120074

This report has been examined by the Geological Evaluation Unit under Section 41 Yukon Placer Mining Act and is recommended as allowable representation work in the amount of $ 35,400.00.

for Chief Geologist, Exploration and Geological Services Division, Northern Affairs Program for Commissioner of Yukon Territory.

Type : Geological and Geophysical Assessment Report

Claims: P24849-P24875
P24879-P24882
P28150-P28202
P28203-P28255

Leases: PL7131
PL7132

Property Location:

Walhalla, Sharpe and Scroggie Creeks
N.T.S. - 115 0/1 and 115 0/2.
Latitude - 63° 01' to 63° 09'
Longitude-138° 20' to 138° 45'

Report Author- Ted Reimchem
Field Supervisor- Ian Thomson

Dates of Work - September 24 to November 28, 1985.

January 9, 1986

File No. 128-02

Mr. Dave Jennings
Mining Recorder
Box 249,
DAWSON CITY, Yukon Territory
YOB 1G0

Dear Mr. Jennings:

Please find enclosed two copies of our Geological and Geophysical Assessment Report for claims and leases on Sharpe, Walhalla and Scroggie Creeks, NTS 115 0/1 and 2. This report provides detailed information to accompany assessment work documents filed on October 30 and December 4, 1985.

Geophysical and other assessment work was done on Leases PL7131 and PL7132 which was not outlined on the applications for a lease to prospect filed in January, 1985. Pat Whiting of Pegasus, spoke to Mr. Steve Morrison in Whitehorse regarding this problem on January 7, 1986. Mr. Morrison contacted Mr. Blake Bakter, Chief Mine Recorder, who advised us that this inconsistency would not be a problem provided that we mentioned the matter to you in writing.

If you have any questions or comments, please contact Pat Whiting or Ted Reimchen.

Yours truly,
PEGASUS EARTH SENSING CORPORATION

Pat Whiting
Geologist

PW/sdvg
Encl.

PEGASUS
earth sensing
corporation

607 - 750 West Pender Street
Vancouver, B.C. V6C 2T7
(604) 685- 1071

December 20, 1985

File: 128 - 02

Mr. Mark Bantz
President
Black Ridge Gold Ltd.
631 Lincoln Building
West 818 Riverside Ave.
Spokane, Washington
99201

Dear Mr. Bantz:

Please find enclosed our "Report on Geological Assessment, Walhalla and Scroggie Creek area, Dawson Mining District, Yukon".

This report includes a summary of the results of a geologic mapping, seismic survey and bulk testing program carried out in the Autumn of 1985, and provides our recommendations for property development.

From our results, we conclude that the claims have good placer potential and that a larger scale bulk testing/mining program in 1986 is warranted.

We appreciate the opportunity of performing this work for you. If you have any questions or require additional information, please contact us.

Respectfully,

PEGASUS EARTH SENSING CORPORATION

Ted H.F. Reimchen, P.Geol.
President

THFR/wmm

Encls.

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APPENDIX I

EXECUTIVE SUMMARY

The 1984 testing program revealed three layers of superimposed gravels divided into upper middle and lower units. The lower and middle gravels were shown to contain economically significant placer gold values ranging over Cdn. $10.00/yd^3.

The 1985 bulk testing program, although hampered by freezing cold weather and equipment problems, confirmed economic grades in the lower and middle gravel units.

The Black Ridge claims and leases cover a large area (36 claim miles, Figure 4). All of the placer claims have been mapped geologically and bench gravels of potential economic significance delineated. In total there are available 21 million cubic yards of bench gravels and another 12 million cubic yards of creek gravels. Only 1/5 of the area underlain by bench gravels have been evaluated. None of the creek claims have been tested. The small scale testing programs conducted in 1984 and 1985 have delineated three major areas of bulk testing/mining which are described below. The location of these test sites is shown on Figure 4.

Bulk Testing Site #1 (Gold)

On the claims, referred to as "Lower Scroggie - SC13 (TP 9) bench", just south of the air strip two areas have been selected for bulk testing/mining. The first area is at the junction of Scroggie/Walhalla Creek on top of the bench. The gravels on this area are about 2 m (6.6 ft) to bedrock (see Seismic Line 4). No overburden is present. Trees and other vegetation grow on the geological unit known as reworked lower gravels. About 180,000 cubic yards are available for mining in the area tested with economic values from the surface down to bedrock. The 1984 and 1985 testing and mapping programs on this bench have returned values ranging from 4.25 to 7.45/yd^3. We expect large scale (80-100 yd^3/hr.) mining will obtain values averaging Cdn.$8-$10/yd^3, because a 50,000 yd^3 bulk sample in 1980-81 reported values values of $11/yd^3 from a nearby area. Water is plentiful and access from the base camp will be 2 km.

Bulk Testing/Mining Site #2 (Gold)

A second area is located 300 m northwest of the base camp. In this area partially stripped bench gravels belonging to the lower and middle gravel layers are present totalling about 2.5 m in thickness. The edge of this area has been mined by hand by Le Beouf between 1918 and 1932 and by Fant and Norbeck in the mid 50's. Part of the terrace has been prestripped in 1981 but no major mining has occurred. Seismic lines run in the 1985 season as well as several trenches excavated to bedrock in 1984 revealed

that the area tested contains approximately 360,000 yd^3 of gravels. Our testing and mapping programs have returned values ranging from Cdn. $2.28 to 10.70/$yd^3$. Water is again plentiful and there is a lot of room for tailing disposal. Part of the area (approx. 30%) has been stripped of trees and vegetation. In this area overburden is expected to be 1 m (3.3 ft.) or less in thickness and consist of saturated moss and bushes. No frozen "black muck" has been mapped in this area (see seismic lines 2,3). We expect large scale testing/mining in this area to return values ranging from $6 - $10 Cdn./$yd.^3$.

Bulk Testing Site #3 (Platinum, Gold)

A third area for evaluation known as Le Boeuf cabin is located at the junction of Sharpe and Walhalla Creeks. This bench area at the base of Pyroxene Mountain has been hand mined by Le Beouf and others from 1912 to 1932. Platinum and gold in roughly equal amounts have been recorded in older government publications. In 1984 a small scale testing program was run from the edge of the old workings returning both gold and platinum. The platinum was never weighed as there was some question as to its identification. Nevertheless, gold values range from Cdn.$1.85 - $5.60/$yd^3$. A cabin belonging to Le Boeuf was renovated and an area cleared for a helicopter access in 1985. In 1985 inclement weather (-48°C) and problems with physical access by bulldozer precluded us from accessing this high old river channel. Bench gravels in this area are 2-3 m (6.6-10 ft.) in thickness. Mapping has revealed a volume of nearly 550,000 yd^3 of bench gravel in the area tested. All of the old workings extend around the edges of this bench next to the creek. Lack of pumps to lift water 40 m vertically and heavy machinery precluded extensive mining historically. This site still remains an enticing exploration target and should have a high priority in the 1986 season.

The three areas selected for bulk testing/mining represent only about 5% of the total bench areas. There is evidence of numberous old pits, windlasses, large rocker boxes and cabins along the creeks. The benches have only been hand mined where water from nearby streams or pups could be diverted to the terrace or bench edges. In these locations the gravel thins and access to the lower gravel units is possible.

We recommend that a mobile 100 $yd.^3$/hr. pilot plant be acquired for large scale bulk testing. The pilot plant should be capable of processing 25,000 cubic yard (or larger) samples from three separate areas delineated by the 1984-1985 small scale testing programs. If machinery is acquired and 80-100 $yd.s.^3$/hr. of material is processed per 10 hour day, operating costs will be $3.50/$yd^3$. If machinery is contracted, costs will approach $4.60/$yd^3$ processed.

The pilot plant/bulk testing operation will cost approximately $400,000.00 which includes the acquisition of the barrel plant, camp, machinery, parts and mobilization and operating costs.

1.0 INTRODUCTION

1.1 Purpose

Pegasus Earth Sensing Corporation (Pegasus) was commissioned by Black Ridge Gold Ltd. (Black Ridge) to evaluate the gold potential of placer claims and leases in the Walhalla and Scroggie Creek area in the Dawson Mining District, Yukon Territory.

1.2 Scope

The following scope of work was performed:

1) organization, preparation and mobilization of equipment and personnel to the property;
2) field work including geologic mapping, execution of a seismic survey, bulk sampling and primary processing;
3) laboratory testing including secondary processing to determine gold content;
4) geological and engineering assessment of data obtained and evaluation of gold potential; and
5) preparation of this report, complete with data summary, maps, sections, conclusions and recommendations.

1.3 Terms of Reference

The completed scope of work was performed in accordance with verbal discussions between officers of Black Ridge and Ted Reimchen of Pegasus, conducted in September, 1985.

1.4 Responsibilities

Ted Reimchen, M.Sc., P.Geol., Geologist and President of Pegasus, was responsible for project management, direction and co-ordination. He contracted the personnel and equipment necessary to perform the exploration program and had ultimate control in the evaluation of the areas tested and in the formulation of the conclusions and recommendations set out in this report.

Ian Thomson, B.A., Surficial Geologist, was in charge of the field program. He performed the geologic mapping, directed the field sampling and material processing and assisted in all aspects of the field work including the seismic survey. He contributed to the geologic interpretation and gold potential evaluation, and assisted with the preparation of this report.

Pat Whiting, B.Sc., Geologist, conducted the seismic refraction survey and interpreted the data obtained. She assisted in preparing this report based on information supplied by Ted Reimchen and Ian Thomson.

Wade Creek Mining of Whitehorse organized the procurement and mobilization of the excavator, operated the excavator and set up the processing plant.

Gold determinations were completed by Bacon, Donaldson and Associates Limited and gold weighing was completed by Larry Wong, certified assayer of General Testing Laboratories of Vancouver. General Testing assayed two samples of the amalgamated concentrate after the mercury was removed.

2.0 PROPERTY DEFINITION

2.1 Ownership

The placer leases and claims which are the subject of this report, are as follows:

Lease#	Owner	Creek	Type
PL 7131	T & P Shelf 13 Ltd.	Walhalla	1st tier bench
PL 7132	T & P Shelf 13 Ltd.	Scroggie	1st tier bench

Claim #	Owner	Creek	Type	Group #
P24849-P24875	4955 Yukon Ltd.	Scroggie	Bench	D1109
P24879-P24882	4955 Yukon Ltd.	Scroggie	Co-discovery	D1109
P28150-P28202	T&P Shelf 13 Ltd.	Sharpe	Creek	D1218
P28203-P18155	T&P Shelf 13 Ltd.	Walhalla	Creek	D1218
Jan 1	James Fedell	Scroggie	Creek	-
Jan 2 (P29073)	Ian Thomson	Scroggie	Creek	-
Jan 3 (P29078)	Zdenek Bidrman	Scroggie	Creek	-
		Wallhalla		-

2.2 Location

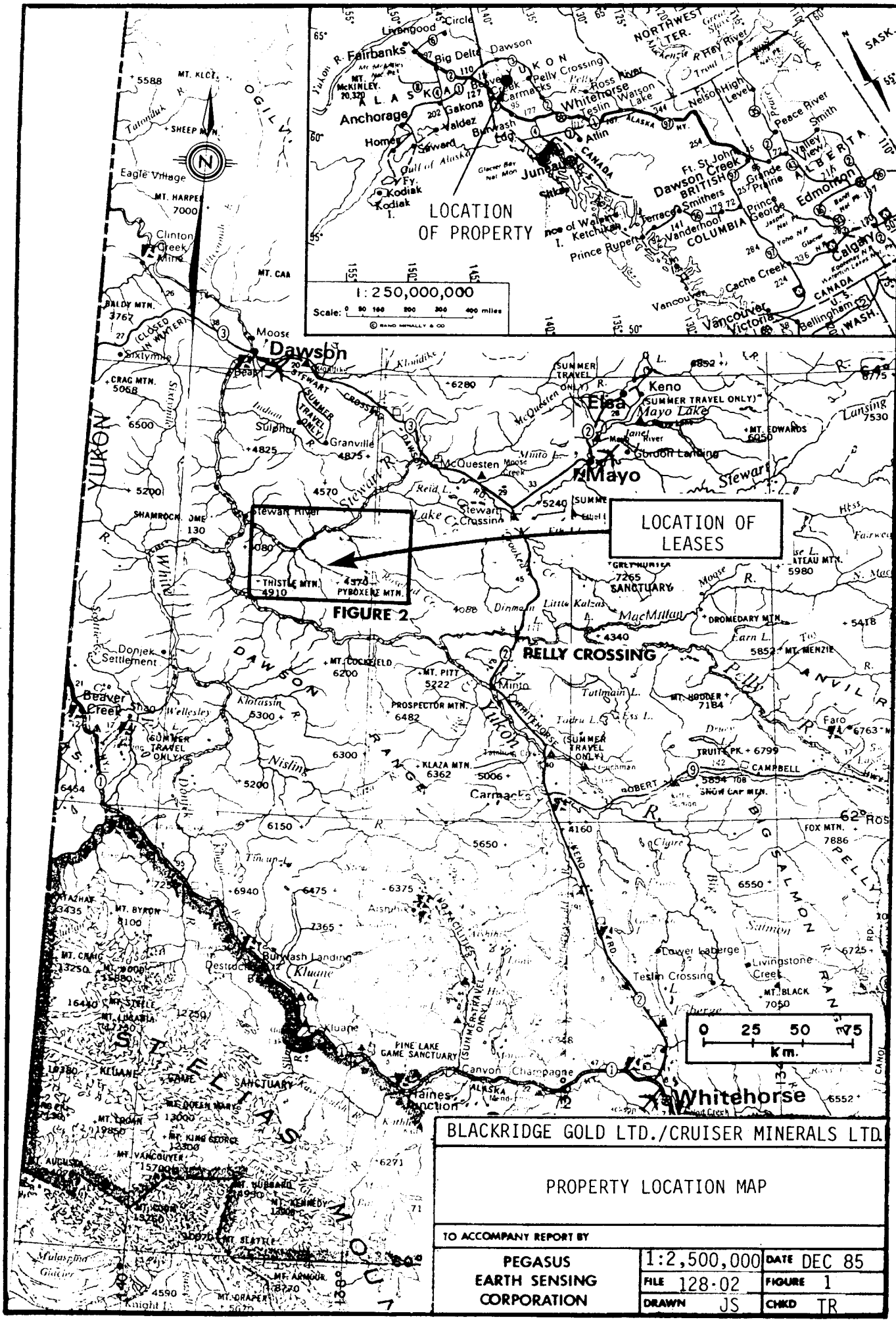
The areas tested are located in the southwest part of the Yukon Territory, approximately 130 km (78 miles) south of Dawson 105 km (65 miles) west of Pelly Crossing (Figure 1). Sharpe Creek is a tributary to Walhalla Creek, which in turn is a tributary to Scroggie Creek. Scroggie Creek is a tributary to Stewart River, 35 km (22 miles) upstream of the Stewart and Yukon River confluence (Figures 2 and 3). The property lies within National Topographic System Map sheets 115 0/1. and 0/2.

2.3 Accessibility

Road access to Scroggie Creek from the Whitehorse-Dawson highway is only possible in winter. This access follows the historical Dawson-Whitehorse wagon road which runs approximately 105 km (65 miles) west from Pelly Crossing and along Walhalla and Scroggie Creeks. The closest point to the subject claims that can be reached by all-weather roads is on Black Hills Creek which is located 100 km (62 miles) from Dawson and 35 km (22 miles) from the Scroggie Creek claims across the Stewart River (Figure 2).

A 335 m (1100 ft.) airstrip is located on the claims at the junction of Scroggie and Walhalla Creeks. A 460 m (1500 ft.) airstrip is located on Mariposa Creek approximately 13 km (8 mi.) south of the leases (Figure 2).

In the early 1900's, summer transport was provided by steamers on the Yukon and Stewart Rivers. Transport by barge on these rivers is still a possibility. The Dawson-Whitehorse wagon road provides access from the Stewart River to the west end of the subject claims, a distance of 13 km (8 miles).



BLACKRIDGE GOLD LTD./CRUISER MINERALS LTD.

PROPERTY LOCATION MAP

TO ACCOMPANY REPORT BY

PEGASUS EARTH SENSING CORPORATION

1:2,500,000	DATE DEC 85
FILE 128-02	FIGURE 1
DRAWN JS	CHKD TR

BLACKRIDGE GOLD LTD./CRUISER MINERALS LTD.

PLACER CLAIMS AND LEASES
ACCESSIBILITY
(NTS 115 O/1 and 2)

TO ACCOMPANY REPORT BY

PEGASUS EARTH SENSING CORPORATION	SCALE 1:500,000	DATE DEC. 85
	FILE 128·02	FIGURE 2
	DRAWN JAS	CHKD TR

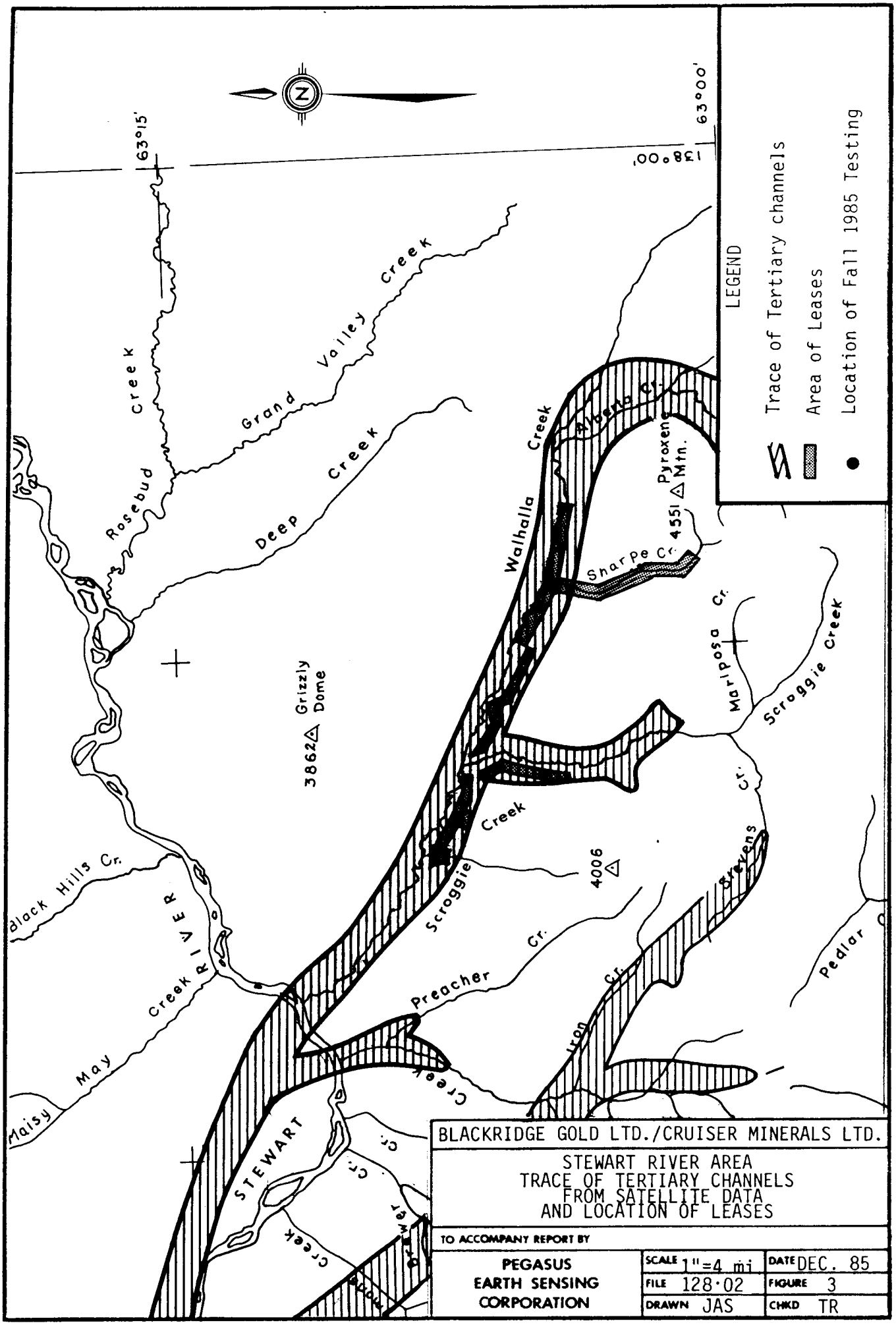
DAWSON

FIGURE 4

AIRSTRIPS

DISCOVERY

WINTER ROAD


N
63°15'
63°00'
138°00'
LEGEND
Trace of Tertiary channels
Area of Leases
Location of Fall 1985 Testing
Rosebud Creek
Grand Valley Creek
Deep Creek
Walhalla Creek
Alberta Cr.
Pyroxene Mtn.
4551
Sharpe Cr.
Mariposa Cr.
Scroggie Creek
3862 Grizzly Dome
Scroggie Creek
Cr.
Stevens
4006
Black Hills Cr.
Scroggie
Creek
Preacher Cr.
Iron Cr.
Pedlar
May Creek
RIVER
Maisy
STEWART
Cr.
Cr.
Creek
Cr.
BLACKRIDGE GOLD LTD./CRUISER MINERALS LTD.
STEWART RIVER AREA
TRACE OF TERTIARY CHANNELS
FROM SATELLITE DATA
AND LOCATION OF LEASES
TO ACCOMPANY REPORT BY
PEGASUS
EARTH SENSING
CORPORATION
SCALE 1"=4 mi
DATE DEC. 85
FILE 128·02
FIGURE 3
DRAWN JAS
CHKD TR

3.0 LANDSCAPE AND CLIMATE

3.1 Landscape

The Scroggie Creek area is situated in an unglaciated part of the Cordilleran Physiographic Region and is characterized by a plateau area composed of long ridges spreading from a central divide. These ridges are separated by closely spaced small creeks which merge into large streams in gradually widening valleys. The drainage pattern is radial on a regional scale and dendritic on a local scale. Stream gradients are even and uninterrupted by rapids or lakes. Valleys are V-shaped with sides flaring upwards and diminishing in steepness until the broad, rounded ridges of the upland are reached. Intermittent bedrock terraces carved by former streams along many of the larger valleys are mantled by variable thicknesses of gravel, sand and soil. These ancient stream levels have more gentle gradients than the present streams.

Elevations in the Scroggie Creek area range from 366 m (1200 ft.) above sea level at Stewart River to 1387 m (4551 ft.) at Pyroxene Mountain. The claims are located at elevation 460 to 750 m (1500 to 2500 ft.) above sea level.

Forest growth is generally sparse. Trees grow on the flat valley floors as well as in the draws and on the hillsides to approximately 1065 m (3500 ft.) above sea level., Black spruce and birch are the most common of the forest trees. They grow at all elevations up to the timber line. Poplar and white spruce are less common. Level areas are mainly covered with muskeg.

3.2 Climate

At least five months of the year are favourable for surface work. Rivers generally open up in early May and freeze-up starts any time after mid-October. Occasionally rivers remain open until early November. Because of almost continuous daylight during June and July, work in the summer can be conducted around the clock. Winters are cold but not extreme. Precipitation is normally not heavy and approaches semi-arid conditions during some seasons. Nearly all of the surficial materials are perpetually frozen (permafrost) from close to ground surface down to bedrock. In summer melting generally does not extend deeper than 100 cm (3 ft.) below the ground surface.

4.0 HISTORY

4.1 1898 to 1915

Following the discovery of gold in the Dawson area in 1896 and the subsequent gold rush, a number of tributaries near the confluence of Stewart and Yukon Rivers were stampeded and staked during the latter part of 1898. Scroggie Creek was "discovered" by J.G. Stephens and E. Le Duke on August 27, 1898. This discovery took place 10.8 km (6.7 miles) upstream of the Scroggie-Walhalla Creek junction. On the same date, two claims above discovery were staked by the Scroggie brothers.

The Scroggie concession, extending 4 km (2 1/2 miles) above to 4 km below Discovery, (Figure 2) was held by E. B. Scroggie from October 1900 to April 1906. The total gold recovered from this property probably did not exceed 118 to 176 oz. After April 1906, some of the claims were staked on the same ground by others, but minimal prospecting and mining was carried out.

In 1911, significant amounts of gold were reportedly discovered 2.4 km (1.5 miles) above Discovery. In the first year it was reported that 353 oz. of gold were recovered. These excavations are still visible. Base lines on Scroggie and Walhalla Creek were surveyed in 1912. In 1911, Albert Le Boeuf constructed a cabin at the junction of Sharp and Walhalla Creek. He began mining operations by ground sluicing near the edge of the bench but when the gravels became thicker than 2 m (7 ft.), he resorted to steam pipe thawing. He excavated an area measuring about 0.75 hectare (2 acres) to bedrock washing materials through a sluice box into Sharp Creek. Le Boeuf recovered gold and platinum in equal amounts from the high bench above Walhalla and Sharp Creeks. Le Boeuf is reported to have mined in the Scroggie/Walhalla Creek area until 1938.

Mining in the early part of this century seems to have been confined to the valley bottom although gold on benches of Eldorado Creek had been discovered in 1897. Mining was done by drifting, the frozen gravels were thawed by wood fires and later by steam thawing.

The total amount of gold produced during 1898 to 1915 from Scroggie and Walhalla Creeks is estimated to be 2,940 to 4,410 oz., but might be as high as 5,880 oz. Gold assays performed on placer gold during this period yielded fineness values ranging from 891 to 930.

4.2 1916 to 1933

From 1916 to 1933, it appears that mining activities in the area were in decline. Scroggie Creek is not mentioned in the GSC report during this period, except in a 1918 reference to a reported occurrence of platinum on Scroggie Creek. Available records indicate that the last claims in good standing were held to 1919. A Mr. Greer is reported to have worked the Walhalla and Scroggie confluence area below the existing airstrip sometime during the 1920's and 1930's. The remains of his cabin can still be seen on the east side of the junction.

Albert Le Boeuf constructed several buildings on the west bench of Scroggie 2 km below the junction of Walhalla and Scroggie Creek on land now owned by 4955 Yukon Ltd. In fact, our exploration party stayed in one of these old cabins which are still in good repair. Le Boeuf ground sluiced and shafted an area 200 m x 300 m x 4 m thickness during his tenure in this area. The outer limits of the terrace/bench have been ground sluiced to about 4 m. Water was brought to the area by a hand dug ditch about 1000 m in length. Two small steam boilers with steam points are still located on the edge of the bench. These operations began before World War I and were continued by Le Boeuf until the late thirties. He died in Whitehorse in 1941.

From 1932 to 1935, gold gradually increased in value from US$20.67 to $35.00/oz. This resulted in an intensification of operations.

4.3 1934 to 1945

Each year from 1934 to 1940, only a few mines were active on Scroggie Creek, but no placer leases were in good standing. The most detailed information from this period is that in 1935 "a miner working on a bench of Scroggie Creek below the mouth of Walhalla Creek has been recovering a considerable percentage of platinum with his gold". This was Albert Le Boeuf, described previously.

From 1941 to 1945 there were placer leases (probably above Discovery) in good standing on Scroggie Creek. These were probably held by Numalaka Mining Company Limited which reportedly prospected from 1944 to 1945, and drilled in 1945. The company did not prove sufficient values in the creek valley to warrant further development at that time.

4.4 1946 to 1950

By the end of 1945, increasing labour and supply costs caused the closing down of most of the mines in the area. The continuation of this trend, coupled with a fixed gold price, resulted in large scale closing down of gold mining operations throughout Canada during the late 1940's.

In 1948, the Federal government introduced the Emergency Gold Mining Assistance Act. Gold production was subsidized by lowering the royalty to 22 1/2%. Mining then recommenced at most placer mines in the Yukon Territory.

4.5 1951 to 1955

From 1955 to 1958, the Scroggie Creek area received a Federal subsidy on 1758.5 oz. of gold, which probably refers to the activities of George Fant and Ivor Norbeck during 1951 to 1955.

Fant and Norbeck acquired 8 km (5 miles) of placer ground on Scroggie Creek and prospected it in 1951 and 1952. They stripped 12,200 m^3 (16,000 yd^3) in three cuts about 180 m (600 ft.) apart and dug two bedrock draws, each 150 m long by 4 m wide by 3 m deep (500 by 14 by 10 ft.) for sluicing. From 1953 to 1955 they mined with a bulldozer and sluice box and recovered 666.07 oz. of gold.

In 1955 it was decided that the ground was not profitable and the operation was abandoned. Hilker (1981) referring to a 1980 report by G.R. Hilchey locates these claims above Discovery near Mariposa Creek.

4.6 1956 to 1974

Placer mining in the Yukon Territory was low-keyed from 1956 to 1974. In the mid-1960's most placer operations had ceased and by 1966 the last dredge had shut down.

Rising gold prices in the early 1970's created new interest. By 1974, most of the historic producing streams, and many streams flowing through unfavourable geological settings had been staked.

4.7 1975 to 1981

Scroggie Creek is not mentioned in the official mining records between 1955 and 1980. During 1980 and 1981 Mr. H. Axel worked the bench on the south side of Scroggie Creek 1.8 km (1.1 miles) downstream of the junction of Scroggie and Walhalla Creeks on ground now held by 4955 Yukon Ltd. Black overburden soil was stripped by two D8 bulldozers from a large area on the same bench and just upstream from a previously worked area on Scroggie Creek approximately 1.3 km (0.8 miles) down stream of the Walhalla-Scroggie Creek junction. Some test mining was done on this bench and in the valley, during which both D8s were nearly lost in the thawed overburden.

Herman Axel prestripped a large area of overburden and muck (300 m x 600 m) in the area adjacent to Albert Le Boeuf's cabin. His method of mining involving a 200 yard/hour sluice box resulted in a reported recovery of $6 to $8/yd.^{3} based on a gold price of Cdn. $450/oz. No recognizable organized mining procedure was followed. Material was pushed uphill over a distance of 150 m by a D8 bulldozer towards the sluice box perched on a hill top. Since the granitic bedrock in this area is jointed in several directions, the material readily breaks in small sub-angular blocks resembling rusty schistose gravel. This material is probably barren, yet large volumes were processed across the sluice runs. Platinum was also reportedly recovered but quantities were not recorded publicly.

Records from Delta Smelting and Refining Co. Ltd. reveal that 1624 oz. of gold were recovered from Scroggie Creek during 1980 and 1981, 80% of this was reportedly recovered in two months in 1981 Approximately 50,000 cubic yards were processed judging by the size of the open pit and stripped areas.

4.8 Summary - 1898 to 1981 (TABLE 1)

Drainage areas of all creeks near the Stewart-Yukon River confluence are underlain by rocks of the same geological units as Scroggie Creek. All creeks have probably been prospected in the past. Mining operations have been and are still carried out in several of the creeks, the most famous of which are Scroggie, Barker, Thistle, Kirkman and Brewer. In yearly reports, these creeks are always favourably mentioned as having placer gold potential.

From the available reports it seems that all major mining in the past was confined to Scroggie Creek upstream of the Walhalla Creek junction. All major mining before 1950 appears to have been done in the valley bottoms. Little information is available about Walhalla Creek, although prospecting and ground sluicing was done near the Sharpe Creek, Walhalla Creek junction.

Some information exists downstream of the Scroggie-Walhalla junction. A few prospect holes were completed in the valley downstream of the subject claims, but no details are available. Platinum was reportedly recovered with gold on a bench below the mouth of Walhalla Creek in 1935, but no location or details are available. Mining was completed by Herman Axel in 1980 and 1981 in the subject claims. Reportedly 1,624 oz. were recovered of which 1,100 to 1,400 oz. were recovered in two months.

Aerial photographs taken in the 1960's show clear evidence of major activities in the area of the subject claims. No reference to these activities could be found except maybe the 1935 platinum report.

It is clear that most tributaries of the Stewart and Yukon Rivers near their confluence have supported small operations in the 1900's. Some work has probably also been done on nearby creeks which are not mentioned in this report. The full potential of most of the creeks in this area probably has never been explored because of the large and more easily accessible gold reserves that were discovered and worked in the Klondike area near Dawson. In addition, water for processing bench gravels would have to be pumped at least 100 m (328 ft.) uphill. This type of technology was not feasible in the past but certainly is today.

TABLE 1 - GOLD RECOVERY FROM
SCROGGIE AND WALHALLA AREA 1900 TO 1981

DATE	AREA	GOLD REPORTEDLY RECOVERED (TROY OZ)	VALUE IN 1985 DOLLARS (CAN)
1900-1906	Upper Scroggie	118-176	48,300.00-72,000.00
1911 (?)	Upper Scroggie	353	144,500.00
1915	Upper Scroggie (?)	1,176	481,600.00
1898-1915	Estimated total of all gold recovered from Scroggie and Walhalla Creeks	2,940-4,410 (?)	1,204,000.00-1,806,000.00
1953-1955	Scroggie Creek	666.07	272,800.00
1980-1981	Lower Scroggie Creek (1985 Test Area)	1624 (50,000 yd^3 est.)	665,000.00

* Gold - $450.00/oz. (Canadian)

5.0 REGIONAL GEOLOGY

5.1 Bedrock Geology

The Scroggie Creek area forms part of the Yukon Cataclastic Complex, a tectonometamorphic unit characterized by high pressure and relative low temperature metamorphism. Rocks in this Complex consist mainly of Paleozoic metasediments and metavolcanics of the Big Salmon Metamorphic Complex and Nasina Series (gneisses and schists with some quartzite, limestone, slate and greenstone) with widespread Paleozoic granodiorite (Pelly Gneiss) and some small ultrabasic intrusions. These rocks were metamorphosed during the Triassic and Jurassic Tahtanian and Inklinian orogenies 210 to 190 million years before present. Post-orogenic granitic intrusions of Cretaceous age (Coast Intrusion) are fairly widespread and often cover large areas. In a few localities intrusions of Tertiary age occur.

The following rocks all occur in the drainage area of Scroggie Creek: Mica schists and gneisses, quartzite schists and gneissoid quartzite, kyanite schists and garnetiferous granitic and pegmatitic rocks. Occasional dykes and other small intrusive masses of semi-basic to basic rocks also occur. The subject claims are underlain by Cretaceous coarse white granite, and gneisses, schists and limestone of the Nasina Series and a small Tertiary acidic introsine body. Exposures are scarce and occur mainly in the steeper parts of the valley walls along the creeks. Of particular interest is Pyroxene Mountain with a body of massive coarse green pyroxenite. Similar ultramafic bodies are commonly the source of placer platinum and chromite.

The source of the placer gold in the area is not conclusively known, but possible sources are: The Nasina gneisses and schists which underlie much of the drainage basin of Scroggie and Walhalla Creeks, Klondike schists to the north and upstream on Walhalla Creek, or quartz veins associated with Cretaceous granitic intrusions.

5.2 Tertiary-Quaternary Geology

The Yukon Plateau represents a region which was extensively planated (pre-Paleocene to post-Eocene) during a long period of crustal stability. This period was followed by a widespread uplift (late Miocene, Pliocene or early Pleistocene) and rejuvenation of streams, which rapidly incised their channels in the new upland are indicated by occasional straight-topped ridges. Bedrock is mostly obscured by products of rock weathering and other surficial accumulations.

A marked feature in connection with the valleys are the terraces, with one main terrace characterizing each creek. The terraces are overlain by stream gravels of several depositional cycles and represent former, higher positions of the streams. Because of a local uptilt of the land surface or a sudden change in drainage pattern of the main rivers, in the last 8,000 years, streams started incising again. This resulted in quite abrupt rock walls rising to the elevations of the former stream positions, or what constitute the present terraces and the deeper, more constricted channels.

No large scale, continental glaciation took place in this part of the Yukon Plateau during the Pleistocene Epoch. However, in the larger valleys, such as the Stewart River, small local valley glaciers have been present for short times. During the Pleistocene, the area was located in a periglacial climatic belt.

Because the valley shapes were not affected by ice, they reflect dominantly fluvial valley development. These shapes range from the V-shaped youthful small creeks (tributaries of Scroggie Creek) to the narrow flat-bottomed mature creek (Scroggie and Walhalla Creeks) and wider late mature rivers (Stewart).

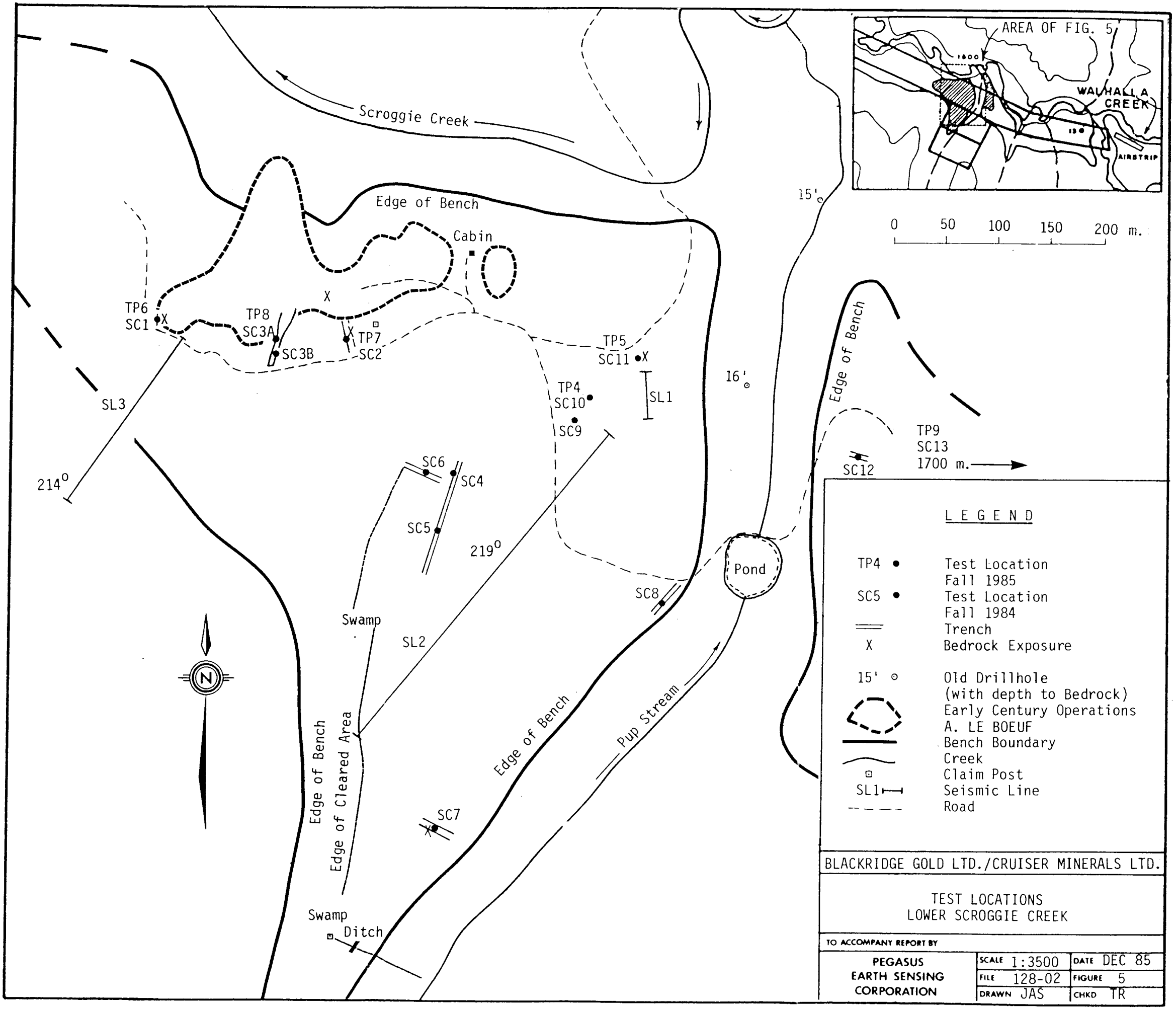
6.0 1984 DEVELOPMENT WORK

6.1 Introduction

A regional satellite image interpretation of the region was conducted by Ted Reimchen of Pegasus in 1984, which indicated the presence of high level river channels occurring within the subject leases and claims. These remnant ancient valleys may be one of the sources of placer gold in the existing stream valleys which were actively mined downstream in the past (Figure 3).

In September 1984 a testing program was conducted in the subject area by Reimchen Urlich Geological Engineering, a company formerly associated with Pegasus.

Two areas were tested. The first is located on a bench on the south side of Scroggie Creek, downstream of the Scroggie-Walahalla Creek Junction (Figures 4 and 5), and will be referred to as the Scroggie area. The second is located upstream, on a bench on the south side of Walhalla Creek, at the junction with Sharp Creek (Figure 4), and will be referred to as the Le Boeuf area. Both of these test sites are located within ancient fluvial channels well above the existing creeks.



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TEST LOCATIONS
LOWER SCROGGIE CREEK

TO ACCOMPANY REPORT BY

PEGASUS EARTH SENSING CORPORATION	SCALE 1:3500	DATE DEC 85
	FILE 128-02	FIGURE 5
	DRAWN JAS	CHKD TR

6.2 Summary of 1984 Testing

In the Scroggie area 14 channel samples ranging from 0.66 to 0.82 $yd.^3$ were taken in existing trenches (Table 2). The samples were screened and concentrated in a 12-inch spinning barrel concentrating plant. The barrel concentrates were further concentrated on a Deister shaking table. From the table concentrate the free gold was hand picked and weighed, the gold content of the remainder of the concentrates was determined by fire assay in triplicate. In addition, four samples from previous operations (concentrates and tailings) were tested. Results are summarized in Table 2.

In the Le Boeuf area, four samples ranging from 0.5 to 3.0 ft^3 were taken from virgin material at the edge of operations worked by Le Boeuf, mentioned in Section 4.1 (Table 3). The samples were screened and panned. A representative portion of the tailings was tabled. From the concentrate, the free gold and some platinum was hand picked and weighed. The gold content of the remainder was determined by fire assay in triplicate. Results are summarized in Table 2. Platinum values were only assayed and calculated for three samples from Scroggie Creek (Table 2).

The most significant gold values were recovered from the spinning barrel and Deister table concentrates. Assays performed on the tailings yielded little gold overall.

6.3 Summary of Preliminary Mapping Program

Geologist Ebo Bakker reconnoitered and mapped areas along Scroggie and Walhalla Creek in September, 1984. In addition, the ground was visited twice by Ted Reimchen and once by Ebo Bakker. The size and morphology of bench and creek bottom areas was studied and bedrock and gravel exposures were noted.

7.0 FIELD TESTING PROGRAM - 1985

7.1 Organization

The Scroggie Creek field testing program was conducted from September 28 to November 23, 1985. Pegasus personnel departed and returned to Vancouver on September 24 and November 28 respectively. Overall coordination and responsibility for the testing program was under the direction of project manager and geologist Ted Reimchem.

A rented Caterpillar 931 Traxcavator was trucked from Prince George, B.C. to Whitehorse, Yukon. There, it was dissassembled and loaded into a twin engine Caribou aircraft contracted from Air North Ltd. of Whitehorse. The excavator was flown in two trips to an airstrip near the junction of Scroggie and Mariposa Creeks, which is near the subject leases (Figure 2). The bulldozer was reassembled in two days and driven to the Black

TABLE 2 SCROGGIE AREA TEST RESULTS - 1984

GEOLOGIC UNIT	SAMPLE NUMBER	VOLUME * (yd^3)	GOLD CONTENT (oz/yd^3)	GOLD VALUE ** (Can $/$yd^3$)
Upper Gravels	SC-4	0.82	0.0001	0.04
	SC-5	0.66	0.0001	0.03
	SC-6	0.66	0.00001	0.01
	SC-7	0.66	0.00002	0.01
	SC-9	0.66	0.0002	0.10
Middle Gravels	SC-3B	0.66	0.00005	0.02
	SC-8	0.66	0.0003	0.13
	SC-10	0.66	0.0003	0.13
	SC-11***	0.66	0.0065	2.95
	SC-12***	0.49	0.0010	0.45
Lower Gravels	SC-1	0.74	0.0157	7.05
	SC-2***	0.66	0.0237	10.70
	SC-3A	0.66	0.0025	1.15
	SC-13	0.66	0.0094	4.25

TABLE 3 LE BOEUF AREA TEST RESULTS - 1984

GEOLOGIC UNIT	SAMPLE NUMBER	VOLUME * (yd^3)	GOLD CONTENT (oz/yd^3)	GOLD VALUE ** (Can $/$yd^3$)
Gravel and Sand and some weathered bedrock	LW-1	0.11	0.0041	1.85
	LW-2	0.04	0.0125	5.60
Gravelly sand and weathered bedrock	LW-3	0.02	0.0001	0.05
	LW-4	0.02	0.0001	0.05

*Insitu material volumes were calculated on the basis of a 1.3 swell factor

**Gold values are based on a price of Can. $450.00/oz. and fineness of 0.91 for weighed gold

***Fire assays for platinum and chromium of sub-samples of S-2, 11, 12, yielded values of less than Can. $0.01/cu.yd. for the insitu material

Ridge ground. A two-diaphragm Spriggs jig was flown in to the property on September 28 and was used as the primary processing unit during the bulk sampling. Two Honda "Big Red" three-wheeled motorcycles were used to transport personnel and gear around the property. Food and equipment were organized by Ted Reimchen and Ian Thomson.

A low-level aerial photograph survey was conducted on October 31, 1985. A Cesna 206 twin-engine airplane was chartered and black and white air photographs of the Scroggie and Walhalla Creek valleys were taken by Iam Thomson. The aerial photographs were enlarged and used to aid in calculating stripped areas and in locating claim lines and bulldozer roads. These photos will be used to plan access routes and testisng sites for the 1986 test mining program.

7.2 Sampling, Mapping and Bulk Testing

While Ted Reimchen was on site, a helicopter reconnaissance was made of Scroggie, Walhalla, Sharpe and Alberta Creeks. The purpose of this survey was to determine locations for seismic work and bulk sampling locations. Over the next few days, geologic inspection of the 1984 test sites was made and bulk sampling locations and priorities were identified. At the same time, Pat Whiting began the seismic studies in which Ian Thomson assisted through to October 9th. (See section 9.0 for seismic survey description).

After assembly, the cat arrived on the property on October 15th. Two test pits were excavated on the placer lease next to the Scroggie Creek airstrip and one test pit was excavated on the Scroggie Bench lease (Figure 4). As with all test pits, Ian Thomson supervised collection of the samples, prepared detailed logs and photographed the sample locations and continued with geologic mapping of the property. Mechanical problems with the bulldozer and extremely cold weather with heavy snowfalls hampered the testing program.

Air temperatures of -20 to -40^{o}c (without windchill) necessitated running the bulk sampling indoors so that the Spriggs jig would not ice up while running. One of the plywood shacks from the 1981 mining operation was borrowed and towed to the large pond filling the 1981 mining pit. The shack was altered to enable the bulldozer to dump sample material directly inside so field personnel could feed the jig in a semi- heated area (Figure 6A). In spite of having to feed the jig by hand shovel, one cubic yard per hour could be run. The two compartments beneath the jig screens were cleaned out after every 1/2 yd^3 processed and the concentrate bagged and labelled for transport to Vancouver. Each cubic yard of material processed produced approximately 4 kilograms (10 pounds) of concentrate. Immediately after each dump, the concentrate was panned and checked for gold content.

6A. Caterpillar 931 Traxcavator dumping first sample into processing shack. Tailings chute of Spriggs Jig shows on left wall of shack.

6B. Two Diaphragm Spriggs Jig showing water feed hoses, diaphragms, loading tray, and concentrate hoppers.

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PHOTOGRAPHS

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SCALE -	DATE DEC 85
FILE 128-02	FIGURE 6
DRAWN JAS	CHKD TR

Bulk samples were excavated using the 1/3 yd^3 hoe bucket attached to the bulldozer and transported to the processing shack in the bulldozer bucket. For volume calculations 250 shovels were taken to represent 1 cubic yard. This was determined by counting the shovels required to fill the 1 yd^3 bulldozer bucket and by referencing past testing results.

Nine test pits were excavated (Figure 4 and 5) and from five of them bulk samples ranging from 0.5 to 9.0 yd^3 (.38 to 6.92 yd^3 insitu) were processed (Table 4). All five samples consisted of material directly above, within, or near bedrock as the 1984 testing indicated that this stratigraphic interval had the highest gold values. Each test pit (TP 1 to TP 9) was measured for volumes moved, described stratigraphically, sampled for raw material and photographed (and in some cases video-taped). The raw samples for test pits 1 to 9 were returned to Vancouver along with the bags of jig concentrate from pits 5 to 9.

7.3 Primary Processing

A two diaphragm Spriggs jig (Figure 6B) was set up in a shack next to a pond in the 1981 mining pit. A Honda G150 3.5 horsepower, 2 inch pump was set up on the pond ice to supply water to the jig. The jig had no moving or electrical parts other than two pulsating rubber diaphragms. It consisted of a 14 inch by 18 inch loading tray, which discharged into 8 concentrating trays, 4 inches deep, filled with steel shot. These discharged into a 3 foot long by 12 inch wide tailings trough (Figure 7). Material to be tested was washed over the steel shot in the concentrating trays, which were immersed in water. The water was pulsated by two diaphragms thereby vibrating and washing the sample material. The gold particles and other heavy minerals, being of higher specific gravity than the gravels, sifted through the steel shot and through the 1/8" screen at the bottom of the trays to be stored in one of the two water filled compartments beneath the screens. A cock valve on the bottom of each compartment enabled dumping of concentrate at any time during running. Concentrate was collected every half yard, processed in order that the compartments not over fill. At the conclusion of each test sample, the screens on the jig were removed and carefully inspected for pieces of gold larger than 1/8 inch. These small nuggets were kept in vials, transported to Vancouver and added to the total gold recovered from each sample (Table 4).

The Spriggs jig was set up and operated by Thomson and Wade Creek mining personnel, all of whom took turns shovelling, guiding material through the jig, and raking tailings.

The values obtained from the jig should be treated as minimum values for a variety of reasons:

TABLE 4 - SCROGGIE AREA BULK TEST RESULTS - 1984/1985

SAMPLE NUMBER 1984	1985	VOLUME PROCESSED (YD^3) 1985	INSITU VOLUME (YD^3) 1985*	GOLD CONTENT (oz/YD^3)	GOLD VALUES (CAN. $/$YD^3$)** 1984***	1985	GEOLOGIC UNIT-1985 (NOTES)
SC-11	T.P.-5	9.0	6.92	0.0363	2.95	2.15 (3.55)	Bedrock with some gravels (Material not frozen)
SC-1	T.P.-6	9.0	6.92	0.0386	7.05	2.28	Gravels plus some becrock (Frozen)
SC-2	T.P.-7	4.5	3.46	0.0057	10.70	0.67	Lower Gravels (Frozen)
SC-3	T.P.-8	4.5	3.46	0.0398	1.15	4.71 (103.00)	Lower Gravels plus some weathered bedrock (?) (Not frozen)
SC-13	T.P.-9	0.5	0.38	0.0070	4.25	7.45	Bedrock plus some gravel (Frozen)

(3.55) (103.00) Fire assay of tails after amalgamation.

*Insitu material volumes were calculated on the basis of a 1.3 swell factor.

**Gold values reflect the value per cubic yard in the ground. Gold values are based on a price of $450.00/oz (American $337.00/oz) and a fineness of 0.91 for weighed gold.

***1984 testing was done under optimum weather conditions.
1985 testing was hindered by very cold weather (Section 7.0)

Gold values obtained by fire assay ranged from Canadian $2.19 to $197.93/$yd^3$ (Table 4A). The $197.93/$yd^3$ value is probably due to a nugget not recovered by amalgamation. Because of the small number and size of samples analyzed, this high value ($197.93) should not be used to calculate mathematical averages. All the values obtained should be treated as tentative. It should also be remembered that fire assay yields total gold values, that is free gold ranging from micron to nugget size, as well as gold bound up within other minerals such as pyrite. The gold which can economically be recovered by a production plant is always less than the total assayed gold. The results given in Table 4A indicate that significant amounts of gold are present in the amalgamation tailings tested and therefore amalgamation did not recover all of the gold in the samples. The amounts of gold in the tailings is the order of 100% of the amount obtained by amalgamation. Therefore, the gold values given in Table 4 may be in the order of 100% too low. It should be stressed that these results are only indications.

TABLE 4A - FIRE ASSAY OF AMALGAMATION TAILS - SELECTED SAMPLES - 1985

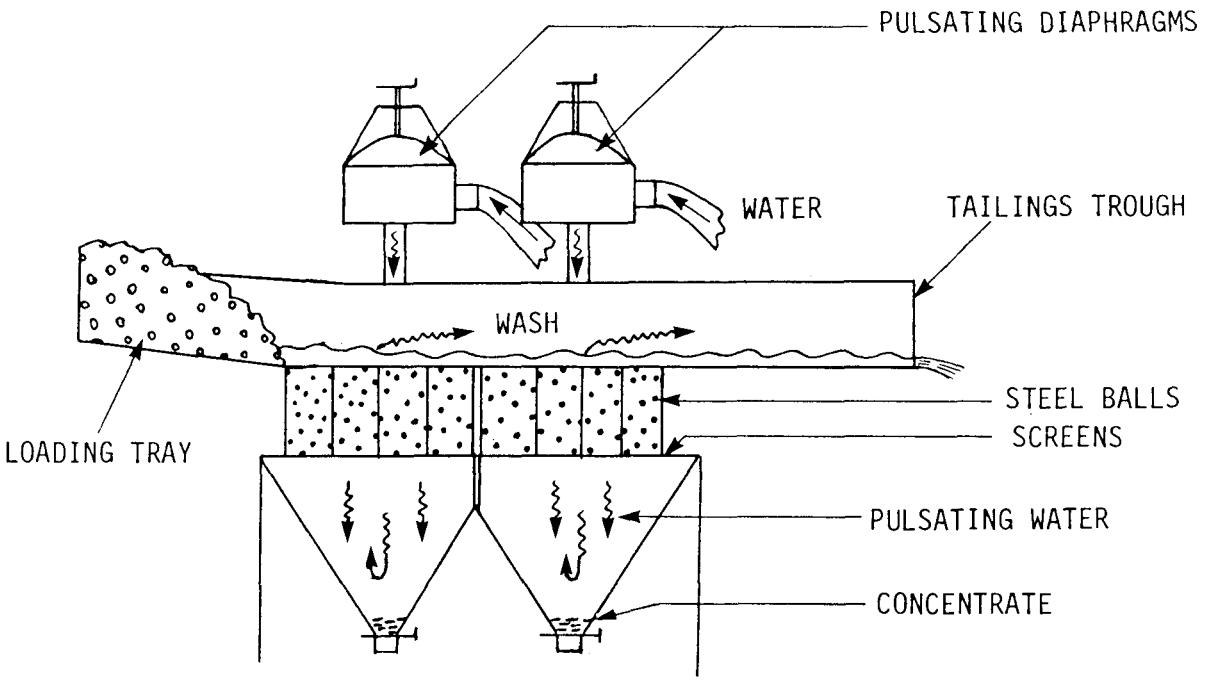
SAMPLE NUMBER	ASSAY NUMBER	OZ/SHORT TON GOLD*	OZ/SHORT TON SILVER*	VALUES** $/$YD^3$ GOLD	$/$YD^3$ SILVER
T.P.5 (-20 mesh)	#8 Sub Lot A	0.036	0.02	4.92 (3.55)	0.01
	#8 Sub Lot B	0.016	0.02	2.19	0.01
T.P.8 (-20 mesh)	#4 Sub Lot A	0.070	0.02	4.79 (103.00)	0.01
	#4 Sub Lot B	2.906	0.20	197.93	0.18

(3.55) (103.00) Average value ($/$yd^3$) gold.

*Values obtained from fire assay of one standard assay ton of 29.1666 grams of sample.

**Values are based on a price of Canadian $450.00/oz (American $337.00/oz) for gold and Canadian $8.00/oz (American $6.00/oz) for silver. Values calculated using 1 short ton = 2000 pounds and one cubic yard = 3000 lbs. Table 4A values reflect values processed $yard^3$. See Section 8.2

Note: Certificate of Assay in Appendix I dated December 30, 1985.



BLACKRIDGE GOLD LTD./CRUISER MINERALS LTD.

SPRIGGS JIG-SCHEMATIC

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SCALE		DATE	DEC 85
FILE	128.02	FIGURE	7
DRAWN	JAS	CHKD	TR

1. No fine gold was recovered from the sampling sites. The 1984 testing season, because of the use of high speed centrifugals working under optimum weather conditions recovered mainly fine gold.

2. The Sprigs jig is actually designed to be a clean-up device rather than for processing raw ground. It did not have a screen to remove oversize material and pebbles therefore would frequently sit on top of the steel balls hindering the passage of gold to the compartment below. On the other hand, in freezing weather conditions a jig is more suitable for testing than a sluice box.

3. The jig operator had to be careful to give the gravels enough washing time over the screens.

4. At least 10 percent of the material run from test pits 6, 7 and 9 went through the jig as frozen lumps and therefore was not washed at all. Samples 5 and 8 were from unfrozen ground and are considered to have been adequately washed.

5. Material from pits 6, 7 and 9 had a temperature of approximately -25°C during washing with water at approximately 1°C. A rind of ice was seen to form on many particles during washing. Therefore ice may have also formed on gold particles causing them to float over the jig screens. The losses due to ice build up are not known but should be considerable. Gold values obtained should be considered minimum values per yard.

8.0 LABORATORY TESTING PROGRAM

8.1 Preparation

Pegasus was responsible for all aspects of concentrate preparation and handling. The primary concentrates arrived in Vancouver on October 25 and November 29. Sample preparation was performed on December 5 to 7 as follows. Each concentrate sample was panned and large flakes were removed with tweezers and stored in vials. After panning, the concentrate samples were washed through a 20 mesh Tyler screen. The +20 and -20 mesh fractions of each sample were oven dried and the magnetic minerals from each sub-sample were removed using a magnet. The two fractions of each primary concentrate sample were then submitted to Bacon, Donaldson and Associates for secondary processing.

8.2 Secondary Processing

Primary concentrates from TP 5 to TP 9 were amalgamated and cleaned with nitric acid by Bacon, Donaldson and Associates. The gold recovered was weighed and returned to Pegasus. The large flakes and nuggets picked out of the jig screens in the field and those panned out of the concentrate (Section 8.1) were submitted to certified assayer Larry Wong of General Testing for weighing (Appendix I). This gold was combined with that recovered by amalgamation by Bacon, Donaldson and Associates to compute total gold values given in Table 4.

Two samples of the amalgamated primary concentrate of each of samples TP5 and TP8 were fire assayed by General Testing Labs to determine if any gold remained after amalgamation. The results are given in Table 4A. Gold values obtained by five assays rangedfrom CAN $2.19 to $197.93/yd.^{3}. The $197.93/yd.^{3} value is probably due to a nugget not recovered by amalgamation. Because of the small number and size of samples analysed, this high value ($197.93) should not be used to calculate mathematical averages. All the values obtained should be treated as tentative. It should also be remembered that fire assay yields total gold values, that is free gold ranging from micron to nugget size, as well as gold bound up within other minerals such as pyrite. The gold which can economically be recovered by a production plant is always less than the total assayed gold. The results given in Table 4A indicate that significant amounts of gold are present in the amalgamation tailings tested and therefore amalgamation did not recover all of the gold in the samples. The amounts of gold in the tailings is in the order of 100% of the amount obtained by amalgamation. Therefore, the gold values given in Table 4 may be in the order of 100% too low. It should be stressed that these results are only indications.

We recommend that the tailings of the test plant be checked during the start of testing to monitor the efficiency of the plant and to enable adjustments to be made accordingly. A check on the concentrate tailings should also be conducted to ensure that economic values are not being lost.

9.0 SEISMIC SURVEY

9.1 Field Program

The Scroggie Creek seismic survey was conducted from September 30 to November 21, 1985. The field crew consisted of Pat Whiting, who was responsible for the execution of the survey and interpretation of the results, and Ian Thomson, who assisted Pat Whiting. Mr. Thomson conducted one seismic line with the assistance of a laborer. A total of

seven seismic lines ranging in length from 42 to 360 m (138 - 1181 ft.) were run at locations shown on Figures 4 and 5.

Each line was surveyed for location, direction and elevation, flagged, and measured out at 6-10 m (20-30 ft.) stations. The seismograph used was a Nimbus ES-125, two-channel signal enhancement seismograph rented from Exploranium, of Bolton, Ontario. This instrument was used to measure arrival times of refracted seismic waves generated by hammer blows on a metal strike plate. Two geophones, placed at opposite ends of a line detected the arrival times which were analyzed and displayed by the seismograph.

Once a line was flagged and measured, two 90 m (295 ft.) long cables were extended and a geophone placed at each end of the line.

To run the survey, one person hammered 2 to 20 times on a metal strike plate at each station. The other person operated the seismograph and at each station, obtained and plotted readings on a graph. When the first 90m section of a line was completed, the cables, geophones and seismograph were moved forward to the next 90 m section. Following the completion of a line, the plotted data was perused to determine if additional readings were needed, and if subsequent lines needed relocation or extension.

Power for recharging the seismograph was initialy provided by a 12 volt car battery and later by a Honda EG 300, 1500 watt generator. At temperatures below -5^{o}C the seismograph battery was quickly discharged, and it was difficult to fully recharge it with either the car battery or the generator. This problem resulted in difficulties in obtaining meaningful data from seismic lines 6 and 7. For this reason, no seismic profiles were generated for seismic lines 6 and 7, which were both 90 m in length. (Seismic line 7 was labelled seismic line 10 in the field).

The terrain presented few problems in the seismic survey. The vegetation is sparse enough that clearing of the seismic lines was not necessary. In only a few locations did thick moss and/or boggy ground present problems.

9.2 Seismic Interpretation

Preliminary interpretation of the seismic data was undertaken by Pat Whiting in the field between September 30 and October 9, 1985. Final interpretation of the seismic data was conducted between December 1st and 6th, 1985 in Vancouver, B.C. Interpretation of the data involved calculation of seismic wave velocities through the subsurface materials, thickness of materials and depths to bedrock. This information, coupled with information

gained from mapped bedrock and surficial material exposures was used to draw cross sections of the subsurface under each seismic line (Figures 8 to 11).

Seismic refraction theory is partly based on the assumption that the density of materials increases with depth. If a less dense layer exists below a more dense one, it will not be detected, and the thickness of the overlying material will be distorted. In the Scroggie Creek area, information obtained indicates that the density of materials increases with depth.

Areas of permafrost were observed in all of the seismic lines. However, data obtained from stations with and without permafrost did not vary. Seismic line 2 was run over terrain which had been stripped over four years before and therefore was probably thawed. The seismic wave velocities of bench gravel in this line were not significantly different from those obtained from other seismic lines which were clearly underlain by permafrost as evidenced by the presence of earth hummocks, frost boils, ice in the subsoil and toppled spruce trees. Therefore we can conclude either that permafrost did not affect the velocities of seismic waves through the bench gravels or that permafrost was present throughout.

Three types of material were identified seismically in the subject area: two types of gravel and bedrock.

Each material type is characterized and identified by a particular range in the velocity at which the seismic wave travels. Table 5 illustrates how seismic waves travel faster through the denser materials.

The velocity of the seismic wave passing through bedrock varied greatly but generally ranged between 3000 and 6000 m/sec (9,843 - 19,685 ft./sec.). This indicates that the nature of the bedrock varied. The observed variation in density of the bedrock is probably due to changes in the lithology. However further seismic and mapping work is needed to correlate seismic wave velocities with bedrock lithology.

TABLE 5 - Seismic Survey Results

Velocity of Seismic Wave		Geologic Unit Interpreted
m/sec.	ft./sec.	
300 - 400	984 - 1,312	Bench Gravels
700 - 800	2,297 - 2,625	Dense Bench Gravels
3,000 - 12,000	9,843 - 39,370	Bedrock

Two types of bench gravel material were identified: loose bench gravels and dense bench gravels (Table 5). The loose bench gravels were present in all of the areas surveyed. These gravels consist of the upper, middle and lower bench gravels described in Chapter 10. The seismic survey was not able to differentiate between each of these sub-units. The bench gravels ranged in thickness from 0.5 to 7 m (1.6 to 23 ft.). In the area where Seismic Lines 1 to 3 were run (Figure 4), gravel thicknesses average 3.0 m (10 ft.)In the bench area near the junction of Scroggie and Walhalla Creeks, (Seismic Line 4) two broad benches overlain by an average of 2.9m (9.5 ft.) of gravel were identified. In the bench on the upper end of Scroggie Creek (Figure 4, Seismic Line 5), gravel thicknesses were 2.5 m (8.2 ft.) on the average.

Dense bench gravels were identified by the seismic survey and were only noted in Seismic Line 4, between the 180 and 290 m stations. These gravels are not exposed at the surface, and warrant excavating and testing.

The seismic survey revealed that the bench areas surveyed are covered by a generally continuous layer of gravel averaging 2.7 m (8.9 ft.) in thickness. Details are shown on Figures 8 to 11, and the locations of the lines is shown on Figures 4 and 5.

10.0 SCROGGIE CREEK SURFICIAL GEOLOGY

10.1 Terrace Description

The Scroggie Creek terrace is pronounced, and extends from near the creek mouth to its head. The terrace is mainly confined to the westward south side of the valley. It is elevated 30 to 38m (100 to 125 ft.) above the valley bottom at the Walhalla Creek junction. Downstream of the junction, the slope of the terrace is not as steep as the slope of Scroggie Creek and therefore the terrace increases gradually in elevation above the valley bottom.

Testing programs to date indicate that the bedrock surface underlying the terrace surficial deposits consists of one to two partly superimposed broad shallow channels up to 200 m (650 ft.) in combined width.

Because of repeated freezing and thawing of the surficial deposits, bench materials near steep slopes are prone to mass movement of solifluction. A large area west of the test area is influenced by this. Terrace deposits adjacent to the solifluction slope are partly

covered and have been partly removed. The removed deposits end up as colluvium lower down on the slopes. Similar, but smaller scale movements have occurred elsewhere.

10.2 Gravel Description

The Scroggie Creek gravels, being of local origin, are mostly derived from gneissose rock. They are generally flat and tabular, and include sand, cobbles and boulder sized particles. Many well-rounded granitic, pegmatitic and basic (greenstone) clasts also occur. The terrace gravels are called "bench gravel", and those on the flood plains or the present valley floors "creek gravels". They are typical stream deposits of average texture, with large boulders being rare.

Because of the high specific gravity of kyanite and garnet, pebbles rich in these minerals collect with the concentrates and occur in the heavy gravels which carry gold. This occurs especially along Mariposa Creek in the headwaters of Scroggie Creek and was regarded as an indicator of gold.

10.3 Creek Gravel

No creek gravels were tested during our testing program. Information on these gravels is therefore only available from past mining. In areas where they have been explored, such as above the Scroggie-Walhalla Creeks junction, the creek gravels are shallow and usually overlain by thin overburden deposit. Depth to bedrock ranges from 1.8 to 5.2 m (6 to 17 ft.) consisting of 1.2 to 2.7 m (4 to 9 ft.) of gravels overlain by muskeg.

Historically, gold distribution was found to be erratic, being dependent not only on the retaining character of the bedrock, but on the bench deposits above. Significant amounts of gold were always found opposite or just below a small tributary or slide from the bench, indicating that gold in the present creek gravels may have originated from the bench gravels. Gold occurred mostly on or in bedrock, 0.3 to 0.9 m (1 to 3 ft.) of which was generally mined.

Gold recovered by past miners near the subject claims is reportedly smaller than the gold from the mined areas upstream, although still of "nugget size". No fine gold was ever recovered. The gold was reported to be flat and to look travelled. The gold appeared to be present in pockets and richest in the 1/4 m (1 ft.) zone above bedrock. Platinum is reported to be present in significant amounts.

Between Discovery and Mariposa Creeks, gold was reportedly coarse and chunky, and occurred mainly as 1.6 to 8.2 gram nuggets of 900 fineness, with very little under 0.4 gram. The gold is represented as occurring in small, irregular channels, erratically distributed across the valley bottom. Gravels in one claim contained numerous boulders up to 90 cm (3 ft.) in diameter. The creek gravels in the subject claims are not expected to be much different. It is reported that panning of gravels beside an early century shaft showed "very nice colour".

The creek gravels are locally covered with material slumped from the benches or with fan deposits from tributaries.

10.4 Bench Materials

Bench materials were the only ones tested during the 1984 and 1985 testing programs. Material encountered in SC-1 to 13 and TP 1 to 9 consisted of interlayered silts and gravels as shown in the composite section:

ground surface

silt and colluvium

gravel (upper)

silt

gravel (middle)

silt

gravel (lower)

zones samples during 1985 testing

X X X

bedrock

Overall gradation is that of sandy gravel with traces of silt. The geologic interpretation of this stratigraphy is discussed in Chapter 10.5.

At least three gravel layers were observed in some trenches (SC-3 and 9). Pinching out of individual silt and gravel layers occurs. The thicknesses of individual layers varies from 0 to 2.30 m (0 to 7.5 ft.). The thickness of the whole sequence from ground surface to bedrock is estimated to average 3.4 m (11 ft.) and the maximum thickness observed was 11.5 mm (37 ft.) in the excavation at Test Pit 8 (SC-3). (Figures 4 and 5).

Most test pits were dug in the terrace within Co-discovery claim P24882 and the adjoining claims to the north where a tributary enters Scroggie Creek (Figures 4 and 5).

The silt layers are light brown to grey in colour and range from silt to sand in grain size. The silty layers often contained sandy lenses and vice-versa.

The gravel layers are generally medium grained gravels having few clasts over 30 cm (1 ft.) in diameter. The gravels are framework supported, show a poor preferred orientation, and consist of moderately to well-rounded clasts. The matrix of the gravels generally consists of sand and granules which are derived from the breakdown of the intrusive rocks which make up the bedrock. Granule rich lenses occur within the gravels. This indicates that the gravels are of relatively local origin.

All of the gravel layers are similar in nature with the exception that the upper layers contain a large proportion of light coloured granitic clasts, while the lowest layers contain a greater proportion of dark coloured basic and schistose clasts.

To aid in identifying individual gravel layers in each hole, we have labelled them the "upper", the "middle" and the "lower" layers.

10.5 Geologic Interpretation

Our interpretation of all data obtained during 1984 and 1985 is that materials exposed in all test sites are facies of at least three different units. These units are river deposits consisting of gravels and silts deposited by single-channel meandering rivers. Imbrication structures indicate flow directions to the northwest. The three streams are superimposed as braided channels on each other.

The silty subfacies are overbank deposits laid down during periodic flooding of the ancient floodplain. The gravels are point bar and channel deposits. These materials were deposited in part by a former Scroggie Creek valley and cut the bedrock terrace which the gravels overlie. Simultaneously material was being deposited in the tested area by the tributary immediately upstream in the form of an alluvial fan. The materials tested (TP 5, 6, 7, 8) are therefore derived from the Scroggie Creek drainage basin as well as from the smaller drainage basin of the pup creek. TP 9 is material from the former Scroggie Creek floodplain probably without influence from any pup creek.

10.5.1 Lower Gravels

The lower gravels are generally more silty than sediments above and contain angular pieces of the underlying bedrock. This unit averages 2.0 m (6.6 ft.) in thickness, but ranges to 8 m (26 ft.). It is firm to compact in density and represents the oldest geological unit. The thickness and path of this unit varies because of erosion by younger streams (middle and upper gravel).

Tests taken in 1984 in this unit (SC-1, 2, 3A, and 13) range from $1.15 to $10.70/yd.^{3}(Table 2). Because our test plant only operated efficiently below 20 mesh, our recovery of coarse gold was negligible. Because Herman Axel's former operation recovered most of its gold in the 10 to 40 mesh size, our values represent minimum values and should be treated as such. The 1985 testing was conducted in lower gravels and into bedrock. Values obtained range from $0.67 to $7.45 per cubic yard (Table 4) which should also be treated as minimum values because of the problems outlined in Section 7.3 and because fire assay of the tails revealed that not all of the gold was recovered by amalgamation.

10.5.2 Middle Gravels

This unit is only recognizable in some areas (SC-3B, 8, 10, 11, 12). It tends to consist of light coloured well-washed materials, cross bedded materials, ranging from sand to cobble-size material. The erosional contact with the lower gravels is abrupt to

transitional. In Herman Axel's working (SC-9) the boundary is defined by boulders up to 80 cm 2.6 ft. in long diameter lying along a scour mark. In Trench 3, (Test Pit 8) the lower contact is defined by a discontinuous silty layer which has many of the characteristics of a remnant paleosol (ancient soil horizon). The upper contact is marked by an extremely well sorted, horizontally bedded deposit of rusty brown gravels.

The middle gravel unit although absent in some areas can be up to 2 m (7 ft.) in thickness. Gold values from this material range up to Cdn. $\$4.20/yd^3$. In some places "hot spots" will be located as in SC-11. These areas can often be recognized by a 30 cm (1 ft.) layer of silty gravel. All other materials have been removed by later fluvial erosion thus concentrating the precious metals.

10.5.3 Upper Gravels

The upper gravel layer is less than 2 m (7 ft.) in thickness averaging 1 to 1.5 m (3 to 5 ft.). It is characterized by horizontally bedded rusty brown gravels, with no angular pieces of underlying bedrock. The pebbles are well-rounded. No economic values are expected in this unit as can be observed by our test results (SC-4, 5, 6, 7, 9). In some places upper gravels are intermixed with alluvial fan gravels deposited by the tributary pup. Although gold can be recovered from these units, it does not appear to be of economic consideration.

10.5.4 Alluvial Fan Gravels

This unit consists of several facies ranging from silty sands to coarse sand gravel. The material is derived from the unnamed tributary pup (creek) which cuts across the Scroggie Creek bench. Elsewhere it consists of an unsorted mixture of blocky angular bedrock to well-sorted sand and gravel. This material resembles solifluction or colluvial sediments deposited under a periglacial or permafrost environment. These materials were not tested.

10.5.5 Scroggie Creek Gravels

This unit (Figure 4) although minimal on the property owned by 4955 Yukon Ltd. nevertheless represents a source of future economic gold. The Scroggie Creek materials are derived from the erosion and washing of former old stream channels. Although the creek itself has not been worked, economic values will be found in this area.

11.0 VOLUMES AND GRADES

11.1 Volumes

Information on the creek gravels is derived from past mining reports. Depth to bedrock in creek bottom areas is estimated to average 3.5 m (11 ft.) consisting of 1 m (3.3 ft.) of organic material and 2.5 m (8.2 ft.) of gravel. These gravels were not tested by the 1984 or 1985 testing programs. Therefore creek volume estimates are very tentative, and are not subdivided into mineable and overburden volumes.

The bench gravels in the subject area have been separated into three units: middle, upper and lower gravels. Testing to date indicates that the upper gravels have low gold values and are therefore considered overburden. This unit is estimated to average 1.4 m (4.6 ft.) in thickness. Organic matter in the benches averages less than 0.3 m (1 ft.).

The middle and lower gravels described in chapter 10.0 are considered to be mineable gravel based on testing results to date. These units are estimated to average in combined thickness 2.5 m (8 ft.) in the lower Scroggie area outlined in Figure 5, 1 m (3.3 ft.) in the adjoining bench tested in SC13, 1.1 m (3.6 ft) in the PL7132 bench and 2.3 m (7.5 ft) in the PL7131 bench. Gravel thicknesses on the Walhalla and Sharpe Creek benches are not known and is estimated to be 3.4 m (11 ft.) (the overall average for the property).

The total thickness of overburden and mineable gravel tested ranges from 1 to 11 m (3.3 to 36 ft.) and for all areas tested average material thicknesses are: combined mineable gravel and overburden 3.4 m (11 ft.), mineable gravel 2.0 m (6.6 ft.) and overburden 1.4 m (4.6 ft.). Thicknesses were estimated using bulk testing and seismic data.

Volumes were calculated using the material thicknesses outlined above and area estimates obtained by planimeter measurements of mapped bench and creek bottom. Volumes of mineable material include the upper 0.6 m (2 ft.) of bedrock. Volumes were calculated for bench and creek bottom areas and are tabulated in Table 6. It should be noted that all bench and creek areas within the claims are included and some areas may be too small individually, to mine ecomomically. In addition, volumes calculated for the Sharpe and Walhalla bench areas are based on assumed thicknesses (since testing excavations did not reach bedrock) and are tentative.

TABLE 6 - CREEK and BENCH GRAVEL VOLUMES - 1985

Area		Bench Areas			Creek Bottom Areas
		Volume of mineable * material million yd.^{3} (m^3)	Volume of overburden million yd.^{3} (m^3)	Total volume million yd.^{3} (m^3)	Volume of creek gravel million yd.^{3} (m^3)
MB 1-27 and Jan 1-3 claims	Lower Scroggie	4.9 (3.8)	2.2 (1.7)	7.2 (5.5)	0.3 (0.2)
	SC 13 bench	0.9 (0.7)	0.8 (0.6)	1.7 (1.3)	0.4 (0.3)
	PL 7132 bench	1.9 (1.5)	1.6 (1.2)	3.5 (2.7)	--- ---
	PL 7131 bench	6.5 (5.0)	3.1 (2.4)	9.7 (7.4)	0.12(0.1)
	Walhalla claims	0.9 (0.7)	0.5 (0.4)	1.4 (1.1)	10.8 (8.3)
	Sharpe claims	5.6 (4.3)	3.0 (2.3)	8.6 (6.6)	0.7 (0.5)
	Totals	21 (16)	11 (8.6)	32 (24.6)	12 (9.4)

* Mineable Material includes middle and lower gravels and the upper 0.6m (2 ft.) of bedrock.

11.2 Grades

Our geological mapping testing has allowed us to separate "pay" gravel layers from barren ground. Of course daily testing during mining operations will determine in detail what will be classified as overburden.

The economic grade of a property is only really known after mining has been performed. Our experience combined with testing (Tables 2,3,4,4A,5,6) and knowledge of the previous operations (Table 1) has allowed us to make the following conclusions:

1) Economic mineable ground in the entire property is estimated to total 21,000,000 $yd.^3$ of bench and 12,000,000 $yd.^3$.

2) Recoverable gold will range between Cdn.$6 - $10/$yd^3$ based on a gold price of Cdn. $450.00/oz. (U.S.$337.00).

3) Mining costs including overburden removal should not exceed Cdn.$4.60/$yd^3$ (Section 12.3) if mining equipment is contracted. Mining costs will be $3.50/$yd^3$ if the machinery is acquired by the operators. These costs are applicable if volumes of 80-100 $yd.s.^3$/hour are moved in a ten-hour day.

12.0 MINING CONSIDERATIONS

12.1 General

Future testing or mining in the Scroggie Creek area will have to take into account the following considerations:

The ease with which heavy equipment is transported to the ground is greatly controlled by the time of year in which it is done. March and April are the ideal months in which to move equipment since the ground is frozen solid enough to carry heavy equipment but ambient temperatures are not so low as to pose problems for equipment and personnel.

Permafrost is present in most bench areas. Consequently stripping of vegetation prior to mining is necessary in order to thaw out the ground. Previous mining operations cleared an area measuring 1,000 m (3,300 ft.) by 600 m (2,000 ft.) which could be mined the first two seasons.

Mining equipment used will have to be the most reliable available, and personnel at the site should be sufficiently skilled and well equipped to undertake most repairs. Our

experience with mining operations in remote areas has shown that downtime caused by equipment breakdowns is one of the biggest factors affecting the profitablility of an operation.

12.2 Recovery Criteria

Sieve tests were conducted in 1984 on gold from nearby Barker Creek 30 km (19 mi.) to the west of the subject leases. The results indicated that 80% of the gold was between .85 and 4.75 mm (40 mesh and 4 mesh). For the remainder, 10% of the gold was coarser and 10% of the gold was finer. Consequently, we feel that a spinning barrel plant in combination with a sluice box would be the most effective recovery method, keeping in mind the need for simplicity (Section 12.1).

12.3 Operating Costs

The following breakdown of operating mining costs was calculated from known costs of other Yukon placer mines. These are operating costs only and do not include mobilization, transport, purchase of recovery plant, etc.

Summary of Estimated Operating Costs - All Items Are Dollars Per Hour (Canadian)

	Contracting Rates (Costs will be 50% less if machinery is owned)	
Equipment		
Caterpillar D-9 (includes labour, repairs not fuel)	$105/hr.	
Caterpillar 916 Loader	70/hr.	
Small Hoe (1/2 yard bucket)	50/hr.	
	$225/hr.	$225/hr.
Fuel		
D-9	15 gallons/hr.	
Loader	10 gallons/hr.	
Hoe	11 gallons/hr.	
Water Pump	6 gallons/hr.	
Generator	8 gallons/hr.	
TOTAL	50 gallons/hr. x $2.75 =	$138/hr.

Labour		
Geologist	$ 5,000	
Supervisor	5,000	
Plant Operator	(4,000 - included in equipment)	
Operator	(4,000 - included in equipment)	
Gold Room	4,000	
Labourer	(4,000 - included in euqipment)	
Cook	3,000	
	$17,000 per month ÷ 30 days	
	÷ 12 hours/day =	$ 48/hr.
Camp		
$30 per day x 6 people ÷ 10 hours =		$ 18/hr.
Plant Repairs		$ 15/hr.
Other		
Accounting		
Geologic Supervisor		
Government Costs		
Testing		$ 20/hr.
Tailings Ponds		
Reclamation		
Contingency		
TOTAL OF ALL COSTS		$460/hr.

Assuming a plant capacity of 100 yards per hour, the break even point for the gound being processed would be:
$460 per hour - 100 yards per hour = $4.60 per yard.

If large machinery is purchased operating costs would be reduced to about $3.50 per ;yard assuming that 100 $yd.^3$/hour is processed.

13.0 CONCLUSIONS AND RECOMMENDATIONS

The 1984 testing program revealed three layers of superimposed gravels divided into upper middle and lower units. The lower and middle gravels were shown to contain economically significant placer gold values ranging above Cdn. $10.00/yd^3$.

The 1985 bulk testing program, although hampered by freezing cold weather and equipment problems, confirmed economic grades in the lower and middle gravel units.

The Black Ridge claims and leases cover a large area (36 claim miles, Figure 4). All of the placer claims have been mapped geologically and bench gravels of potential economic significance delineated. In total there are available 21 million cubic yards of mineable bench gravels and another 12 million cubic yards of creek gravels. Only 1/5 of the area underlain by bench gravels have been evaluated. None of the creek claims have been tested. The small scale testing programs conducted in 1984 and 1985 have delineated three major areas of bulk testing/mining which are described below. The location of these test sites is shown on Figure 4.

Bulk Testing Site #1 (Gold)

On the claims, referred to as "Lower Scroggie - SC13 (TP 9) bench", just south of the air strip two areas have been selected for bulk testing/mining. The first area is at the junction of Scroggie/Walhalla Creek on top of the bench. The gravels on this area are about 2 m (6.6 ft) to bedrock (see Seismic Line 4). No overburden is present. Trees and other vegetation grow on the geological unit known as reworked lower gravels. About 180,000 cubic yards are available for mining in the area tested with economic values from the surface down to bedrock. The 1984 and 1985 testing and mapping programs on this bench have returned values ranging from 4.25 to 7.45/yd^3. We expect large scale (80-100 yd^3/hr.) mining will obtain values averaging Cdn.$8-$10/yd^3, because a 50,000 yd^3 bulk sample in 1980-81 reported values values of $11/$yd^3$ from a nearby area. Water is plentiful and access from the base camp will be 2 km.

Bulk Testing/Mining Site #2 (Gold)

A second area is located 300 m northwest of the base camp. In this area partially stripped bench gravels belonging to the lower and middle gravel layers are present totalling about 2.5 m in thickness. The edge of this area has been mined by hand by Le Beouf between 1918 and 1932 and by Fant and Norbeck in the mid 50's. Part of the terrace has been prestripped in 1981 but no major mining has occurred. Seismic lines run in the 1985 season as well as several trenches excavated to bedrock in 1984 revealed

that the area tested contains approximately 360,000 yd^3 of gravels. Our testing and mapping programs have returned values ranging from Cdn. $2.28 to 10.70/$yd^3$. Water is again plentiful and there is a lot of room for tailing disposal. Part of the area (approx. 30%) has been stripped of trees and vegetation. In this area overburden is expected to be 1 m (3.3 ft.) or less in thickness and consist of saturated moss and bushes. No frozen "black muck" has been mapped in this area (see seismic lines 2,3). We expect large scale testing/mining in this area to return values ranging from $6 - $10 Cdn./$yd.^3$.

Bulk Testing Site #3 (Platinum, Gold)

A third area for evaluation known as Le Boeuf cabin is located at the junction of Sharpe and Walhalla Creeks. This bench area at the base of Pyroxene Mountain has been hand mined by Le Beouf and others from 1912 to 1932. Platinum and gold in roughly equal amounts have been recorded in older government publications. In 1984 a small scale testing program was run from the edge of the old workings returning both gold and platinum. The platinum was never weighed as there was some question as to its identification. Nevertheless, gold values range from Cdn.$1.85 - $5.60/$yd^3$. A cabin belonging to Le Boeuf was renovated and an area cleared for a helicopter access in 1985. In 1985 inclement weather (-48°C) and problems with physical access by bulldozer precluded us from accessing this high old river channel. Bench gravels in this area are 2-3 m (6.6-10 ft.) in thickness. Mapping has revealed a volume of nearly 550,000 yd^3 of bench gravel in the area tested. All of the old workings extend around the edges of this bench next to the creek. Lack of pumps to lift water 40 m vertically and heavy machinery precluded extensive mining historically. This site still remains an enticing exploration target and should have a high priority in the 1986 season.

The three areas selected for bulk testing/mining represent only about 5% of the total bench areas. There is evidence of numberous old pits, windlasses, large rocker boxes and cabins along the creeks. The benches have only been hand mined where water from nearby streams or pups could be diverted to the terrace or bench edges. In these locations the gravel thins and access to the lower gravel units is possible.

We recommend that a mobile 100 yd.^{3}/hr. pilot plant be acquired for large scale bulk testing. The pilot plant should be capable of processing 25,000 cubic yard (or larger) samples from three separate areas delineated by the 1984-1985 small scale testing programs. If machinery is acquired and 80-100 yd.s.^{3}/hr. of material is processed per 10 hour day, operating costs will be \$3.50/yd.^{3}. If machinery is contracted, costs will approach \$4.60/yd.^{3} processed.

The pilot plant/bulk testing operation will cost approximately \$400,000.00 which includes the acquisition of the barrel plant, camp, machinery, parts and mobilization and operating costs.

Respectfully submitted,

PEGASUS EARTH SENSING CORP.

Ted H.F. Reimchen, P.Geol.

APPENDIX I

BACON,
DONALDSON
& ASSOCIATES LTD.

2036 COLUMBIA STREET
VANCOUVER, B.C., CANADA V5Y 3E1
TELEPHONE (604) 879-8461
TELEX 04-53437

December 12, 1985

File No: 6156

SURFICIAL GEOGRAPHICS
1768 Ottawa Place
West Vancouver, B.C.
V7V 2T7

Attention: Ian Thomson

Dear Sir:

Re: Raw Gold Determinations

We have processed your samples by amalgamation. The results are:

Sample Number	Sample Weight g	Raw Gold Weight g
1	620	0.0172
2	1231	0.0330
3	1409	0.1438
4	1463	0.1113
5	2177	0.0235
6	4916	0.1308
7	7360	0.4226
8	15,902	0.5947
9	11,115	0.6414
10	24,110	0.4199

We trust this is the information you requested.

Yours truly,
BACON, DONALDSON & ASSOCIATES LTD.

W. G. Bacon

Dr. W. G. Bacon, P.Eng.
WGB:jrh

CERTIFICATE OF ASSAY

Date: December 12, 1985

File:

SGS SUPERVISION SERVICES INC.
General Testing Laboratories Division
1001 East Pender Street,
Vancouver, B.C., Canada. V6A 1W2
Telephone: (604) 254-1647
Telex: 04-507514

TO: PEGASUS EARTH SENSING CORP.
607 - 750 West Pender Street
Vancouver, B.C.
V6C 2T7

We hereby certify that the following are the results of assays on: weighing of screen and panned gold

MARKED	GOLD Au (mg)	SILVER
Project 128-02	Placer Gold	
5	111.95	
6	139.75	
8 - 1	188.37	
8 - 2 3 4	794.89	
7	24.40	
9	168.66	

NOTE: REJECTS RETAINED ONE MONTH. PULPS RETAINED THREE MONTHS ON REQUEST PULPS AND AND REJECTS WILL BE STORE FOR A MAXIMUM OF ONE YEAR.

L. Wong
PROVINCIAL ASSAYER

CERTIFICATE OF ASSAY

Date: December 30, 1985

File: 8512-2050

SGS SUPERVISION SERVICES INC.
General Testing Laboratories Division
1001 East Pender Street,
Vancouver, B.C., Canada. V6A 1W2
Telephone: (604) 254-1647
Telex: 04-507514

AURAMET INTERNATIONAL
607 - 750 West Pender Street
Vancouver, B.C.
V6C 2T7

We hereby certify that the following are the results of assays on: Ore samples - Amalgamation Tails (Selected samples

MARKED	GOLD oz/st	SILVER oz/st	xxxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxx
# 4 Sub Lot A	0.070	0.02						
# 4 Sub Lot B	2.906	0.20						
# 8 Sub Lot A	0.036	0.02						
# 8 Sub Lot B	0.016	0.02						

NOTE: REJECTS RETAINED ONE MONTH. PULPS RETAINED THREE MONTHS ON REQUEST PULPS AND AND REJECTS WILL BE STORE FOR A MAXIMUM OF ONE YEAR.

L. Wong
PROVINCIAL ASSAYER

CERTIFICATE

I, TED H.F. REIMCHEN, of 4761 Cove Cliff, North Vancouver, B.C., V7G 1H8, do hereby certify that:

1. I am a graduate of the University of Alberta with the degree of Bachelor of Science in Geology and Zoology (1964) and Master of Science in Geology (1966).

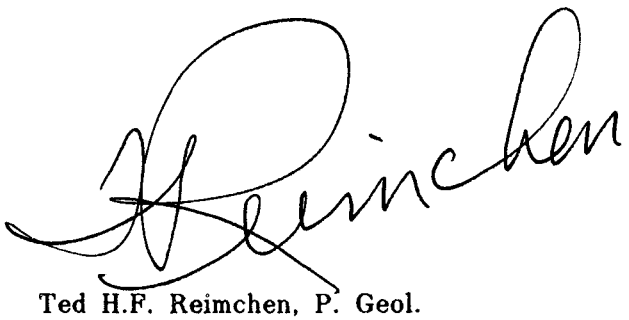
2. I have been practicing my profession continuously since 1966.

3. I am a registered member, in good standing since 1972, of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.

4. I am a Fellow of the Geological Association of Canada.

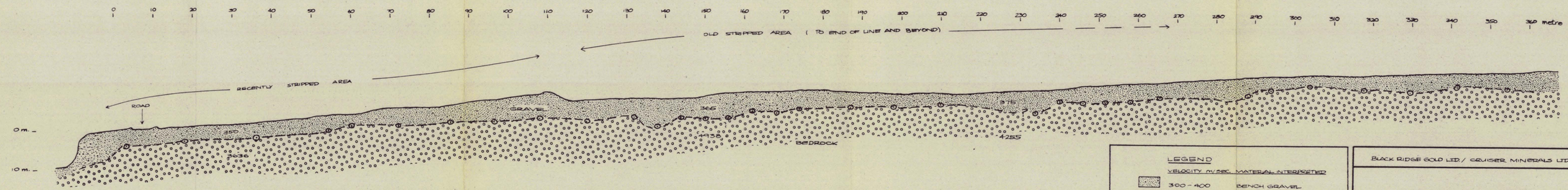
5. I have not received, nor expect to receive, any interest directly or indirectly in the property or securities of Black Ridge Gold Ltd. or in any associated company.

6. I consent to the use of this report in a Filing Statement of Material Facts or in a Prospectus by Black Ridge Gold Ltd. or in any associated company.



Ted H.F. Reimchen, P. Geol.
January 6, 1986

SEISMIC LINE 2 NEAR SC# 10 BEARING 219°



LEGEND

VELOCITY M/SEC.	MATERIAL INTERPRETED
300 - 400	BENCH GRAVEL
700 - 800	COMPACTED BENCH GRAVEL
3,000 - 12,000	BEDROCK

O CALCULATED DEPTH

NO VERTICAL EXAGGERATION

BLACK RIDGE GOLD LTD / CRUISER MINERALS LTD.

SEISMIC LINE 2

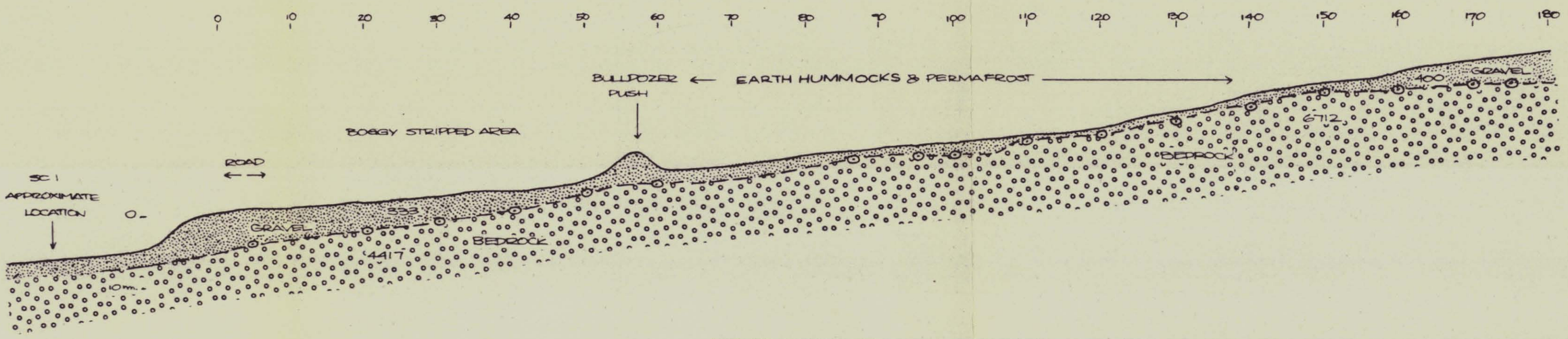
TO ACCOMPANY REPORT BY

PEGASUS EARTH SENSING CORPORATION

SCALE 1:500	DATE DEC 85
FILE 128-02	FIGURE 8
DRAWN JAS	CHKD TR

120074 (21)

SEISMIC LINE 3 NEAR SC#1 BEARING 214°



LEGEND

VELOCITY m/SEC.	MATERIAL INTERPRETED
300 - 400	BENCH GRAVEL
700 - 800	COMPACTED BENCH GRAVEL
3,000 - 12,000	BEDROCK

0 CALCULATED DEPTH

NO VERTICAL EXAGGERATION

BLACK RIDGE GOLD LTD./CRUISER MINERALS LTD.

SEISMIC LINE 3

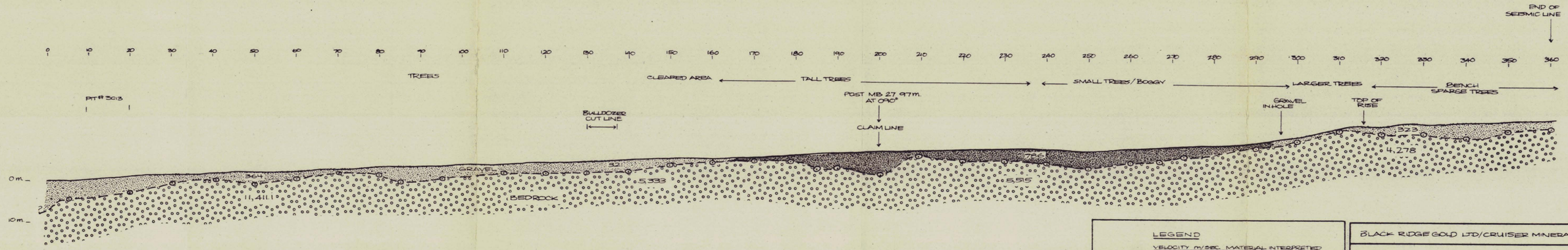
TO ACCOMPANY REPORT BY

PEGASUS EARTH SENSING CORPORATION

SCALE 1:500	DATE DEC 85
FILE 128.02	FIGURE 9
DRAWN JAS	CHKD TR

120074 (22)

SEISMIC LINE 4 NEAR TRENCH SC 13 BEARING 210°



BLACK RIDGE GOLD LTD/CRUISER MINERALS LTD.

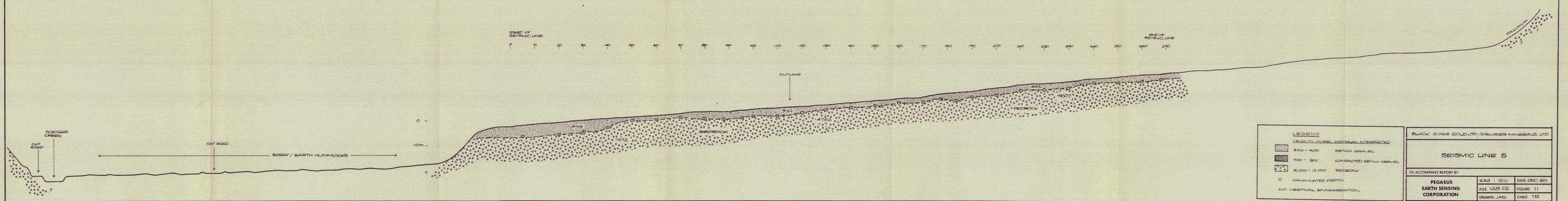
SEISMIC LINE 4

TO ACCOMPANY REPORT BY

PEGASUS EARTH SENSING CORPORATION	SCALE 1:500	DATE DEC. 85
	FILE 128.02	FIGURE 10
	DRAWN JDS	CHKD TR

120074 (23)

SEISMIC LINE 5 - SCROGGIE BENCH BEARING 280°



LEGEND

VELOCITY M/SEC MATERIAL INTERPRETED

	300 - 400	BENCH GRAVEL
	700 - 800	COMPACTED BENCH GRAVEL
	3,000 - 12,000	BEDROCK
◇		CALCULATED DEPTH

NO VERTICAL EXAGGERATION

BLACK RIDGE GOLD LTD./CRUISER MINERALS LTD

SEISMIC LINE 5

TO ACCOMPANY REPORT BY

PEGASUS EARTH SENSING CORPORATION

SCALE	1:500	DATE	DEC 85
FILE	128.02	FIGURE	11
DRAWN	JAS	CHKD	TR

120074

120074 (24)