic map 1150 and 115N, Stewart River, in the 1:250,000 series, and on maps 115N/15 - Crag Mountain, and 115N/16 - Enchantment Creek, in the 1:50,000 series. Access by road to the Boucher Creek property is possible by way of an existing road which connects the Cogasa property on Sixtymile River with the road from Sixtymile to the main road from Dawson to the Fortymile area continuing westward into Alaska. This road into the Cogasa properties is used frequently during the season for access to and from the main Cogasa camp and with relatively little work in the Boucher Creek area ready access can be provided for truck traffic during the operating season.

Boucher Creek is a tributary of the Sixtymile River approximately 30 air miles west-southwest of Dawson City. The 140°30' West meridian separates the eastern one-third from the westerly portion of the leases along Boucher Creek and lies just west of Huot Gulch. The 64°00' North parallel lies just to the north of these leases.

**SAWYER CONSULTANTS INC.**





LOCATION MAP

Figure



Rude Creek is a tributary of Dip Creek, near the headwaters of the latter, having a mean latitude of 62° 40' North approximately. The 138° 40' West meridian roughly bisects the Creek into east and west halves. Casino Creek, a tributary draining into Dip Creek from the north is about 4 miles west of the confluence of Rude Creek and Dip Creek. Patton Hill on which the Casino porphyry copper-molybdenum prospect, owned by Teck Corporation, is located lies approximately 8 miles to the northwest. Rude Creek is shown on topographic map 115J and 115K - Snag, Yukon, in the 1:250,000 series, and on map 115J/10, Colorado Creek, Yukon, in the 1:50,000 series.

There is no direct ground access to Rude Creek other than by foot trails, however, there are roads into the Patton Hill area and Smith reports that there are roads along Casino Creek almost to its confluence with Dip Creek which in the dry season are passable to four wheel drive vehicles. It is probable therefore that with some upgrading and extension of the road eastwards along Dip Creek for some 4 or 5 miles road access into the property could be established. There is currently a winter air strip on the south side of Dip Creek immediately west of its confluence with Rude Creek. With relatively little additional bulldozer work this can be converted into a year round air strip for light aircraft which will facilitate provision of supplies and services to the Rude Creek camp during the operating season. At the present time the only access to the property is by aircraft, helicopter in summer time and either helicopter or fixed wing during the period that the winter air strip can be used.

## PHYSIOGRAPHY

Both Boucher Creek and Rude Creek lie essentially within the area of the Yukon Plateau.

Klondike Plateau, a subdivision of Yukon Plateau, is described (Green, 1972) as being "marked by long, twisted, irregular main and spur ridges produced by a highly developed dendritic stream pattern. The crests of most of the ridges are between 3000 and 4000 feet elevation and probably represent an old uplifted erosion surface." Boucher Creek itself has a fairly gentle gradient falling from an elevation of about 3000 feet on Placer Lease 4256 (westernmost) to about 2400 feet at the eastern limit of the claims. The valley of Boucher Creek is of moderate to good width with good low benches which will probably provide good mining ground. Huot Gulch is typical of many of the subsidiary streams in the area having a much steeper gradient and being confined in a narrow V-shaped valley. The valley of Rude Creek although of good mining widths with fairly wide benches which have barely been touched by earlier mining, has a steeper gradient than Boucher Creek falling from an elevation of about 3000 feet near the eastern limit of the claims to an elevation of about 2300 feet at the confluence with Dip Creek. As before the smaller tributaries of Rude Creek, such as Jens Creek to the south (now covered by Gold Creek Mining Ltd. claims) have much steeper V-shaped valleys. To the east, Mount Cockfield rises to 6090 feet at its peak between the headwaters of Colorado Creek, Victor Creek and Rude Creek on the west, and Battle Creek and other tributaries of the Selwyn River on the east.



Although valley glaciers emerged from the mountains along some of the river valleys further east, including the North Klondike and Fifteenmile Rivers, the area to the southwest of Tintina Trench, including Boucher Creek and Rude Creek were not affected by the last glacial period. All of the area, however, is characterized by permafrost conditions which is an important consideration in connection with placer mining operations. In areas where the gravels and soils are covered by moss the ground remains permanently frozen, unaffected by the summer heat. In areas where gravel beds are exposed and in a favourable position having a southerly aspect the ground will thaw to a depth of 6 to 10 feet.

## HISTORY

The Sixtymile Goldfield, within which the Boucher Creek claims lie, was discovered in 1892 by miners crossing from the Fortymile Goldfields in Alaska. The history of mining in the 60 mile area therefore predates the more famous Klondike gold rush of 1897-98. The main placer areas include Miller Creek, Glacier Creek, Little Gold Creek, and Big Gold Creek, and parts of the Sixtymile River itself. Besides several hand mining operations two dredges also operated in the area. The first was built by North American Trading & Transportation Company and was used on Miller Creek in 1915 and 1916. This was later refitted by Holbrook Dredging Company and operated in the valley of Sixtymile River between 1929 and 1941. The second was built by Yukon Explorations, Ltd. and worked on Big Gold Creek downstream from the mouth of the Glacier Creek and in the valley of Sixtymile River between 1947 and 1959. Over the last 30 years or so a number of companies and individuals have operated bulldozer sluicing plants (Green, 1972). Production on the Sixtymile River and its tributaries has continued since that time at varying levels, the most recent and perhaps most ambitious operation being that mounted by German interests under the name of Cogasa Mining Company beginning in 1974. This company currently holds well over 150 miles of placer leases in the Sixtymile area and has built a highly mechanized and automated plant designed to process large volumes of gold bearing gravels. It is reported that this plant has operated sporadically over the past two seasons and although detailed results are not known it is established that the gravels carry good values sufficient to support a highly profitable operation on a good volume of throughput.

Green (1972) reports that recorded production for Sixtymile Goldfield from discovery to 1965 was about 213,600 ounces of fine gold which included 123,000 ounces up to 1917, about 12,700 ounces for the Holbrook Dredging Company for the years 1934, 1935, 1939, and 1940, 72,984 ounces for Yukon Explorations Ltd. for the years 1948 to 1961 inclusive, 4,630 ounces for other operators between 1948 and 1962, and about 290 ounces for later operations.

Boucher Creek flows into the Sixtymile River from the south at a point approximately 16 miles downstream from the mouth of Glacier Creek. There is evidence along Boucher Creek of former placer operations including the remains of several old cabins and a number of open pits



and shafts with, in places, quite extensive tailings piles along the valley of the creek. Mr. John Wain reports (personal communication) that these creeks were extensively mined by old timers prior to the turn of the century during the period of the gold rush in the Sixtymile Goldfield and were then hand mined by a French syndicate after the turn of the century. Probably the old cabins, pits, etc. seen along the creek date from this time.

The history of the Klondike Goldfield sparked by the discovery of gold on what is now called Bonanza Creek on August 17th, 1896, is well known and although to date it is far from being the most productive placer goldfield in North America, it appears to have been the one to catch the imagination of the world and to have received more publicity than perhaps was its due. At the start of the Klondike gold rush individual claims were hand worked by underground or open cutting methods but subsequently large blocks of claims were acquired by the Guggenheim interests and were worked by hydraulic methods and dredging. The famous Klondike ditch, by means of which water was brought to the several operations in white channel gravels over a distance of about 70 miles from the Tombstone and Little Twelvemile Rivers, located north of the goldfield, was one of the more remarkable engineering feats associated with this field. Hydraulic operations using water from the ditch began in 1909 and a total of 10 dredges were in operation, 7 of them electrically driven by power from the Little Twelvemile plant of the Yukon Gold Company over a transmission line some 36 miles long. Most of the Klondike River valley between Hunker Creek and Dawson City and parts of the Bonanza and Hunker Creeks were dredged before the last dredges ceased operations in late 1966. A number of hydraulic and bulldozer operations on several creeks in the Klondike field have continued with a recent resurgence in the level of activity in these areas within the last few years reflecting the greatly increased price of gold. To the east and southeast of the main Klondike Goldfield operations have been less numerous but have continued on several creeks including Coffee Creek, located a few miles northwest of Rude Creek, up to the present time.

On Rude Creek there are extensive old workings extending over 3 or 4 miles along the creek which include old shafts and open pits on both sides of the creek. An interesting feature to be seen on Rude Creek which bears witness to the extent of the old workings are numerous rock walls some 3 or 4 feet high extending en echelon along several hundred feet of the creek (see Figure 5). W.E. Cockfield in the Annual Report of the Department of Mines for the fiscal year ending March 31, 1928, and in the Summary Report 1927 Part A reported on activities on Rude Creek and particularly on silver-lead deposits which occur there. He notes that attention was first attracted to Rude Creek as a placer gold camp in 1915, and that the creek was worked to some extent in the spring and summer of 1916. However, at that time apparently gold was not found in sufficient quantities so that these initial operations were abandoned. The quite extensive workings observed by us on Rude Creek bear witness to much more extensive operations than those described by Cockfield and although there appears to be little or no more recent information published on these operations they clearly must have met with better success than the earlier efforts. The silver-lead showing to which Cockfield referred is apparently located on Trombley Creek,

**SAWYER CONSULTANTS INC.**





Rock Walls at Site of Old Workings, Rude Creek

a tributary of Rude Creek, and consists of a vein of silver-lead mineralization enclosed entirely within the granitic rocks. The mineralization consists of galena and sphalerite with pyrite and carbonates of lead and iron (Cockfield, 1928). Work on this prospect seems to have been quite extensive at that time and included an eight foot pit with an adit 72 feet long being driven westerly from the west side of the pit. A cross cut to the south was made at a point 49 feet in from the portal of the adit which extended for about 18 feet. Apparently the extent of this showing was quite limited and was not exposed in the underground workings. It is interesting to note that in his report of his examination made in 1927 Cockfield refers to the fact that he carefully examined float in the creek, the old placer dumps, and the placer concentrates of the only placer claim working on the creek for evidence of galena float from the vein showing. It would appear from this then that at least one claim was being operated on Rude Creek at least as late as 1927. From our observations the evidence would suggest that in fact operations continued much later than this and Mr. John Wain reports (personal communication) that according to local intelligence the creek was extensively worked by two old prospectors as late as the 1940's. This would appear to be supported by evidence of numerous old tools and remnants of equipment still at the sites as well as by the rock walls and tailing piles referred to earlier.

## GEOLOGY

The Dawson map area, at the southwestern corner of which the lower reaches of Boucher Creek lie, was mapped by L.H. Green and J.A. Roddick of the Geological Survey of Canada in 1961 and is covered by GSC Memoir 364 by L.H. Green published in 1972. Map 1284A, geology of Dawson Map Sheet, shows the area along Sixtymile River at the mouth of Boucher Creek and California Creek to be underlain by granitic textured quartz-biotite-chlorite schists, and quartz-feldspar pegmatites of Green's map unit D. These rocks were earlier considered by Cockfield as being intrusive into the metamorphosed sedimentary rocks, however, Green correlates them with the Pelly gneisses to which Mertie (1937) assigned a sedimentary origin and Green considers them also to have formed through the alteration of sedimentary rocks. These appear to be surrounded by rocks of map unit A which are metasedimentary Nasina Series rocks consisting of low rank metamorphosed sedimentary rocks including principally, quartzite, quartz-mica schist, and limestone. All of these rocks are included in a general group described by Cairnes (1914) as including "all the older metamorphic, probably Precambrian, schistose and gneissoid rocks that are encountered regardless of their origin, which is often difficult or impossible to determine," and given the name Yukon Group. Rocks of this Yukon Group were formerly considered as part of a Precambrian crystalline complex, however, Green reports finding field relationships upon which this Precambrian age was based to be invalid and argues that more recent evidence both from the Dawson map area and from areas to the southeast of it suggest that these metamorphic rocks are at least in part of Palaeozoic age. This latter opinion appears to be supported by more recent potassium/argon dates.



In the Sixtymile Goldfield bedrock consists largely of quartzite, schist and minor gneiss of unknown age, according to Green, (1972) with younger (Tertiary) volcanic rocks being present on the lower parts of Miller and Glacier Creeks and presumed to occur in covered areas of the Sixtymile River valley. Cockfield reported that the gravels from the Sixtymile Goldfield appear to be of local origin and to include flattened discs of phyllitic material and boulders of quartzite and younger volcanic rocks. It is not clear from these descriptions what the source of the gold in the placer deposits is but from evidence in this and the Klondike field the schists are considered to be the most likely source for the gold. McConnell (1902, 1905) describes the rocks in the Sixtymile district as similar to those occurring in the Yukon Valley above Dawson. He reports the beds have a general east and west strike and a section across them from Fortymile River south to the Sixtymile River shows two broad bands of dark quartz-mica schists, quartzites, and crystalline limestones separated by a band of igneous schists four to five miles in width. He describes the latter as consisting partly of grey granite gneiss and partly of light coloured sericite schists derived mostly from quartz porphyries. Speaking of the geology of the Sixtymile River McConnell states, "at the boundary and down the valley to Bedrock Creek the rocks consist principally of igneous schists of various kinds, largely granite gneisses, with which are associated some quartzites and other clastic schists. These schists constitute the gold bearing rocks."

Map 18-1973, geology of Stewart River map sheet, covers the areas north of the Dawson map sheet by Green and is included in GSC Paper 73-41, Reconnaissance Geology of Aishihik Lake, Snag, and part of Stewart River map areas, West Central Yukon by D.J. Tempelman-Kluit. Reference to this shows general agreement with the mapping to the north by Green. On the north bank of Boucher Creek the rocks are mapped as Nasina quartzite and are described as black weathering, massive, dark grey to black graphitic quartzite with lesser grey micaceous quartzite and quartz mica schists, while to the south of the creek and east of Huot Gulch the rocks are assigned to the Pelly Gneiss unit consisting of "strongly foliated to gneissic muscovite-chlorite-biotite-granodiorite; minor augen gneiss; including some undifferentiated foliated muscovite quartz monzonite." To the west of Huot Gulch the area south of Boucher Creek is mapped as being underlain by grey weathering pale green and purplish hornfelsed argillaceous chert and meta chert of Permian or older age. In summary then the rocks in the immediate vicinity of Boucher Creek appear to be siliceous metamorphic rocks of mixed sedimentary and igneous origin which would appear in general terms to fit McConnell's description of the gold bearing rocks of the Sixtymile Goldfield.

The area surrounding Rude Creek is covered by Geological Survey of Canada map 16-1973, Geology of Snag, which was mapped by Tempelman-Kluit and forms a part of GCS Paper 73-41 referred to above. Reference to this map shows the immediate area of Rude Creek to be underlain by Triassic intrusive rocks consisting of hornblende granodiorite described as grey weathering coarse grained equigranular biotite hornblende granodiorite to quartz diorite which commonly shows layering or foliation by alignment of mafics. Immediately northeast of Rude



Creek and in two small areas to the north and south of Dip Creek, just west of the confluence of Dip Creek and Rude Creek, areas of schistose rocks are mapped and these are assigned either to a Schist Gneiss Unit which is described as including differentiated rocks of Pelly Gneiss and Klondike Schists (north of Dip Creek) or Nasina quartzite (northeast of Rude Creek and south of Dip Creek).

The source of the gold in the various placer deposits of the western Yukon (Sixtymile Goldfield, Fortymile Goldfield, Klondike Goldfield, etc.) has long been a source of much discussion and conjecture. McConnell (1907) is supported by Boyle (1979) in his view that the gold came from the quartz deposits in the district. Boyle enumerates several facts as supporting this origin including the following:

1. All of the quartz bearing deposits are auriferous. Some carry visible gold, occasionally in spectacular amounts.

2. The gold nuggets with quartz indicate that at least some of the gold came from quartz deposits. The quartz in nuggets can be matched with that in the primary quartz deposits, in the writer's (Boyle's) opinion.

3. A number of the heavy minerals accompanying the gold in the placers evidently came from the gold bearing veins. Barite is one of these diagnostic minerals, galena is another. Some of the pyrite in the placers matches that in the veins, and some came from the pyritic graphitic schists.

4. There is a general spatial relationship between the gold placers and the areal distribution of the Klondike schists and the gold bearing deposits it encloses. This suggests that the vein deposits and probably also some of the rocks, such as the pyritiferous graphitic schists gave rise to the gold placers.

Whether or not we must restrict the source of the gold to the Klondike schists is debatable but there would appear to be good evidence that many of the quartz bearing schistose rocks such as have been described above as occurring in both the Boucher Creek and Rude Creek areas, as well as throughout the Sixtymile and Klondike Goldfields, are a most likely source for the gold in the placers of this area.

### PLANNED OPERATIONS

Gold Creek Mining Ltd. plans to commence operating on both the Rude Creek and Boucher Creek properties at the start of the 1980 season. In order to be able to commence operations at the earliest possible date, dictated by ground and weather conditions, it will be essential that adequate planning is completed during the coming winter and preparatory work on the ground commenced about March 1st. The overall planning and supervision of the operation will be the responsibility of Mr. John Wain who is an experienced Placer Operator having worked in such operations in the Yukon over the past twenty years. The operating

**SAWYER CONSULTANTS INC.**

plans outlined below are essentially those prepared by Mr. Wain based on his experience in the area and on joint examinations of the property and discussion between Mr. Wain, Sawyer Consultants Inc., and the principals of Gold Creek Mining Ltd.

### Rude Creek

The old workings on Rude Creek extend for about 4 miles along the creek and on both sides of the creek for a width of approximately 100 yards. Sampling on this creek was carried out by Messrs. John Wain and Phil Collins in September of 1979. The results of this sampling are reported to have shown, in general, excellent results. It seems apparent from our examination of the area and from the sampling that the limitation on the earlier work was a physical one which curtailed hand mining work because the bench was getting deeper and it was obviously easier and more profitable to continue to mine in shallower gravels upstream than to follow the pay streaks in the benches. According to Messrs. Wain and Collins, which results are accepted by Sawyer Consultants Inc. as valid, sampling showed good gold deposits all the way through the gravel to bedrock and their estimate that the gravel depths vary from about 9 feet in the centre of the valley to an estimated 15 feet on the benches appears realistic from our observations. We can probably therefore fairly conservatively assume an average depth of 4 yards with overburden thickness running an average of one to two feet. Assuming mining dimensions then of 4 miles x a width of 150 yards and a depth of 4 yards the total volume of mineable gold bearing gravels would be 4 miles x 150 yards x 4 yards which would yield 4,224,000 cubic yards. The sampling described above suggests that a mining result of \$8.00 cubic yard would be realistic if not conservative, using gold at a price of \$400 Canadian, so that the gross value of the material available for mining in the Rude Creek leases would be \$33,792,000.00 from which of course capital equipment, start-up costs and operating costs would be subtracted.

Mining would probably be commenced just below the most extensive old time workings approximately  $2\frac{1}{2}$  miles upstream from the confluence of Dip Creek and Rude Creek continuing upstream into the area where the more concentrated old time workings are located. For the 1980 operating season a sluice box operation using a Derocker sluice box in conjunction with a D8K bulldozer and a 980 loader for the mining with a second D8K bulldozer for continual stripping and test pitting will be employed. The Derocker sluice box consists of a screening plant approximately 10 feet 10 inches wide and 20 feet long having an overhead manifold from which high pressure water jets effect the washing, leading to a sluice box approximately 32 feet long. The upper 12 feet of the line are 34 inches wide and the line enlarges to a width of 5 feet for the bottom 20 feet.

The sluicing operation will employ a return circulation system in which the Derocker sluice box discharges into a primary settling pond to allow the heavy solids to settle. A spillway constructed of heavy tailings approximately 100 feet wide will allow 2 inches to 3 inches of discharge to flow into the secondary recirculating pond. Both ponds will have a bedrock bottom and the sides will be constructed of heavy tailings with the outer walls being undisturbed natural gravels and silts.

**SAWYER CONSULTANTS INC.**



Rapid silting and sealing of the tailing walls and spillway will take place. Recirculating water will come from the secondary pond using two Flygt submersible electric pumps feeding a 10 inch aluminum pipe to the Derocker spraying material.

Some water loss will occur and re-supply will be effected by two additional small pumps to bring fresh water from the creek.

Tailings will be handled by one 980C loader which will clean out the primary settling pond daily and distribute the silts onto the tailing piles.

Small mining cuts probably in the order of 200 feet x 200 feet, equivalent to 40,000 bedrock feet, would be utilized to yield approximately 15,000 to 18,000 cubic yards of gold bearing material per cut.

Sluicing operation would be planned to operate on a 20 hour day so that with the equipment described above an average of 4,000 cubic yards a day would be attainable. This over an operating season of 120 days would yield a total of 480,000 cubic yards for the season permitting completion of a cut about every eight mining days.

#### Mining Schedule and Program Timetable

Nov. 15th, 1979 to March 1st, 1980	Arrange lease contracts for all equipment, etc., obtain governmental permits and licenses, arrange delivery to mobilization site, pre-engineering of mining program.
March 1st, 1980	Mobilization of all heavy equipment, fuel, pumps, generator, lumber, kitchen equipment, camp equipment, sluice box, welder, parts and supplies, etc. to be at mobilization site.
March 1st, 1980	Construction crew to be on site at Rude Creek erecting temporary tent camp, and start cutting lumber. Construction of permanent camp buildings to follow.
March 15th, 1980	Cat train with all equipment and supplies to be on site at Rude Creek.
April 1st, 1980	Commencement of stripping and installing bedrock drain, prepare summer air strip.
May 15th, 1980	Commence mining operations.

**SAWYER CONSULTANTS INC.**



### Boucher Creek (including Huot Gulch)

Extensive open pits and shafts occur throughout most of the five miles of leases. Sampling was carried out by Messrs. John Wain and Phil Collins in September and early October, 1979, which showed good to excellent results indicating a conservative estimate of about \$8.00 per cubic yard based on a gold price of \$400 Canadian. Our observations confirm their opinion that the property should be easy to mine with overburden running from a few inches to about 2 feet in depth, and gravel from 6 feet to perhaps as much as 18 feet on the benches. From the sampling carried out it appears that gold values occur throughout the greater part of the thickness of the gravels from just below surface so that it will be important that all of the material below the mud is sluiced and not just stripped and discarded.

The following estimate of the gold bearing gravels was made by John Wain. From our observation on this property this would appear to be a valid and possibly conservative estimate.

The actual length of the leases on Boucher Creek is five miles plus the two creek claims each 500 feet long. If for the purposes of this calculation, we take the length of the leases as five miles and the width of the old time workings, approximately 150 yards, and an average depth of 4 yards, the total volume of material available for mining would be 5 miles x 150 yards x 4 yards which would equal, a total of 5,280,000 cubic yards. Using an average of \$8.00 a yard, this would represent a gross value of \$42,240,000 from which, of course, start-up, capital, and operating costs must be deducted.

The type of operation which is proposed for the 1980 season would be a sluice box operation similar to that described above for Rude Creek. Small mining cuts, probably of maximum size 200 feet x 200 feet representing 40,000 bedrock feet would be used. It is estimated that these cuts would contain approximately 15,000 to 18,000 cubic yards of gold bearing gravels. Sluicing would operate on a 20 hour day and this with the equipment proposed should average 4,000 cubic feet a day. The operating season on Boucher Creek will probably commence about June 15th which would permit an operating season of approximately 90 days allowing processing of about 300,000 cubic yards for the season.

#### Mining Schedule and Program Timetable

The following timetable will be required in order to achieve the proposed orderly mining schedule for the 1980 season:

Nov. 15th, 1979  
to March 1980

Arrange leases, contracts for all equipment, etc., obtain governmental permits and licenses, arrange delivery to mobilization site, pre-engineering of mining program.

**SAWYER CONSULTANTS INC.**



- April 15th, 1980 Mobilization of all heavy equipment, fuel, pumps, generator, lumber, kitchen equipment, camp equipment, sluice box (in sections to be welded together on site), welder, parts and supplies, etc. to be at mobilization site.
- April 15th, 1980 Construction crew to be on site at Boucher Creek erecting temporary tent camp, and start cutting lumber. Construction of permanent camp buildings to follow.
- April 20th, 1980 Cat train with all equipment and supplies to be on site at Boucher Creek.
- May 1st, 1980 Commencement of stripping and engineering of mining site. Prepare summer air-strip.
- June 15th, 1980 Commence mining operations.

#### Mining Camp

With the exception of one trailer to provide showers, laundry, etc. at each location, camp buildings would be of log construction utilizing lumber available on the property.

#### CAPITAL EQUIPMENT AND FUNDING

Table 1 lists the capital requirements for 1980 for each of the two operations described, Rude Creek and Boucher Creek, and summarizes the total capital requirements for the 1980 season for both operations.

Table 2, below, sets out a proposed field operating budget for 1980 for the Rude Creek and Boucher Creek operations. These schedules have been prepared by management of Gold Creek Mining Ltd. with whom we have reviewed them in some detail. In our opinion they represent a realistic projection of costs which will be incurred and of revenues which might be expected from an operation such as described. It should be noted that it is of utmost importance that the Schedules given above be adhered to quite strictly, particularly in the initial stages concerned with the camp construction and ground preparation, in order that operations may begin as early as possible to take the fullest possible advantage of the working season.

**SAWYER CONSULTANTS INC.**



Capital Requirements - 1980 Rude Creek and Boucher Creek

Camp Equipment

Kitchen equipment, refrigerator, stoves, etc.	
Generator	
Electric pump	
Beds and mattresses	
Radio telephone	
Plywood and lumber	
Construction supplies and tools	\$ 30,000

Miscellaneous Equipment

Welding and cutting equipment	
Pumps	
10" pipe	
Compressor and air equipment	
Power tools, drills, etc.	
Cat tools, jacks, etc.	
Generator	
Fuel tank	40,000
Derocker sluice box and spares	54,000
2 Caterpillar D8K tractors	
1 Caterpillar (purchase option) agreement	128,600
Contingency factor (15% of \$70,000)	<u>10,500</u>
Sub Total	\$263,100

Requirements for both Rude and Boucher Creek Camps \$526,200

3/4 ton 4x4 vehicle	13,300
Geological, Engineering, Legal and Accounting Expenses to March 11, 1980	25,360
Property Payments	<u>50,000</u>
	<u>\$614,860</u>

Table 1

**SAWYER CONSULTANTS INC.**



**1980 FIELD OPERATING BUDGET -- RUDE CREEK AND BOUCHER CREEK**

CATEGORY	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	
MANAGERS	4,000	4,000	8,000	10,000	12,000	12,000	12,000	12,000	
COOK	2,000	4,000	4,000	4,000	5,000	5,000	5,000	3,000	
OPERATORS	-	6,000	6,000	16,000	24,000	30,000	30,000	15,000	
MECHANICS	-	2,000	4,000	4,000	8,000	8,000	8,000	8,000	
CAMP HELPER	-	2,000	2,000	2,000	4,000	4,000	4,000	2,000	
FOOD SUPPLIES	2,000	3,000	4,000	4,000	6,000	6,000	6,000	3,000	
PARTS & SUPPLIES	-	5,000	5,000	10,000	15,000	20,000	20,000	10,000	
FUEL	6,000	6,750	10,000	20,000	25,000	30,000	30,000	10,000	
AIRCRAFT HIRE	5,000	5,000	5,000	5,000	5,000	5,000	5,000	2,000	
WHITEHORSE OFFICE & GENERAL ADMIN.	10,000	30,000	12,000	12,000	32,000	12,000	12,000	20,000	
	29,000	67,750	60,000	87,000	136,000	132,000	132,000	85,000	
CONTINGENCY FACTOR 10%	2,900	6,750	6,000	8,700	13,600	13,200	13,200	8,500	
	31,900	74,500	66,000	95,700	149,600	145,200	145,200	93,500	
CAMP CONSTRUCTION CREW	5,000	10,000	5,000	10,000	-	-	-	-	
EXPENSE - MONTHLY TOTAL	36,900	84,500	71,000	105,700	149,600	145,200	145,200	93,500	
PRODUCTION CU YARDS			60,000	120,000	180,000	240,000	240,000	-	
RECEIPTS FROM PRODUCTION					480,000	960,000	1,440,000	1,920,000	1,920,000
ROYALTY 10%					48,000	96,000	144,000	192,000	192,000
ACCUMULATIVE CASH FLOW	(36,900)	(121,400)	(192,400)	(298,100)	(15,700)	703,100	1,853,900	3,488,400	5,216,400
									(FOR BOTH LEASE GROUPS)

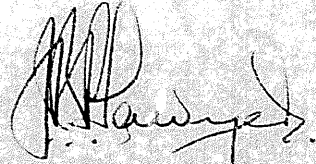
Table 2

This report may not be reproduced in whole or in part without the written permission of Sawyer Consultants Inc

**SAWYER CONSULTANTS INC.**

Respectfully submitted,

**SAWYER CONSULTANTS INC.**

A handwritten signature in black ink, appearing to read 'J.B.P. Sawyer', with a stylized flourish at the end.

J.B.P. Sawyer, P.Eng.

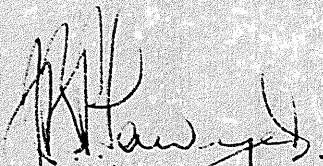
**SAWYER CONSULTANTS INC.**



CERTIFICATE

I, J.B.P. Sawyer, DO HEREBY DECLARE:

- (1) That I am a consulting geologist with business office at 1 - 425 Howe Street, Vancouver, B.C., V6C 2A9, and President of Sawyer Consultants Inc.
- (2) That I am a graduate in geology of Manchester University (B.Sc. - 1953) and of the University of Western Ontario (M.Sc. - 1957).
- (3) That I am a Registered Professional Engineer (geological) in the Association of Professional Engineers of the Province of British Columbia, and a Registered Chartered Engineer with the Council of Engineering Professions, London.
- (4) That I am a Fellow of the Geological Association of Canada, a Member of the Canadian Institute of Mining & Metallurgy, a Fellow of the Geological Society of London, and Fellow of the Institution of Mining & Metallurgy, London.
- (5) That I have practised my profession as a geologist for the past twenty-six years.
- (6) That the information, opinions and recommendations in the attached report are based on personal visits to the Rude Creek and Boucher Creek properties on October 15th and 16th, 1979, on review and discussion of sampling results obtained by Messrs. Wain and Collins, and of the proposed operating plans, with Mr. Wain and other operators in the Dawson placer area of Yukon.
- (7) That I own no interest in the Rude Creek or Boucher Creek leases, nor in the shares or securities of Gold Creek Mining Ltd., nor do I expect to receive any such interest.



J.B.P. Sawyer, P.Eng.

Dated at Vancouver, British Columbia, this 25th day of February, 1980.

**SAWYER CONSULTANTS INC.**

SELECTED BIBLIOGRAPHY

- Bostock, H.S., 1935: The mining industry of Yukon, 1934; Geol. Surv. Can. Mem. 178.
- Bostock, H.S., 1948: Physiography of the Canadian Cordillera, with special reference to the area north of the fifty-fifth parallel; Geol. Surv. Can. Mem. 247, Reprinted 1965.
- Bostock, H.S., 1957: Yukon Territory, selected field reports of the Geological Survey of Canada, 1898 to 1933; Geol. Surv. Can. Mem. 284.
- Bostock, H.S., 1961: Physiography and resources of the northern Yukon; Can. Geogr. Journ.; Vol. LXIII, No. 4, pp 112-119.
- Boyle, R.W., 1979: The geochemistry of gold and its deposits; Geol. Surv. Can. Bull. 280.
- Cairnes, D.D., 1914: The Yukon-Alaska international boundary, between Porcupine and Yukon Rivers; Geol. Surv. Can. Mem. 67.
- Gleeson, C.F., 1970: Heavy mineral studies in the Klondike area, Yukon Territory; Geol. Surv. Can. Bull. 173.
- Green, L.H., 1972: Geology of Nash Creek, Larsen Creek, and Dawson map areas, Yukon Territory; Geol. Surv. Can. Mem. 364.
- McConnell, R.G., 1905: Report on the Klondike gold fields; Geol. Surv. Can. Ann. Rept. pt. B, V.14, Reprinted in Bostock 1957, pp 64-113.
- McConnell, R.G., 1905: Report on the gold values in the Klondike high level gravels; Geol. Surv. Can. Rept. No. 979, Reprinted in Bostock 1957, pp 217-238.
- Mertie, J.B., Jr., 1937: The Yukon-Tanana region, Alaska; USGS Geol. Surv. Bull. 872.
- Tempelman-Kluit, D.J., 1974: Reconnaissance geology of Aishihik Lake, Snag, and part of Stewart River map areas, west-central Yukon; Geol. Surv. Can. Paper 73-41.



ADDENDUM - JUNE 1980INTRODUCTION

The following addendum is prepared at the request of the President and Directors of Gold Creek Mining Ltd. in response to a number of comments and questions concerning the testing done on the Rude Creek property, the general nature of the proposed mining operation, and the physical conditions existing in the proposed mine area.

ORIGINAL SAMPLING BY  
GOLD CREEK MINING LTD.

As stated in the original report dated February 25, 1980, sampling on both the Rude Creek and Boucher Creek leases was carried out by Messrs. John Wain and Phil Collins in September 1979. Reference to the report also shows that the opinions, recommendations and comments pertaining to the property itself in our original report were based on observations made by the writer in October 1979. It follows from this that the sampling was not carried out by nor supervised by the writer who was only retained to examine the properties in October. At the time these examinations were made the ground was frozen and so it was not possible to carry out any further extensive sampling. Some few samples of frozen gravels were however collected by the writer and taken back to Dawson City where they were thawed, and panned. Because the ground was frozen these samples necessarily were taken at surface and would not therefore be expected to carry any significant amounts of gold. The samples panned at the time however did carry some colours of gold at least one of which was quite heavy. The writer understands that the sampling carried out by Messrs. Wain and Collins consisted of hand digging small pits and panning the gravels thus obtained. Apparently the samples were not weighed and no attempt to assign a quantitative value to the gold content of the gravels was made as far as is known. The two men who carried out the sampling are both very experienced placer miners and their qualitative judgment that the gold recovered from these test pannings was indicative of commercial quantities of gold in the gravels tested was accepted. This was stated in the original report.

The values are not uniformly distributed in the gravels and to attempt to sample a placer deposit by a number of churn drill holes, hand dug test pits, Becker drill holes or any other kind of test drill sampling is statistically just as likely to hit all the blank spots and show no gold as it is to hit all of the high grade spots and show no lean areas. This would be true even if one assumed that the actual sampling in each drill hole or test pit recovered or took account of all of the gold that was contained within the area of the original hole or pit. There is no such thing as a perfect sampling drill and the problems of salting, and incomplete recovery are well known, particularly with a heavy element like

gold. The only way to eliminate this problem is to sample the whole deposit and when one has done this one has also mined it. The observations made on the ground, the fact that significant amounts of gold were seen in the test panning carried out, the evidence of old records and mining done in past years, and of the number of old workings along the creek are in our opinion ample evidence that there are indeed gold values in the Rude Creek gravels. Since the original report was prepared we have been able to acquire data on mining carried out in 1916 on Rude Creek. In addition, within the past month or so some further sampling on the claims has been carried out by personnel of Gold Creek Mining Ltd. Details of these items are given below and in our opinion they amply justify the earlier conclusions as to the potential of this prospect.

### VOLUME OF GRAVELS, AND PERMAFROST

We examined both creeks in October 1979 paying particular attention to the morphology of the creeks, benches and river terraces, etc. There is little doubt that the width given in the original report is a fair reflection of the width over which river gravels occur in these valleys. In some areas it is wider than the 150 yards assumed. In March of 1980, after some of the stripping was completed on Rude Creek I sampled some of the gravels high on one of the banks and panned several colours of gold out of them. The location of these samples was just below the overburden cover and at least 200 feet from the creek. There is no reason to think that the samples taken were in any way special nor that similar results could not be obtained elsewhere on the creek and on the opposite side of the valley. In using the figure of 150 yards for width of gravels it was not implied that all of the gravels over the full width would carry equal values. The fairly arbitrary dollar values assigned in calculating a cash flow were deliberately low to allow for such uncertainties. The price of gold assumed, \$400.00 Canadian, was approximately fifty percent of the actual value of gold at the time the report was written and, as will be seen later, based on the results of sampling (mining) by others some fifty years ago and of the most recent sampling a value of \$8.00 per yard based on this assumed figure for the price of gold is extremely low.

With regard to permafrost, anyone who has ever worked in northern Canada and particularly in the Yukon knows of course that permafrost does exist and it does exist in the area of Rude Creek and Boucher Creek. Existence of permafrost however does not mean that all of the river gravels are permanently frozen. In fact the active gravels along the creek are not frozen except during winter months. At the present time and throughout the mining season the river gravels are normal river gravels, thawed, wet, and amenable to normal handling as in any other placer operation. Away from these gravels the material on the benches is permanently frozen and it is because of this that extensive areas are being stripped so that they may be allowed to thaw. Normal practice at the present time is to strip as much as is practical and allow the sun and atmosphere to thaw the top few feet. These thawed gravels are then stripped away and stockpiled so that the next layer can thaw by the same natural method. The

**SAWYER CONSULTANTS INC.**



gravels so stockpiled are then available for processing through the sluice box in subsequent seasons.

#### EARLIER SAMPLING

As indicated earlier the most meaningful way of sampling a placer deposit is by mining it. Since our original report was prepared we have been able to have access to a diary written by John Ross, one of three men who in the summer of 1916 placer mined on the Discovery claim on Rude Creek. One of Mr. Ross's partners was Mr. Jens Rude after whom the creek is named. A copy of the pertinent parts of Mr. Ross's diary are appended to this addendum. Reference to it clearly shows that in a fairly short period in the summer of 1916, involving in fact twenty-one days of mining, they recovered 63 ounces of gold from a hand mining operation. It is obvious that they, in common with most miners of their day in the Klondike and other gold fields, were not even attempting to recover any of the finer gold which would be recovered in the planned Gold Creek Mining Ltd. operation. From other references we have been able to determine that the Discovery claim on which Ross, Rude, et al were working, was located approximately three miles above the mouth of Rude Creek. It thus corresponds with the area in which Gold Creek Mining Ltd. plans to start its 1980 operation and as mentioned in our report and illustrated by a photograph, there is ample evidence in this area of a considerable amount of earlier mining.

In further support of this we would mention that during the course of our field examination last October we saw remains of at least two old cabins and two or three old shafts on Rude Creek and at least one old cabin and shaft on Boucher Creek. In the course of preparation for mining on Rude Creek over the past few months no fewer than five old cabins and six or seven old shafts, distributed along a fairly lengthy section of the creek, have been found. In the days when this work was carried out everything had to be done by hand and the evidence of such extensive old workings is probably the best testimony there is that the gravels carried pay. Incidentally they probably also tell us quite a lot about the extent of the permafrost in this area.

#### FURTHER SAMPLING

Within the past month employees of Gold Creek Mining Ltd. have excavated two small pits along the creek. From one of these about a cubic yard of gravels was removed and treated as described below and from the second pit, a much smaller one which was limited by the fact that it filled with water, about a quarter of a cubic yard was collected. The pits are on opposite sides of the creek, several hundred feet apart. The gravels from these pits were panned by experienced miners. From the larger sample approximately 13 ounces of black sand were separated out, while the smaller



sample yielded about 4 ounces of black sand. Gold was then panned out as completely as possible from these black sand concentrates. The amount of gold recovered has been reported by the panners to be equivalent to values per yard in the range \$50.00 to \$200.00 assuming the present value of gold at U.S. \$600.00/oz. The writer has not seen the samples nor the material panned from them and makes no representation as to the accuracy or reliability of the values reported however they clearly are in a range which does not jeopardize the assumed value of \$8.00/yd. based on a gold price of C.\$400.00 used in the projected cash flow.

After the gold had been removed by panning as completely as possible the two samples of black sand concentrate were submitted to the laboratories of R.M. Hardy & Associates Ltd. for treatment and assay.

Hardy carried out a magnetic separation on the concentrates and assayed both the magnetic and non-magnetic fractions. The results of these assays are shown on their assay report, a copy of which is appended to this Addendum. Reference to these figures immediately requires some explanation and upon making appropriate enquiries I was advised as follows:

The gold assay of 44.138 oz./ton on the separated (non-magnetic) fraction from the #1 sample is clearly not representative. This was the smaller of the two samples and the size of sample appears to have made it unreliable. It is assumed that a piece of gold, not removed by panning must have got into this small concentrate sample. In an attempt to put this into a better perspective Hardy have used the value of 2.979 oz./ton for the unseparated, #1 sample. This figure is the value they obtained from an assay of the original large sample before separation.

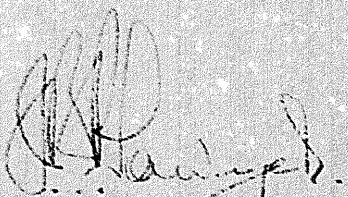
The #2 sample returned values of 0.256 oz./ton and 9.846 oz./ton gold on the magnetic and separated fractions respectively. The ratio of magnetic material to non-magnetic material is reported to be 70% to 30% approximately.

Since the original samples were not accurately weighed (nor even dried), and we have no accurate weights or volumes for the amount of the materials derived from these original samples of uncertain size it is meaningless to attempt to assign value in dollars or ounces of gold per yard of gravels. Conclusions which can properly be drawn from the above however, include the following.

- (1) Significant amounts of coarse gold can be recovered by panning from the Rude Creek gravels. (Experienced miners and panners have estimated values in the range \$50.00/yd. to \$200.00/yd.)
- (2) Significant values in gold occur in the black sand concentrates derived from the Rude Creek gravels. These concentrates can probably be upgraded by magnetic separation as part of the operating flow sheet.



- (3) Even in these finer fractions significant values in tungsten occur. It is probable that higher tungsten values can be recovered in coarser fractions of the gravels which can be recovered by appropriate screening (as recommended elsewhere by the writer to Gold Creek Mining Ltd.).
- (4) Even allowing for errors in the above values of several orders of magnitude the original premise that a viable operation based on a recoverable value of \$8.00/yd. at a gold price of C.\$400.00 is possible would not, in our opinion, appear to be unreasonable.



SAWYER CONSULTANTS INC.

June 24th, 1980

SAWYER CONSULTANTS INC.



APPENDIX TO ADDENDUM - JUNE 1980

Summary of Diary of J.A. Ross (with Jens Rude) - 1916

R.M. Hardy & Associates Ltd. Assay Report

**SAWYER CONSULTANTS INC.**



Summary from the Rude Creek Diary  
of J.A. Ross (with Jens Rude) - 1916

Aug. 2/16 Reached Discovery claim  
Aug. 5/16 Started mining  
Aug. 8/16 Started sluicing for cut  
Aug. 9/16 Started shovelling  
Aug. 10/16 Cleaned up 7 oz. 10 pw. 10 gr.  
Aug. 13/16 Started shovelling in  
Aug. 14/16 Shovelling - P.M.  
Aug. 15/16 Clean up 12 oz. 6 pw.  
Aug. 18/16 Shovelling in - again  
Aug. 19/16 Cleaned up A.M. - got \$143.99 ( $\approx$  9 oz.)  
Aug. 25/16 Started washing and cleaned up same day,  
got 3 oz. 18 pw. 20 gr.  
Aug. 26/16 2 hrs. shovelling  
Aug. 27/16 Finished shovelling, and cleaned up, got \$166.00 ( $\approx$  10 oz.)  
Aug. 30/16 Started shovelling in  
Aug. 31/16 A.M. Cleaned up - got 3 oz. 13 pw.  
Shovelled again  
Sept. 1/16 A.M. Cleaned up - got 1 oz. 13 pw.  
Sept. 3/16 Sunday Started shovelling  
Sept. 4/16 A.M. Cleaned up - got \$95.00 ( $\approx$  6 oz.)  
Sept. 8/16 Shovelling in  
Sept. 9/16 A.M. Cleaned up - got \$109.41  
Sept. 13/16 Started shovelling in A.M. Snowstorm P.M.  
Sept. 14/16 A.M. Cleaned up 6 oz. 10 pw.  
Sept. 16/16 Stripping -,  $-5^{\circ}$  temp.





ANALYTICAL CHEMISTRY DIVISION

To: London T. Haig.  
Description: Black Sand

File no: \_\_\_\_\_  
Received: June 11<sup>th</sup> 1950  
Reported: June 16 1950.  
Job no: F2257

		#1	#1	#2	#2
		Magnetics	Separated	Magnetics	Separated
Gold	(oz/ton)	1.030	4.4138	0.256	9.846
Silver	"	0.033	0.540	0.033	1.222
Tungsten	"	43.200	21.099	43.200	15.026
Bismuth	"	0.939	8.472	0.214	87.635
Nickel	"	0.395	0.301	0.340	0.215
Copper	"	0.448	0.504	0.361	0.598
Zinc	"	1.595	1.850	1.288	2.678
Pb lead	"	0.148	0.626	4.649	256.359
Cobalt.	"	0.425	0.463	0.317	0.304
Platinum	"	'	No Sample		1.45
Sample # 1. (Unseparated)					
Gold	(oz/ton)	2.979			
Platinum	"				

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed: Lees.