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REPORT

on the

MANSON CREEK - GERMANSEN LANDING

PLACER CLAIM GROUPS

OMINECA MINING DIVISION,

NORTHERN BRITISH COLUMBIA

for

**Highwater Resources Ltd.
870 - 885 Dunsmuir Street,
Vancouver, B.C.**

by

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SUMMARY

The thirty-seven placer claim holdings of Highwater Resources Ltd. ("Highwater") are gathered in four strategically located areas within the Manson Creek - Germansen Landing placer belt of northern British Columbia. This belt stands fourth within the province for gold production since discovery in 1869. Up to 1984, the Omineca placers, of which the Manson - Germansen group are the prime producers, have yielded 1,855,501 grams of gold worth in excess of \$3 million.

Most of the post-Glacial placer deposits, being the easiest to locate, have been worked out. The quest now is for the pre-Glacial, or Tertiary, channelways of the old river systems. Location of these buried ancient waterways is best identified by a study of aerial photographs and the judicious usage of a geophysical approach, that of a seismographic survey (seismic). These old water courses eroded into their host bedrock became filled with their gravel deposits and surface obliterated by the subsequent glacial action and their infilling glacial debris.

There are no known mineralized reserves within Highwaters four claim blocks. Placer deposits by their very nature of origin and deposition make the outlining of mineral reserves a tenuous procedure. More often than not a placer operation will proceed into production on the skimpiest of mineral evidence. However, to compensate for this lack in reserve development, the capital costs to go into production are slight compared to a lode property.

Highwater has located three blocks of placer claims on what is believed to be three isolated buried channels. The fourth group is staked within a wide valley which might contain an old river bed at depth. To add substance to this conception the company engaged a geophysical contractor to carry out a seismic survey over selected locations within the claim blocks. The resulting 1988 survey, reconnaissance by its manner of operation, identified numerous bedrock depressions within its surveyed claim block areas. These depressions could be old river channelways, tributary erosions or glacial bedrock scouring. The survey was successful in locating these structures. Remaining to be answered by follow-up work programs are more specific locations of these ancient channels and whether they carry gold values and if so to what extent.

The writer has recommended a course of action in two stages with each stage having the opportunity to being broken into two phases for easier evaluation. Each stage is designed to answer the questions in the previous paragraph i.e.- dimensions and grade. More detailed seismic work is recommended to assign lateral and

depth figures to the channelways location; and to further evaluate the outlined channels as to gold deposition within the gravels, a staged overburden drill program is suggested.

It is suggested that the bulk of the initial Stage I work be primarily confined to the Ah Lock claim, a suggested gold carrier. Spreading out from this basic work would be a restricted seismic work on the other claims.

Stage I consisting of modest seismic work and light drilling has been estimated at \$80,000. It is suggested that the two approaches of this stage could be run independent of one another. Stage II, a success - oriented phase, is primarily drilling with possible test pitting. Cost of this dual stage has been estimated at \$202,500. The objective of the two programs is to lead up to a stage III, being that of a production program for one or more placer pits.

The writer considers that the locations of Highwaters claims, being in a recognized, producing placer area, to have sufficient merit to warrant mounting well-organized, staged programs that conceivably could lead to eventual placer production operations.

COST ESTIMATES

STAGE I - Detailed Surface Identification

Geophysics

Seismic work - approximately 7,900 metres
of surface work at
\$7,000 per kilometre, all found \$ 55,300

Drilling

Overburden drilling - approximately
100 meters of drilling at \$80 per meter,
all found, be applied to the Ah Lock
Claim..... 8,000
Assaying..... 2,000

Supervision, management..... 7,000
Report, Consultation..... 2,500
Travel..... 1,500

\$ 76,300
Contingency (5%) 3,700

\$ 80,000

STAGE II - Detailed Drilling Evaluation

Geophysics

Seismic work - approximately
5,000 meters @ \$7,000/km, all found..... \$ 35,000

Drilling

Continued exploratory overburden drilling
of some of the more outstanding seismic lines--
approximately 1250 meters of drilling at
\$75 per meter, all found..... 93,750

Supervision, management..... 12,500
Assaying..... 7,500
Report, consultation..... 3,750
Travel..... 3,000

Test Pitting

Two trial test pits (with rental equipment)..... 37,500
\$193,000

Contingency (5%) 9,500

\$202,500

STAGE III

This would be the technical layout of pit action, assembling of the required sluice plant, and initiation of mining operations. At this point in time, insufficient details are known to be able to estimate an approximate cost.

Respectfully submitted,

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INTRODUCTION

The writer was commissioned by the directors of Highwater Resources Ltd., ("Highwater") to report and make exploration recommendations on their four blocks of placer claims in the Germansen Landing- Manson Creek area of Northern British Columbia. The property was visited by the writer on March 28, 1989.

Highwater Resources Ltd. holdings in this particular area of British Columbia consist of four separated blocks totalling an aggregate thirty-seven placer claims. These placer claims are aligned, or attached, to placer operations in an area well known for placer mining with production (poorly recorded) since the area's discovery in 1869. Since the Depression years three relatively large operations have produced in rather sporadic fashion. There are known to be numerous small placer operations which through choice or inattention have not been incorporated into larger, more economic entities.

Over the years the ground presently claimed by Highwater has undoubtedly been staked for placer mining with no known records of production or the success of these various ventures. However, several of the prospect locations have been known to have produced gold, quantities unknown, within the last decade.

With the price of gold being many fold the \$20.00 per ounce price of the discovery years or the \$35.00 per ounce price of the depression years; and with the indication that the gold price may have established a floor level of \$375.00 U.S.; and with expectations by many economists that the price of gold will continue to rise in value, it is considered that exploration of the Highwater placer claims based on past area production and location coupled with future potential, is warranted.

LOCATION AND ACCESS

The claim groups of Highwater Resources Ltd. are located between Germansen Landing and Manson Creek, the latter village being some 310 kilometers (193 miles) north northwest of Prince George on the Department of Mines extension of Highway 29. Prince George in turn is 786 kilometers (488 miles) north of Vancouver. The claims are accessed by the Germansen-Manson connecting gravel roadway with the Slate Creek block and Goodasany block lying alongside or astride this year-round open road. The writer checked claim location posts on both these blocks and found them to be in order. The Ah Lock block on the highway north toward Germansen Landing and the Little Wolverine Pass group were not checked by the writer as their access roads were not cleared during the winter months. They are, however, readily accessible when the frost and snow has left the area, from gravel roads that pass either within or a few hundred yards from the claims. Refer to figure 2.

The Highwater properties are in the Omineca Mining Division, all within N.T.S. 93N/10E. They are all closeby North $55^{\circ} 41'$ to $44'$ Latitude and West $124^{\circ} 35'$ to $40'$ Longitude.

HIGHWATER RESOURCES LTD.

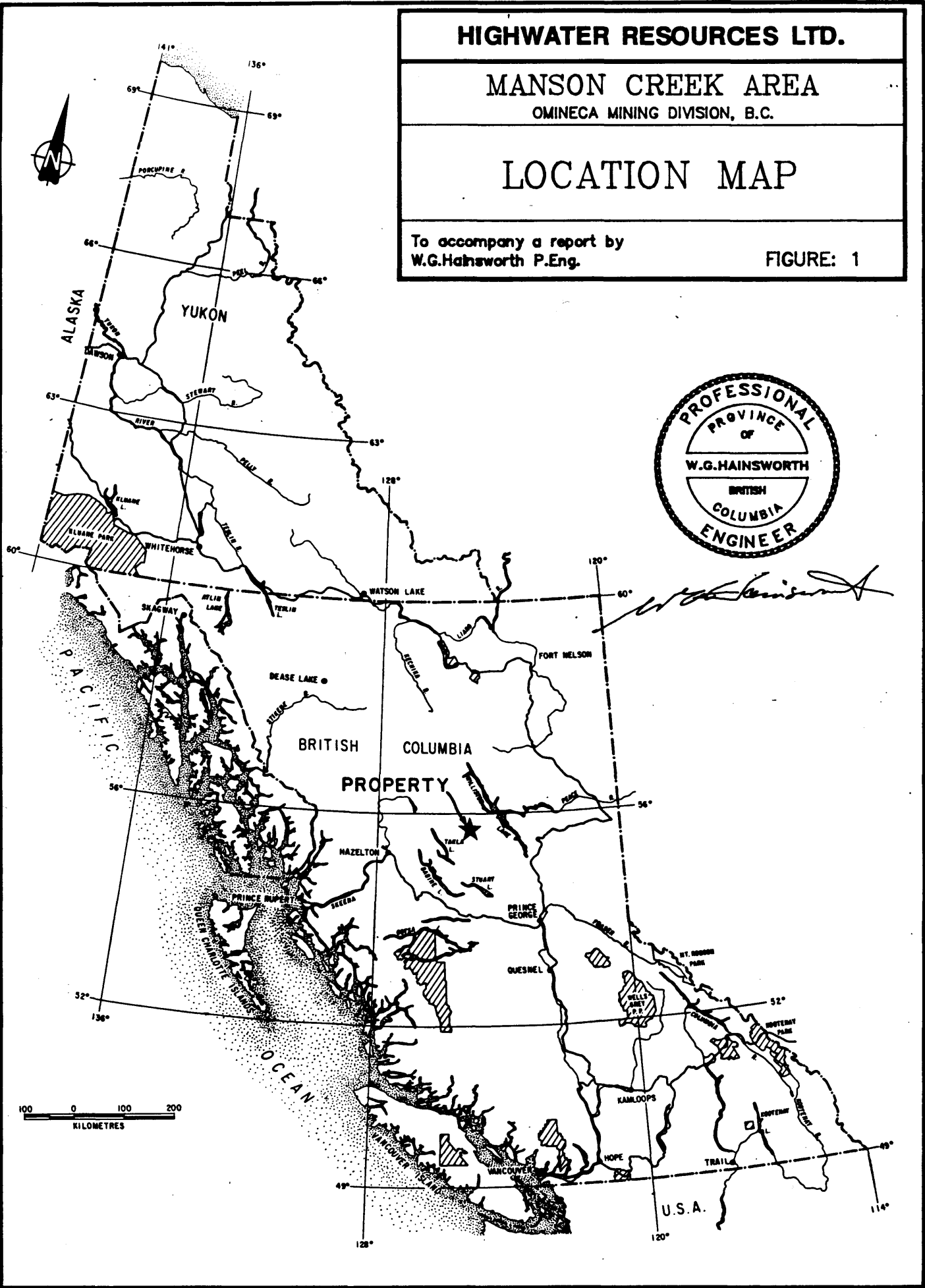
MANSON CREEK AREA

OMINECA MINING DIVISION, B.C.

LOCATION MAP

To accompany a report by
W.G.Hainsworth P.Eng.

FIGURE: 1



PROPERTY

The Germansen placer claims of Highwater lie within the Swannell Mountain Range, a division of the Omineca Mountains. All claim blocks are readily accessible through crosscutting or closeby gravel roads.

The holdings consist of 37 placer claims kept in good standing. Some 26 of the claims are of recent vintage, with 25 being staked by Auriga Ventures Ltd., a private company, acting as staking agent for Highwater. In addition, 1 claim (PL3498) was purchased outright. To keep the option in good standing on the original claim block obtained from Auriga, Highwater must expended \$225,000. on the property in question and pay the vendors 200,000 shares within a three year period effective December 1988. At this point in time Highwater pays the vendors \$60,000 and takes over sole ownership of the claims while Auriga retains a 10% net profit interest.

In total the scattered holdings represent a land mass of 2,300 hectares (5683 acres).

The Claims

<u>Group</u>	<u>Name</u>	<u>Record No</u>	<u>Expiry Date</u>
Ah Lock	-	P.L. 3497	June 25, 1992
	-	P.L. 3498	June 23, 1992
Goodasany	Lisle 1 to 9	not received	April 7, 1990
Slate Creek	-	P.L. 18074-78	Dec. 31, 1992
	Slate 6 to 16	not received	April 7, 1990
	Jerremiah	not received	April 7, 1990
	Jessica	not received	April 7, 1990
Little Wolverine	-	PL 18069-73	Dec. 31, 1992
	Sterling	not received	April 7, 1990
	Brittany	not received	April 7, 1990
	Alexandria	not received	April 7, 1990

The expiry dates take into consideration the assessment work filed and time requested. The expiry date on the newly stated placer claims are a year from date of recording.

During the property visit, the writer examined the following four posts and determined their location as to a claim map. All four are as properly depicted on the map.

- | | |
|----------------------------------|--------------------------|
| 1. Placer - Initial Post | 2. Placer - Initial Post |
| Tag No - P 66889 | Tag No - P 46493 |
| Locator - W.E. Kleinhaut | Locator - W.E. Kleinhaut |
| Agent for - Auriga Ventures Ltd. | Agent for - O. Heim |
| Claim - Lisle #9 | Date - May 18, 1985 |
| Date Commenced - Mar. 27, 1989 | Dir. to F.P. - S70 E |

Time Commenced - 14.30 hrs.
Dir. to F.P. - N87 W
Metres to right -
Metres to left - 500

Metres to right - 500
Metres to left -

3. At same location as (2)
Placer - Initial Post (1)
Tag No - P 66881
Claim Name - Slate #11
Locator - W.E. Kleinhaut
Agent for - Auriga Ventures Ltd.
Date Commenced - March 19, 1989
Time Commenced - 13:00 hrs
Dir. to F.P. - N70 W
Metres to right -
Metres to left - 500

4. Placer - Final Post (2)
Tag No - P 66874
Claim Name - Jessica
Locator - W.E. Kleinhaut
Agent for - Auriga Ventures
Dist. from IP - 1,000 m
Date Completed Mar. 12/89
Time Completed - 14:00

HISTORY

The history of placer mining in British Columbia began in 1858, a decade before Confederation, with miners moving into the Yale district to work the lower Fraser gravel bars upstream from Yale. As these shallow bars were quickly stripped of their accumulated gold the miners moved farther north to discover the rich gravels of the various rivers and creeks of the Cariboo. Discovered in 1863 the placer deposits from the Cariboo have maintained to date their superiority over other placer areas.

As certain of the Cariboo smaller creeks were worked out, the miners drifted northwest into the Omineca area where in 1869, the rich Vital Creek placer was discovered between Germansen and Takla Landings. More discoveries followed as investigation proceeded eastward towards Manson Creek.

As the Cassiar placers were being discovered in 1875, the Cariboo gold recovery reached its greatest production year. In 1885, the Tulameen area came in. The Atlin placers brought a high level of production in 1899 when they reached their peak.

With the fixed price of gold - \$18.00 for placer gold - in the early decades of the Twentieth Century coupled with the apparent lack of adventurous people and the fast pace of metropolitan business enterprises, placer mining did not have the stimuli for advancement.

The Depression years made available a supply of manpower intent on survival. Placer mining offered excitement plus the lure of richness. The placer areas experienced a revival. The 1933 increase in the gold price added acceleration to the rush.

The outbreak of World War II deprived the gold mines and the placer fields of manpower as the country's interest moved past the precious metals to the base metals for armament production.

Following the war, gold remained at its fixed \$35 price while costs of operation rose, thus making gold mining, either lode or placer, a risky business.

With the present day increase in the gold price, interest has returned to the placer industry as witness the rising attention to the Germansen - Manson Creek area.

The discovery of placer gold on Vital Creek in 1869 extended the area of interest to the Manson Creek area. The initial placer finds were worked by individuals, using their sluices, rockers and Long Toms. The larger companies with the bigger land spreads

were not far behind. Hydraulic action became popular as it ran more gravel through the sluice boxes than did the small sniping action of the individuals. This form of placer mining continued to grow until stopped by government action.

The pioneer outfit into the Omineca placer fields was The 43rd Mining and Milling Company who started active operations in 1896. They had some 24 placer leases on Manson, Slate and Kildare Creeks. Hydraulic mining was started on their Kildare Creek rich gravel deposit and moved from there to the Manson and Slate Creek areas. The company maintained the leases in good standing and operated at will. Little record is noted of their sluice results.

Another large early operation into the area was the Arctic Slope Mining Company from Victoria, B.C. As with other large organizations they obtained land on Manson, Lost Creek and the rich Black Jack Gulch.

From Santa Barbara in California came the St. Anthony Company which was the first large operator on Germansen Creek.

The area gradually cooled down and in the '20's the individual creeks were being worked by small companies or individuals.

The Depression years brought a revival of operations.

In 1933, Consolidated Mining and Smelting Ltd. having staked some of the old 43rd Mining and Milling placer leases on Slate Creek in 1924, moved in and started testing the area. Satisfied they had a viable operation, C.M.&S. decided to mine the creek bed using the dragline method. Production in their first year of operation, according to the magazine Western Miner, was \$17,000 in bullion while the second year provided them with \$36,000. No records are available concerning further year operations. The mine was not operating in 1942 nor did it operate further following the completion of World War II. However, lease payments were kept up and occasionally the area was leased out. During the 1981 season it is said one leaser took out 2,000 ounces of gold. In 1984 the claims were transferred to Slate Placer Ltd., a COMINCO subsidiary. The claims lie idle today. The fine tailings from the operation backed up the waters of Slate Creek and formed a lake.

Another operator during the period was the Dunsmore Mine on Lost Creek, a tributary into Manson Creek. The lower portion of the creek had been worked by placer miners in the 1870 - 1871 era. The upper part of the creek was cut by an old river channel which had been filled in during the ice age. The 1937 mine was unique in that it was the only deep-lead drift placer mine in the area.

Bedrock was reached by a ninety-seven foot double compartment shaft. It connected with a 1914 adit which had successfully penetrated younger channel gravels rich in gold. The mine removed much coarse gold before suspending operations following a company take-over in 1939.

On Germansen River two operations, both hydraulically operated, extracted coarse gold from several pits on both sides of the river. Germansen Ventures operated on the west bank primarily and opened some seven pits while Germansen Mines, incorporated in 1934, acquired Germansen Placer Ltd. claims on the south side of the river. Both companies operated until 1941 at which time they laid off their employees and pulled their monitors out.

Several other companies, such as Omineca Placers on Manson Creek, operated on an intermitted basis.

Today Germansen Placers operates on Germansen River on a reduced basis, while leasers occasionally sluice the old C.M.S. ground. The general area, one of the more profitable placer operations in the past, has been relatively quiet.

In 1939, the B.C. Department of Mines completed the gravel road from the Nations River into Manson Creek and on to Germansen Landing.

GENERAL GEOLOGY

Latest mapping of the Manson Creek area was done by F. Ferri and D. Melville in 1987 for the B.C. Ministry of Energy, Mines and Petroleum.

The general geology of the area is that of a contact fault zone between the Intermontane and Omineca belts of the Canadian Cordillera. In addition, a thrust fault boundary separates the transported oceanic formations of the Slide Mountain Group (Intermontane) on the west from the sedimentary Archean formations and their altered derivatives to the east.

The fault zone separating the two Cordilleran terrains is of a normal fault with a strike slip. It is suggested that this fault obscures the overthrust movement that is obvious in other areas, such as the Rockies further to the east.

The term "Slide Mountain Group" has been applied by the B.C. authors to a southern extension of Paleozoic sequences as witnessed and mapped in the Omineca Mountains north of the present area. They are thought to be correlative with the Cache Creek Group as previously mapped by Armstrong in 1944 (Map #876A). Both sets of authors saw the Group as composed of sedimentary phyllites and argillites, greywackes and cherts interbedded with volcanics, varying from felsic to mafic, coupled with volcanoclastic tuffs; mafic and ultramafic sills are also identified within the pile. It was a case of a finer division and the application of a new title to the Group by the later authors.

The Omineca crystalline belt contains thick beds of quartz rich sedimentary formation with thin interbeds of limestone and basic volcanics. They have been designated as the Ingenika Group of Precambrian age. Later alteration accompanied by granitic intrusions have so deformed and hidden their original lithology that the altered beds have been assigned to the Wolverine complex, a metamorphosed subsection.

The formations trend generally northwest with variable degrees of dip normally to the west.

Of strong importance is the structural aspects of the area. Both sets of authors agree on the placement, location and importance of the Manson Creek Fault. This fault structure is a zone, or string of parallel faults, extending from Gaffney Creek, 40 miles northwest through the village of Manson Creek, to Nina Creek. From the Omineca River north (at Germansen Landing) it forms the contact between various brecciated and silicified rock units

belonging to the stratified Slide Mountain formation on the east and rocks of the Takla group on the west. Drag-folding of the beds along Manson River and Nina Creek indicates that the east wall of the fault zone moved north relative to the west wall. Wherever the fault zone is observed the wall rocks across an average width of 200 feet are partly to completely altered to a buff coloured aggregate of carbonate, quartz, chlorite and mariposite. Many of the branch faults along the main fault zone are also marked by carbonatized wallrock.

The presence of a fault structure, presumably part of the greater Manson Creek Fault Zone, which lies just north of the highway and Wolverine Lakes, is a matter of dispute between the two sets of authors. Armstrong locates this fault, albeit mostly inferred, along the base of his Wolverine Complex. These latter rock formations consist of granitoid gneisses and feldspathized quartzites believed to be granitized equivalents of Proterozoic strata. Melville and Ferri place some of the lower grade metamorphic equivalents into the Ingenika Group, while the more intense metamorphic rocks, accompanied by strong deformation, have been assigned to the Wolverine Complex. They move this formation further up the mountain side. However, the B.C. writers do acknowledge the presence of a possible over thrust separating the Slide Mountain Group from the Ingenika suite of rocks. Their mapping shows this structure to be emplaced almost at the same location as Armstrong's northern fault zone.

Mineralization within the area is both placer and lode with the former being more prevalent in production. Mineralized lode deposits are normally associated with fault structures. Of interest regarding the placer deposits are the buried channels of the Manson and Germansen Rivers. These rivers are known to have had different located riverbeds prior to glaciation. Figure 3 shows some of the old Tertiary Channels as conjectured, with some success, by various geological authors.

THE DEPOSITION OF THE GRAVELS AND DISTRIBUTION OF THE GOLD

The ancient channels are the remnants of the river systems of Tertiary age. The local rivers of this Tertiary period - from seven to sixty-five million years ago - were the Germansen and the Manson. Writers have referred to "stream-piracy" in this period of time and evidence of the old channel locations would tend to substantiate these hypotheses. In addition, there are strong factors pointing to the fact that the Germansen River in particular occupied more than one channel in Pleistocene times.

It is postulated that the Germansen River in pre-Glacial time occupied the valley now occupied by Slate Creek. It thus empties Germansen Lake directly east into the Mason Lakes. The Manson River during this period is postulated to have occupied Little Wolverine Pass and to have flown northwest (as presently does Big Wolverine Creek) and eventually emptied into the Omineca River. Glacial action originating in Big Wolverine Pass filled Little Wolverine, Slate Creek and portions of Big Wolverine, when in retreat, thus burying these river bottoms. A rerouting of rivers occurred following the deposition of the glacial debris which blocked the above passes. Slate Creek, considerably reduced in size and volume, continued its eastward trek to finally empty into a reoriented Manson Creek which captured several creek tributaries on its way to the Manson Lakes.

Little Wolverine Pass is a wide, well-scoured valley with no present-day stream occupation.

Big Wolverine Pass shows contradiction in water flowage with the northern portion flowing northwest and emptying into the Omineca River while the southern section empties southeast into the Wolverine Lakes.

Post Glacial channels are indicated in the meandering of the Germansen River. A channel is postulated instream a mile or so from the present northeast course of the river. Another channel, established from early hydraulic pit action, tends to follow the left bank of the northwest sector of the river.

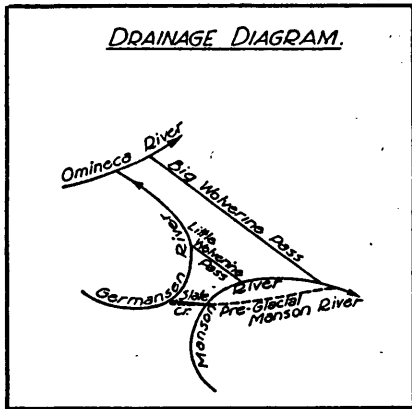
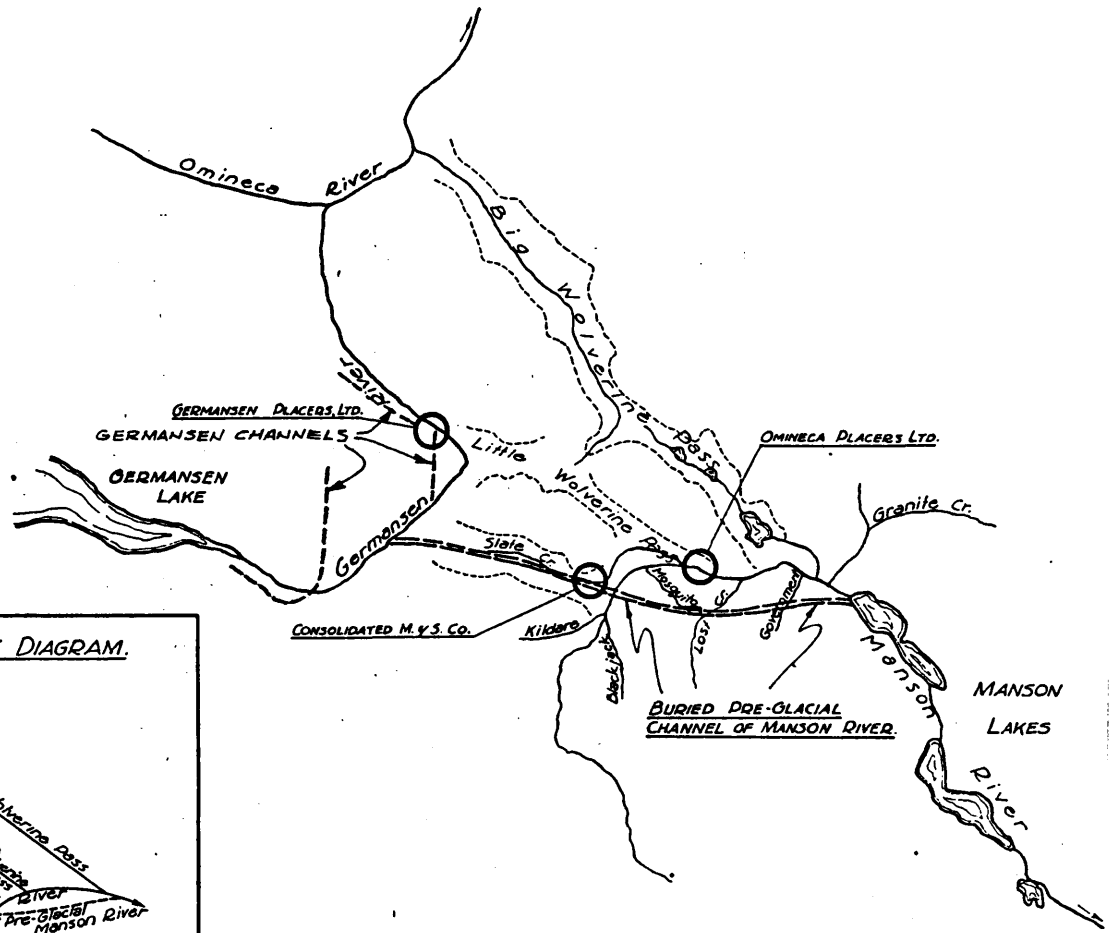
Where partially or completely dissected by the present river systems, the ancient gravels were removed by erosion and re-concentrated in the present rivers, providing the main source of the gold in the Quaternary gravels from which the earliest gold production in the area was obtained.

The main structural feature of the area is the Manson Fault Zone. This disruption, extending some 3 to 5 kilometers in width, has been traced over a recorded distance of 70 kilometers. It has

been associated with deposits of lode metals and placer gold. An unusual feature of this fault zone is its effect on the drainage pattern of the area. In its northwestern trend the fault underlies Manson River where it flows southeast to enter the Manson Lakes; it then undercuts Little Wolverine Pass to emerge and redirect the northeast flowing nature of the Germansen River into a northwest pattern prior to its emptying into the Omineca River. Placer deposits mined by Germansen Placers Ltd. and Omineca Placers Ltd. occupy, or occupied, areas where this fault affects the change in drainage pattern.

The source of the gold can be attributed to hydrothermal deposition associated within, or with, the fault zone. Government mapping has identified quartz-feldspar sills containing quartz veins of the silver - gold - copper mineralization type trending southeast across Slate Creek and the Manson River. Several area creeks have also exposed well-mineralized veins as have some of the local mountain ridges.

Placer gold of the area is said to be relatively coarse with a fineness around 750 to 800. Silver is the main impurity.



W.G. Hainsworth

HIGHWATER RESOURCES LTD.
MANSON CREEK AREA OMINECA MINING DIVISION, B.C.
PRE-GLACIAL CHANNELS
To accompany a report by W.G. Hainsworth P.Eng.

MODIFIED AFTER D.LAY B.C.D.M. 1933, 1936

FIGURE 3

PLACER PRODUCTION

British Columbia has some ten placer areas of which the Omineca ranks as the number four producer since records were kept in 1858.

To the end of 1984, the placer producers of the province have yielded some 164,860,872 grams (530,050 ounces) of gold valued at \$111.9 million. The bulk of the Omineca production was derived from the Germansen - Manson Creek area. Lowest production from the area was 1971 when only some \$4,800 in production was recorded. To 1984 the Omineca has produced 1,855,501 grams of placer gold worth \$3,037,827.

The Omineca area is only exceeded by the Cariboo (at 81,564,530 grams) Atlin (23,697,948 grams) and Lilloet (2,895,325 grams).

RECENT OPERATIONS

Upon completing the deal with Auriga Ventures Ltd., Highwater Resources Ltd. undertook to run seismic surveys over specific areas of each of the initial three placer claim blocks. Geotronics Surveys Ltd. of Vancouver was contracted to carry out these surveys. The work consisting of running a total of 9 lines with a horizontal survey length of 5343 meters (17,525 feet) over three claim blocks. The report maps form an addendum to this report while the contents of the seismic reports are briefly summarized herewith. It should be noted that a total of \$47,586 has been expended on the seismic surveys.

The seismic survey system consisted of two 12 channel seismographs interfaced to produce a 24 channel refraction system whose data was analyzed on the intercept time delay method. The pickup receivers (geophones) were distributed along a 90 meter (295 feet) spread and at intervals of 2.5 meters at the ends and the middle of the spread and with 5 meters being used for the rest of the spread. There was a tendency to overlap the spreads to ensure, in certain instances, that a channel edge would not be missed. The refracted signals received from the energy source - dynamite - were stored in a memory bank and later permanently recorded.

Because of the few number of lines per claim block the nature of the survey should be considered as a preliminary, or reconnaissance, stage.

The three claim blocks were examined through seismic means during the period November 1st. to November 28th, 1988 by a crew of four men.

It should be realized that seismic interpretation show changes in velocities of the signal and these are identified with bedrock, gravels and overburden. Seismic outlines dimensions. Still unanswered is the question of gold values, if such exist, within the channel.

Ah Lock Group

At the time of running the survey this block consisted of a single claim, #3497. It has since expanded to 2 claims with the acquisition of the claim lying directly to the south. The objective of the survey was to outline, or prove the extension of, a known buried river channel carrying placer gold. This channel sub-parallel the Germansen river. The presence of this channel was evident from hydraulic actions within Germansen Placer's pit in 1933-34. This pit was located on the left bank of the river.

During the 1980's a 55 foot adit had been run into the old channel some 60 meters west of the Germansen River by the owner of the claim. The adit lay in the silts above the gravels. At intervals the claim was leased out and in 1988 leasers working the ancient gravels below the adit reportedly took out a quantity of gold, amount unknown, over a short operational period. Unfortunately the adit was sealed by heavy snow drifts at the time of the authors visit. Bedrock lays within 3 to 5 meters below the floor of the adit. Portions of the property were hydraulically mined by Ah Lock in the early to mid 1930's.

The four seismic lines run at 100 meter intervals through to the rivers edge showed, based on signal velocities, that a presumed channel laid buried along the west shoreline of the river. The west rim of the channel could be interpreted from the rock exposure west of the river while the east rim was identified only in the most northerly of the seismic lines. Channel bedrock was identified in only one line, the most southerly line.

Questions left unanswered are (a) elevation of channel bottom (b) overall width of channel.

With the additional tie-on claim, further seismic lines are warranted.

See figure 4 and 5 of Ah Lock.

Little Wolverine Pass Group

Five claims formed the original contiguous group (PL 18069-18072) when the three seismic lines were run. To this group has been added three additional claims.

Little Wolverine Pass has often been speculated in B.C. government reports, particularly in the '30's, as a possible location regarding a buried channel. Speculation regarding the Tertiary Manson River flowing north westward through the Pass to empty into the Omineca River gives rise to this preglacial channel possibility. This theory was presumably checked out by Germansen Placers Ltd. sometime in the 1930's. Neither the exploration approach nor the results of the investigation by this company are known.

Three seismic lines covering an internal measurement of 2,500 meters were run using the road as an arbitrary measuring point. The claims appear to cover the northern portion of the valley. Of the 2,700 meter of line run, approximately 45% of the total was over Highwater ground. Of the 10 bedrock depressions, or buried creek channels, identified in the survey, only 3 occur on the claims proper.

The spacing of the lines is too great in this initial exploratory effort to comment on possibilities of bedrock depression continuity. Because of the placement of the claims, the most southern basement depression on each line approximates the centre of the pass but, as stated, the spacing interval of the lines leaves interpretation open for question.

More seismic lines are required in order to confirm continuity of channels.

See figures 4 and 5 of Little Wolverine Pass.

Slate Creek Pass Group

Five claims formed the initial group over which the seismic survey was performed. To this group has been added an additional thirteen claims.

This area has been a favorite haunt of the placer mining companies because of the theory of an underlying, buried pre-glacial channel that carried the Germansen waterways through to the Manson Lakes. The 43rd Mining and Milling Company was the initial operator on the property followed by the Consolidated Mining and Smelting Company in the Depression years. No published results are available from either of these major operations. C.M.&S. still retain portions of their holding.

Of the two seismic lines run by Geotronics Surveys Ltd. the most easterly line is shown on maps to be some 2,400 meters up stream from the C.M.&S. western boundary. The second line is 750 meters further west.

The two lines fully extend across the staked placer claims of Highwater in a rough north-south fashion. They cover the present water system (a weak creek) of Slate Creek well above the impounded lake.

Each of the seismic lines have recorded depressions in the underlying bedrock. Whether at this point these depressions can be classified as channels is debateable. Because of the large interval (750 meters) between the two lines any interpretation falls short of being able to show "channel continuity."

Line A, the westerly line, has six bedrock anomalies along its length. The two most southern depressions are more apt to be old channels bottoms because of width and depth than localized bedrock erosion. In contrast to the adjoining seismic line, bedrock surface is relatively shallow in the northern third of this line.

Line B, with shallow bedrock scattered in the southern and central sections of the traverse, has exhibited four unusual bedrock conditions. All four could be gravel filled old channel ways of either the main stream or tributary creeks.

Obviously to address the continuity question, further seismic

lines are required. The presence of so many irregularities in the bedrock topography in both lines is encouraging. The Slate Creek claim block located as it is on an extension of a proven auriferous old channel bed should be a strong priority for further investigation.

See figures 4 and 5 of Slate Creek.

Goodasany Group

This is a recently staked group of nine placer claims just west of the north trending portion of the Manson Creek - Germansen Landing gravel road. The claims are aligned along a presumed pre-Glacial channel way of the Germansen River as depicted in figure 3. There has been no work done on these claims by the present owner. It is also unknown whether the channel was more readily identified in past work.

EXPENDITURES - 1988

Since signing the purchase-option agreement on August 16th, 1988, Highwater has expended the following amounts of monies in examining and maintaining the claims while enlarging the original group. These rounded figures have been presented to the writer by the Highwater management.

Seismic Survey

Geotronics.....	\$25,811.00	
Line Cutting Wages.....	10,470.00	
Accommodation.....	5,387.00	
Rentals.....	1,430.00	
		<u>\$43,098.00</u>

Claim Staking

Wages.....	2,600.00	
Accommodation.....	1,209.00	
Rentals.....	1,325.00	
Travel.....	1,221.00	
		<u>\$ 6,355.00</u>

Misc.

Management Fees.....	10,800.00	
Travel.....	2,142.00	
Recording assessment work.....	4,520.00	
Recording claims.....	2,500.00	
Purchase of claim.....	1,500.00	
Management fees.....	16,800.00	
Geological report.....	5,148.00	
Office supplies.....	481.77	
Workman's compensation.....	749.92	
Water supply.....	132.40	
		<u>\$94,227.09</u>

TOTAL

\$94,227.09

RECOMMENDATIONS

The prime purpose of recommending operations in buried channel placer situations is to cover the following parameters: 1. Locate and dimensionalyze the buried stream channel. 2. Obtain depth to bedrock within the channel. 3. Define the number of pay horizons, if such exists, within the gravels. 4. Determine the degree of gold mineralization within the channel. The first two conditions are serviced by geophysics, primarily seismic surveys. The last two requirements are met by overburden drilling and in the final analysis by pit or drift production.

It is difficult to line up yardage and grade in a placer operation. The amount of gravel within the channelway can be calculated but the dimensions, and consequently the yardage, of the pay horizons all fall back to drilling and analysis of the intercepted gravels.

The initial seismic survey of November 1988 was of a reconnaissance nature. The survey evinced that bedrock depressions existed under the three blocks of claims examined. Whether these were pre-glacial channels or glacial scouring was not determined. The depressions were identified on maps as "channels." If so, the continuity must be determined and the amount of pay gravels within them must be ascertained.

To comply with the first requirement, that of continuity and "Channel" depths, further seismic lines are required. It is suggested that the following profiles be instituted on the subject claim blocks as a requirement of Stage I:

AH LOCK: This is one of the claims which could be considered to have a "showing" if such can be applied to a placer claim. The 55 foot deep adit has reputedly cut into the gold bearing gravels which have been sluiced in the past few years. Because of the secrecy which surrounds placer production, the only word to qualify production from this adit in terms of one of the miners was "substantial"!! It is suggested that supervisory personnel do some panning and weighing from these gravels.

The Stage I operation would extend the present three southern lines to identify the eastern rim. Continue the lines south at 1,000 meter intervals to the boundary of the recently acquired adjoining placer claim. Because of the almost right angle bend in the present river system, two seismic lines in this small claim should be run almost at right angles to the previous lines.

Minimum Requirements : 300 meters of line extension;
additional lines totalling 900 meters.

Slate Creek: The present two seismic lines are 750 meters apart. Because of the continuity issue it is recommended that one line be located intermediate to the present lines and that two additional lines be placed east and west of the present lines at a suggested 500 meter interval.

Minimum Requirements - 3 lines totalling 3,200 meters.

Little Wolverine Pass: The three lines run over these claims showed scatterings of possible "channelways." Again to clarify the continuity question three intermediate lines at 650 meter intervals should be located between the two present outside lines.

Minimum Requirements - 3 lines totalling 1,500 meters.

Goodasany: This new block has been located over what is projected to be a pre-glacial channel of the Germansen River. To definitely identify the channel location and extent within the block a seismic line running approximately east-west should cover the full two claims width. The one line at this stage would be sufficient to substantiate or negate the presence of the channel. If its presence is suspected further lines would be warranted in the succeeding stage.

Minimum Requirements - 1 line totalling 2,000 meters.

To better define channel economic situations, several overburden holes should be drilled in each channel identified. The location of these holes should be the responsibility of the project manager. It is he who is present during the geophysical surveys and has a more tangible grasp of the current situation. It is suggested that this drilling pattern be staged over the two portions of the exploratory program. It is recommended that the initial program be confined to the Ah Lock claim block with the clear intention of proving up the presence and, possibly, the grade of the auriferous gravels. This need be a short hole layout pattern based on the seismic results.

On the assumption that the average channel depth in the Ah Lock is some 30 to 40 meters from surface then two or three holes in this initial prospecting program would mean some 100 meters of overburden drilling for this particular approach of the Stage I requirement.

A multi-phased Stage II program would be contingent on qualifying results from the Stage I operation and would consist of several seismic lines to further detail uncertain areas. In addition this phase would entail more intensive overburden drilling to better determine the grades of the various identified channels.

A test pit or two might well get underway at this time on the more advanced of the channels as a further phase operation of .. this stage.

Stage III, again success contingent on the proceeding stages, would likely be the layout and mounting of pit operations on one or more channelways.

Respectfully submitted,

W.G. Hainsworth, P.Eng.

APPENDIX A

CERTIFICATE

I, W.G. Hainsworth, P.Eng., of Vancouver, B.C. do hereby certify:

1. That I am a Consulting Geologist residing at 836 - 13th Avenue, Vancouver, B.C.
2. That I am a graduate of the University of Western Ontario, London, Ontario, Bachelor of Science Degree, Honours Geology.
3. That I have practiced my profession for some 30 years.
4. That I have been a continuous member of the Association of Professional Engineers of British Columbia since 1965 and am a Professional Geologist registered with the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 1979.
5. That I have no financial interest, direct or indirect, in Highwater Resources Ltd. and do not expect to obtain any such interest.
6. That the information contained in this report is based on a visit to the Manson Creek properties on March 28-29, 1989 and perusal of all pertinent information available.
7. That consent is herewith given to Highwater Resources Ltd. to use any or all material from this report in information circulars, offerings or shareholders' brochures, provided no attempt is made to misrepresent the stated facts of the report.

W.G. Hainsworth, P.Eng.(B.C.)
P. Geol. (Alta)

To Accompany:

Report on the
Manson Creek - Germansen Landing
PLacer Claim Groups
Omineca Mining Division
Northern British Columbia
for
Highwater Resources Ltd.
June 10, 1989

APPENDIX B

BIBLIOGRAPHIES

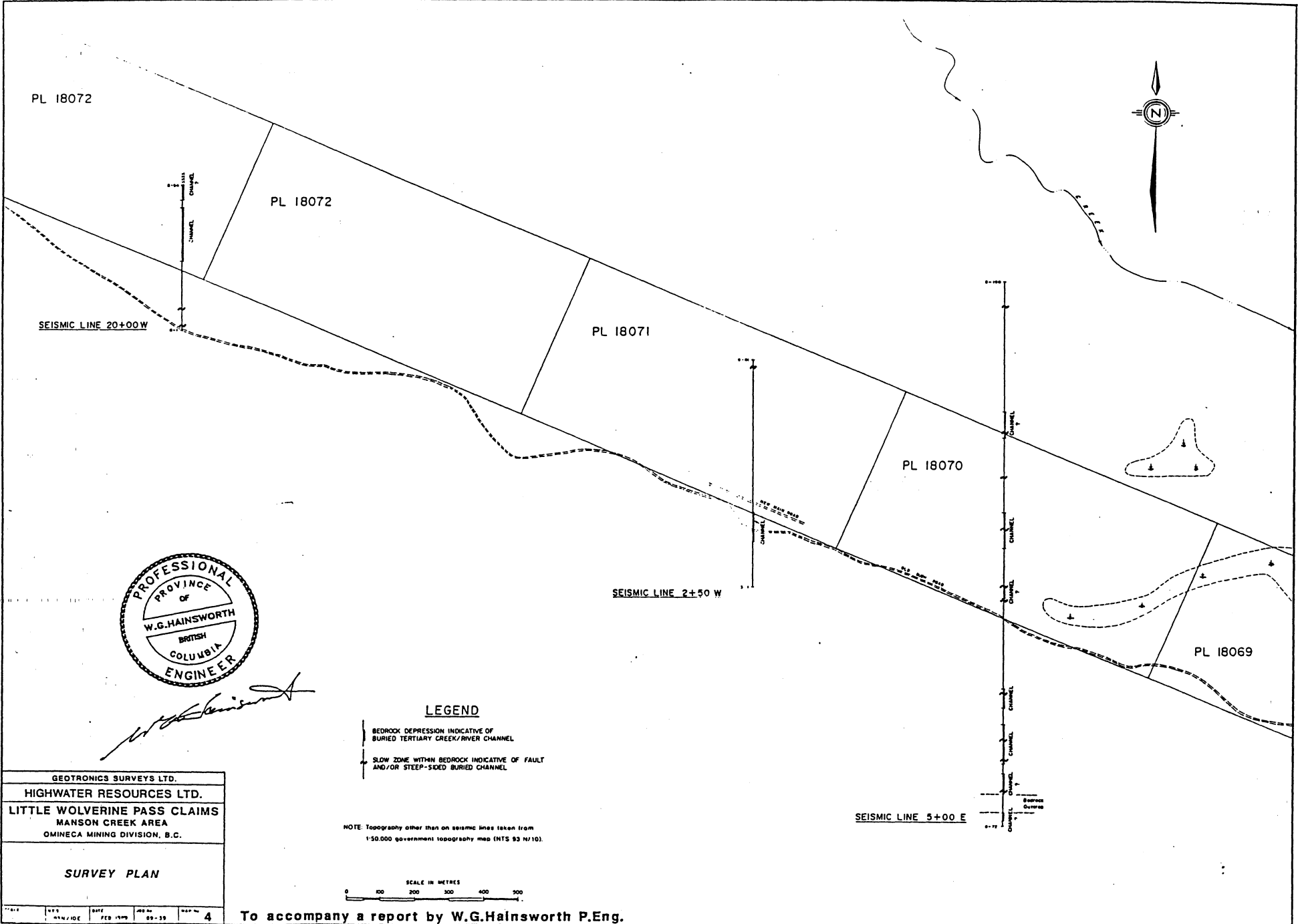
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- The Little Wolverine Pass
- Ah Lock Creek
- The Slate Creek Pass
Geotronics Surveys Ltd. February 1989



PL 18072

PL 18072

PL 18071

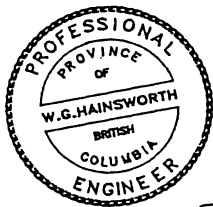
PL 18070

PL 18069

SEISMIC LINE 20+00 W

SEISMIC LINE 2+50 W

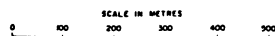
SEISMIC LINE 5+00 E



LEGEND

- BEDROCK DEPRESSION INDICATIVE OF BURIED TERTIARY CREEK/RIVER CHANNEL
- - - SLOW ZONE WITHIN BEDROCK INDICATIVE OF FAULT AND/OR STEEP-SIDED BURIED CHANNEL

NOTE: Topography other than on seismic lines taken from 1:50,000 government topography map (NTS 83 N/10).

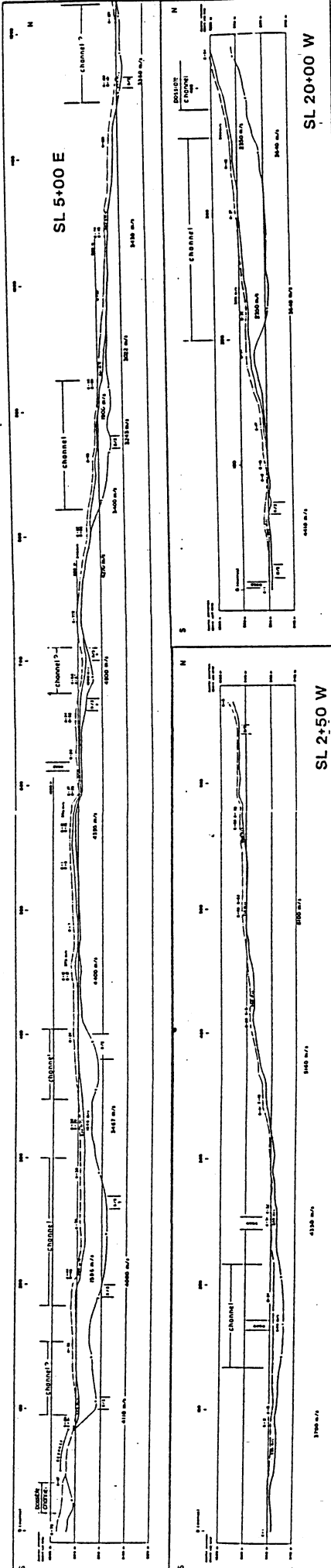


GEOTRONICS SURVEYS LTD.				
HIGHWATER RESOURCES LTD.				
LITTLE WOLVERINE PASS CLAIMS MANSON CREEK AREA OMINECA MINING DIVISION, B.C.				
SURVEY PLAN				
DATE	BY	APP'D	NO.	
FEB 1979	W.G. HAINSWORTH		89-39	4

To accompany a report by W.G. Hainsworth P.Eng.



W.G. Hainsworth



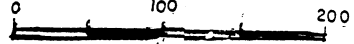
LEGEND

- G-1 G-2 Ground surface showing Geophone Numbers
- 3400 Average Seismic Velocity (metres per second)
- Intermediate Seismic Horizon (within overburden)
- Seismic-interpreted bedrock subsurface
- Slow zone within bedrock indicative of fault and/or buried steep-sided channel.

SUGGESTED VELOCITY CLASSIFICATION

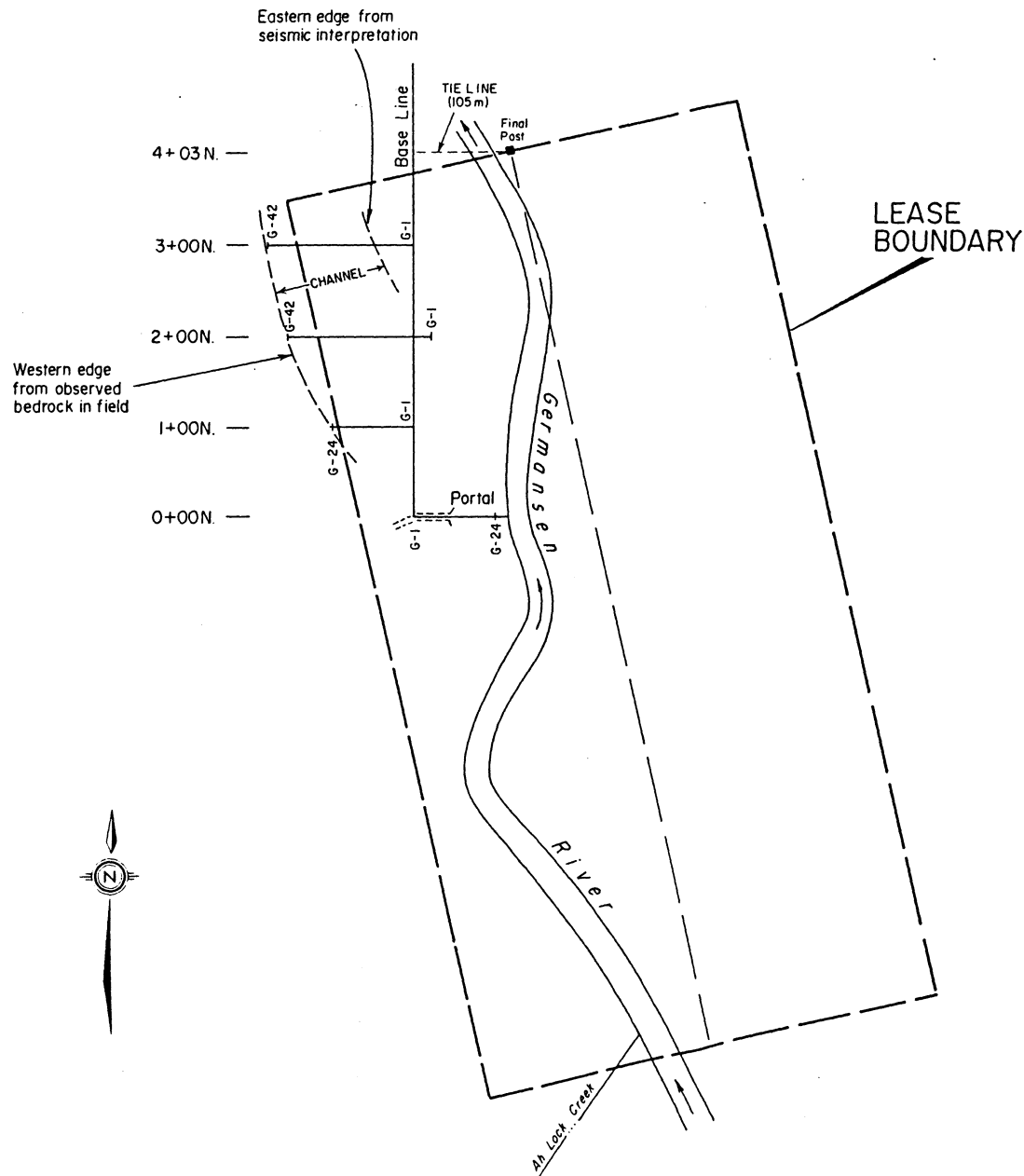
- 340 - 540 metres/sec - OVERBURDEN: SURFICIAL, LOOSE, DRY FILL, SANDS & GRAVELS.
- 1000 metres/sec - OVERBURDEN: PARTIALLY COMPACT TILLS, SANDS & GRAVELS
- 1800 - 2500 metres/sec - OVERBURDEN: VERY COMPACT, WATER-SATURATED GLACIAL TILLS
- 2800 - 3500 metres/sec - BEDROCK: CACHE CREEK CLASTIC SEDIMENTS, POSSIBLY VOLCANICS
- 6100 metres/sec - BEDROCK: LIMESTONE

SCALE IN METRES

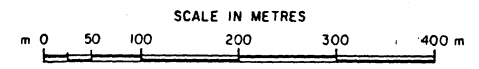


To accompany a report by W.G. Hainsworth P.Eng.

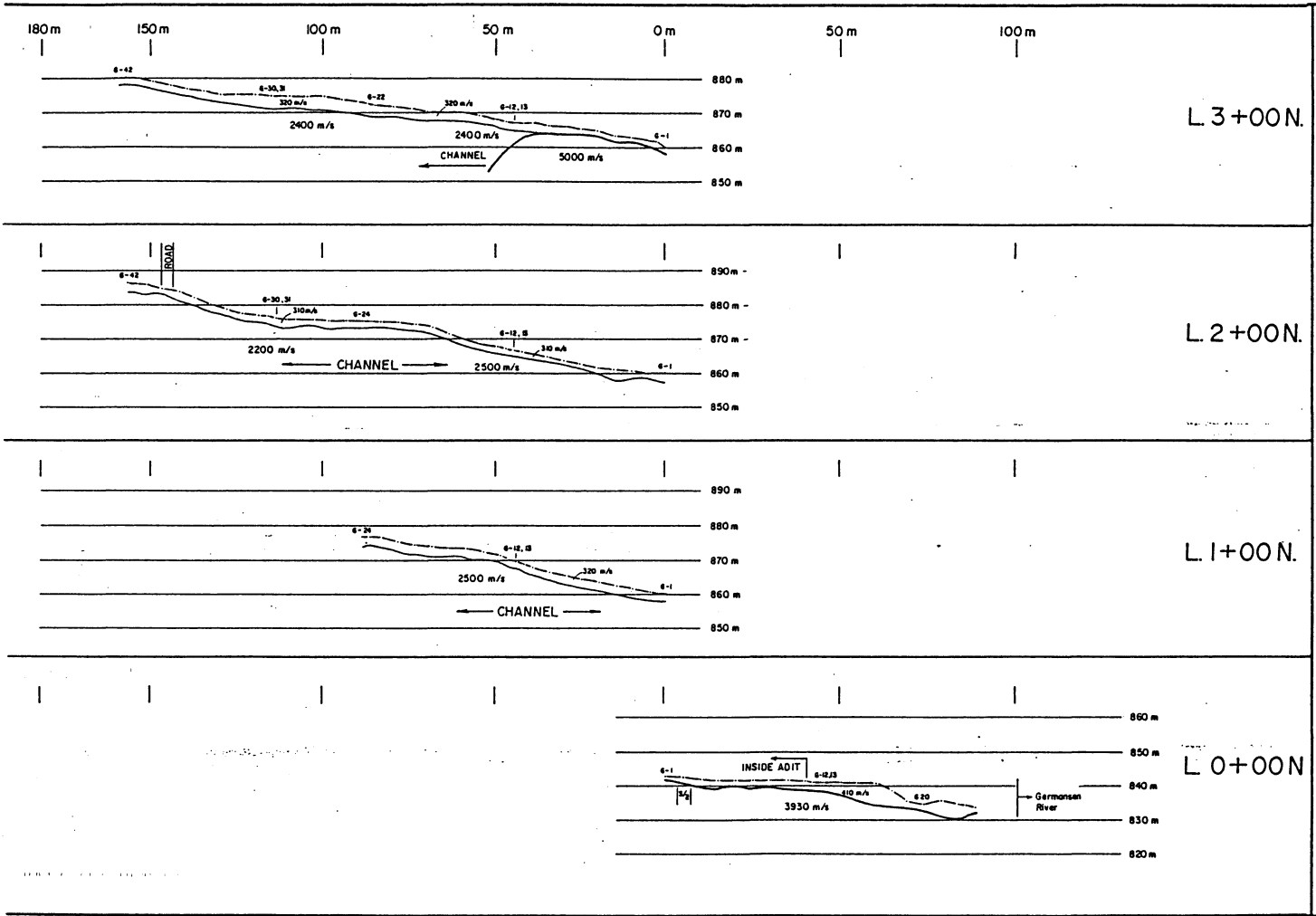
GEOTRONICS SURVEYS LTD.				
HIGHWATER RESOURCES LTD.				
LITTLE WOLVERINE PASS CLAIMS				
MANSON CREEK AREA, OMINECA MINING DIVISION J.B.A.				
SEISMIC REFRACTION STUDY				
PROFILES				
SCALE:	N.T.S. 93N/10E	DATE: FEB., 1989	JOB No. 89-39	MAP No. 5



W. G. Hainsworth



GOTRONICS SURVEYS LTD.				
HIGHWATER RESOURCES LTD.				
PLACER LEASE 3497				
AH LOCK CREEK				
MANSON CREEK AREA, Omineca Mining Division, B.C.				
RECONNAISSANCE SEISMIC REFRACTION STUDY SURVEY PLAN				
SCALE	N.T.S.	DATE	JOB No.	MAP No.
-	93N/10E	FEB., 1989	88-39	4

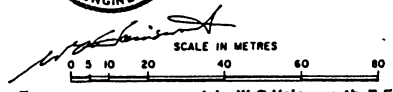


LEGEND

- GROUND SURFACE SHOWING GEOPHONE NUMBERS
- 2500 AVERAGE SEISMIC VELOCITY (metres per second)
- INTERMEDIATE SEISMIC HORIZON (within overburden)
- SEISMIC - INTERPRETED BEDROCK (SUBSURFACE)
- SLOW ZONE WITHIN BEDROCK INDICATIVE OF FAULT AND/OR STEEP-SIDED BURIED CHANNEL

SUGGESTED VELOCITY CLASSIFICATION

- | | |
|------------------------|---|
| VELOCITY metres/sec | SUGGESTED MATERIAL |
| 310 - 410 metres/sec | OVERBURDEN: SURFICIAL LOOSE, BOULDER GLACIAL CLAY, POSSIBLY SAND, GRAVEL |
| 2000 - 2500 metres/sec | OVERBURDEN: BOULDER CLAY, WATER-SATURATED, VERY COMPACT |
| 3930 metres/sec | BEDROCK: SEDIMENTS, PROBABLY ARGILLITES AND SLATES, POSSIBLY SOME VOLCANICS |
| 5000 metres/sec | BEDROCK: GREENSTONES, POSSIBLY CHERT, LIMESTONE OR SERPENTINE |

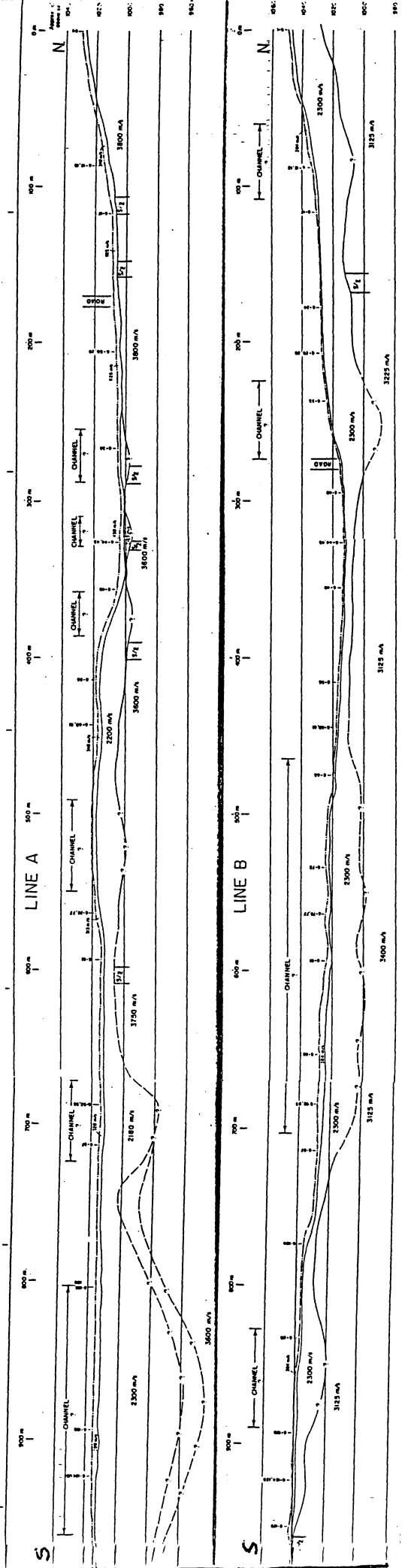


To accompany a report by W.G. Hainsworth P.Eng.

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 PLACER LEASE 3497
 AH LOCK CREEK
 MANSON CREEK AREA, OMINCEA MINING DIVISION, B.C.

RECONNAISSANCE SEISMIC REFRACTION STUDY PROFILES

SCALE 1:1000	NTS 93N/10E	DATE FEB., 1989	JOB No. 88-39	MAP No. 5
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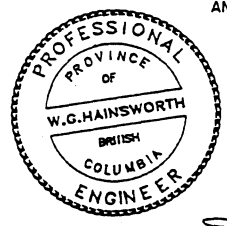


LEGEND

- 1 2
GROUND SURFACE SHOWING GEDPHONE NUMBERS
- 2300
AVERAGE SEISMIC VELOCITY (metres per second)
- INTERMEDIATE SEISMIC HORIZON (within overburden)
- SEISMIC-INTERPRETED BEDROCK (SUBSURFACE)
- - -
PROBABLE LOCATION OF SEISMIC-INTERPRETED BEDROCK (SUBSURFACE)
- S/z
SLOW ZONE WITHIN BEDROCK INDICATIVE OF FAULT OR STEEP-SIDED BURIED CHANNEL

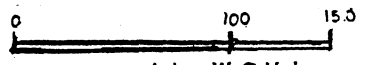
SUGGESTED VELOCITY CLASSIFICATION

- 300 - 625 metres/sec - OVERBURDEN: SURFICIAL LOOSE, DRY TILL, SANDS & GRAVELS
- 1800 - 2500 metres/sec- OVERBURDEN: VERY COMPACT, WATER-SATURATED TILLS; POSSIBLY SANDS & GRAVELS
- 3000 - 3750 metres/sec- BEDROCK: SEDIMENTS, PROBABLY ARGILLITES AND SLATES; POSSIBLY SOME VOLCANICS



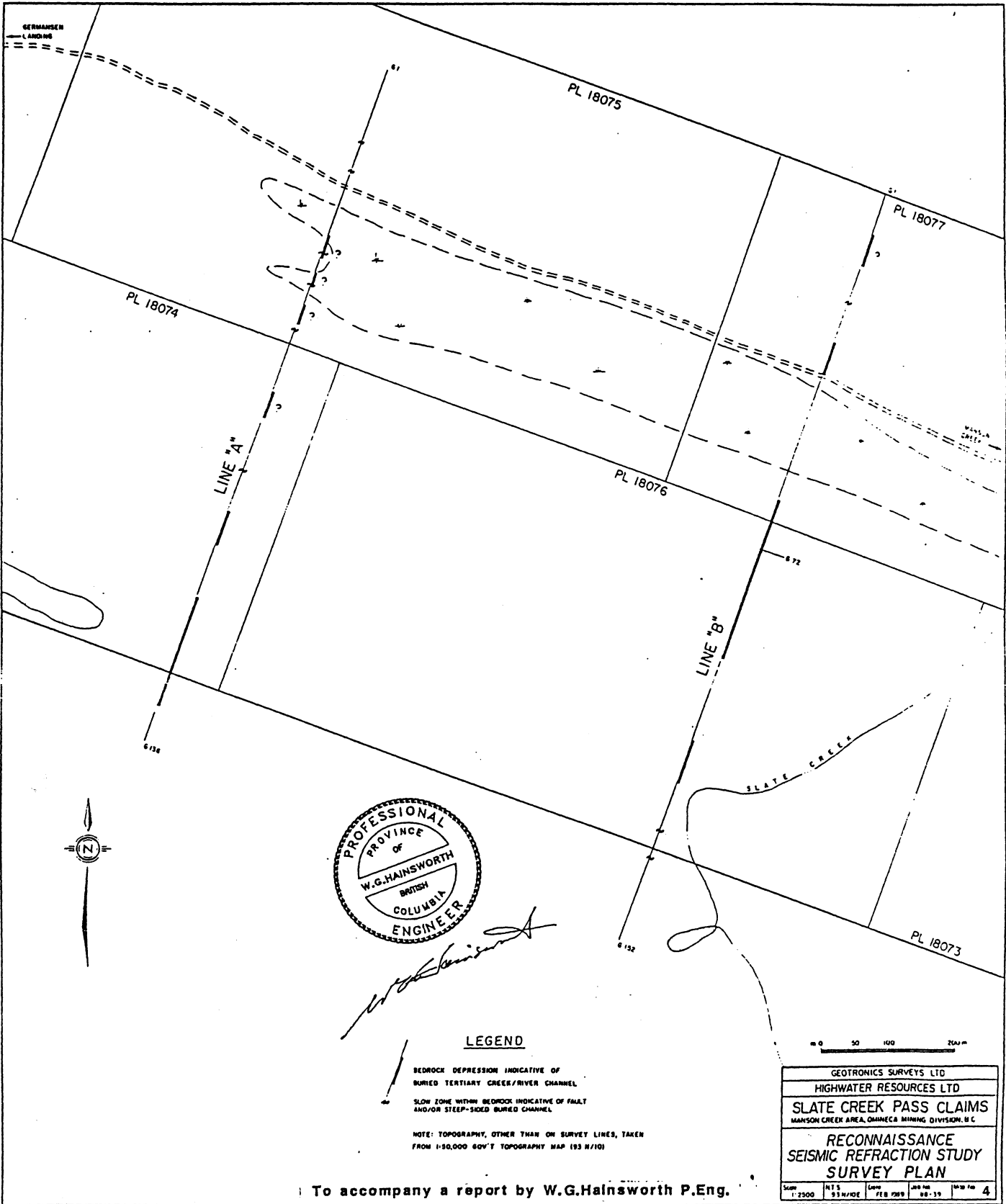
W.G. Hainsworth

SCALE IN METRES



To accompany a report by W.G.Hainsworth P.Eng.

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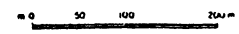


W.G. Hainsworth

LEGEND

- BEDROCK DEPRESSION INDICATIVE OF BURIED TERTIARY CREEK/RIVER CHANNEL
- - - SLOW ZONE WITHIN BEDROCK INDICATIVE OF FAULT AND/OR STEEP-SIDED BURIED CHANNEL

NOTE: TOPOGRAPHY, OTHER THAN ON SURVEY LINES, TAKEN FROM 1:50,000 60' T TOPOGRAPHY MAP 193 N/101



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RECONNAISSANCE				
SEISMIC REFRACTION STUDY				
SURVEY PLAN				
Scale	NETS	DATE	LAB NO.	NO OF
1:2500	95 N/101	FEB 1989	88-19	4

To accompany a report by W.G. Hainsworth P.Eng.