#### ARIS SUMMARY SHEET

District Geologist, Smithers

Off Confidential: 89.12.13

ASSESSMENT REPORT 18430

MINING DIVISION: Skeena

129 53 00

₽ROPERTY:

Virginia K

LOCATION:

LONG LAT 56 17 00 6237751

UTM

445310

NTS

0.9 104A05W

CAMP:

050 Stewart Camp

CLAIM(S):

Virginia K, Star, AM

OPERATOR(S):

Glacier Res.

MUTHOR(S):

House, G.

REPORT YEAR:

1988, 96 Pages

COMMODITIES

SEARCHED FOR: Gold, Silver, Copper, Lead, Zinc

KEYWORDS:

Hazelton Group, Volcanics, Intrusive, Granite, Faulting, Quartz veins

Pyrite, Sphalerite, Galena, Chalcopyrite

WORK

DONE:

Drilling, Geochemical, Geological

455.8 m

6 hole(s);BQ

Map(s) - 5; Scale(s) - 1:2500, 1:250

PETR 2 sample(s)

76 sample(s); AU, AG, CU, PB, ZN SAMP

RELATED

REPORTS:

16888

MINFILE:

104A 005,104A 006

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#### SAWYER CONSULTANTS INC.

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ASSESSMENT REPORT ON THE 1988 DRILL PROGRAM
on the
VIRGINIA K GROUP OF CLAIMS
American Creek Area
Skeena Mining Division, British Columbia

NTS 104 A/5W Latitude 56°17'N Longitude 129°53'W

for

Owner and Operator:
GOLDEN GLACIER RESOURCES INC.
#1108 - 409 Granville Street
Vancouver, B.C. V6C 1T2

bу

Gordon D. House, M.S., F.G.A.C. of Sawyer Consultants Inc.

November 15th, 1988

### TABLE OF CONTENTS

	Page
INTRODUCTION	1/
SUMMARY	3 /
PROPERTY AND OWNERSHIP	4 /
Table 1 - List of Claims	4/
LOCATION AND ACCESS	4 /
PHYSIOGRAPHY	6/
HISTORY AND PREVIOUS WORK	6/
GEOLOGY	
Regional Geology	8/
Local Geology	9 /
1988 DRILL PROGRAM	10 /
DISCUSSION OF RESULTS	12/
CONCLUSIONS AND RECOMMENDATIONS	12/
STATEMENT OF COSTS INCURRED	14 /
CERTIFICATE OF QUALIFICATIONS, Gordon D. House, M.S., F.G.A.C.	15 🗸
LIST OF REFERENCES	16 /
APPENDIX I Diamond Drill Logs /	
APPENDIX II Copy of Petrographic Report	
APPENDIX III Assay Summary Sheets and Copy of Certificate of Analysis	
List of Illustrations	
	2 /
Figure 1 General Location Map; scale 1:8,000,000 approx.	2 /
Figure 2 Claim Map; scale 1:50,000	5 /
Figure 3 Drill Location Plan; scale 1:2500	in pocket
Figure 4 Geology - Drill Set-up No. 1 - DDH 88-1,2, Cross Section on 090°; scale 1:250 H&V	in pocket
Figure 5 Geology - Drill Set-up No. 2 - DDH 88-3,4, Cross Section on 085°; scale 1:250 H&V	in pocket
Figure 6 Geology - Drill Set-up No. 3 - DDH 88-5, Cross Section on 110°; scale 1:250 H&V	in pocket /
Figure 7 Geology - Drill Set-up No. 3 - DDH 88-6, Cross Section on OSO*; scale 1:250 H&V	in pocket /

**SAWYER CONSULTANTS INC.** 

#### INTRODUCTION

The AM - Virginia K property is held under option by Golden Glacier Resources Inc. The property consists of 10 Reverted Crown Grants, the Virginia K Group, and 5 Modified Grid claims totalling 80 units, the AM Group. The property is located at the headwaters of American Creek and lies about 42 kilometres north of Stewart, British Columbia.

The mineralized showings on the property were first discovered in 1929 and were explored during the 1930s by surface trenching with limited underground development. There was intermittent exploration on the showings until the properties were consolidated under the ownership of Komody Resources Ltd. in 1980. Golden Glacier Resources Inc. optioned the property in 1986 and following reconnaissance exploration in August and September 1986, added an additional three claims totalling 44 units and a Reverted Crown Grant to the property.

In 1987 the recommended program of surface trenching by drilling and blasting with sampling of exposed mineralization delineated two mineralized veins in the area of surface alteration and veining discovered during the 1986 program. A program of diamond drilling was recommended to test the depth extensions of the mineralized veins. The drill program was carried out during August and early September 1988, after delays caused by the slow thaw of the heavy snow pack remaining from the winter of 1986-87.

This Report has been prepared for Golden Glacier Resources Inc. to discuss the 1988 drill program, recommendations are made for further exploration on the property.

#### SUMMARY

The AM - Virginia K property is located on American Creek about 42 kilometers due north of Stewart, B.C. The property consists of 90 claims and units comprised of 10 Reverted Crown grants and 5 Modified grid claims totalling 80 units. Golden Glacier Resources Inc. have acquired joint ownership of the property under the 1986 option agreement and are operators of the joint venture exploration programs.

A reconnaissance exploration program carried out in 1986 outlined an area of alteration in the northwest quadrant of the property, north of the old Moonlight showings. A series of quartz carbonate veins within a zone of silicification and carbonatization returned significant values in gold and silver. A program of trenching by drilling and blasting with detailed sampling of exposed mineralization was carried out in 1987 and delineated several quartz carbonate veins over a strike length of from 300 feet to 400 feet (90 metres to 120 metres). The samples taken from these veins returned significant values in gold and silver. Recommendations were made for diamond drill testing of the veins.

Sawyer Consultants Inc. were retained to supervise the diamond drill program, carried out from August 18th to September 5th, 1988, after several weeks delay caused by the late thawing of the snow pack on the claims. The drill program consisted of 1495 feet of diamond drilling in six holes from three drill set-ups, using a light weight Hydracore drill rig and BQ drill tools. The movement of equipment on the property was by helicopters, based in Stewart, B.C. Minor delays were caused by weather unsuitable for flying.

The 1988 drill program confirmed the extensions of the quartz carbonate veins to depth, but the values returned from the veins were significantly lower than from surface samples of the same veins taken earlier. The lower values returned from the BQ drill core intercepts may be due to the smaller sample size, or the "nugget effect" associated with coarse or visible gold in quartz veins, or the supergene enrichment of the surface samples by manganese oxides scavenging precious metal values in the zone of oxidation.

This report was prepared at the request of the Directors of Golden Glacier Resources Inc. and describes the 1988 drill program carried out on the AM - Virginia K property. The results of the program are discussed and recommendations are made for a program of surface exploration utilizing new information, and for a contingent program of diamond drilling.

#### PROPERTY AND OWNERSHIP

The AM - Virginia K property consists of 5 Modified Grid claims totalling 80 units and 10 Reverted Crown Grants. The claims data is listed in Table 1 following.

The Virginia K Reverted Crown Grants and the AM-1 and AM-2 Modified Grid claims totalling 36 units were optioned by Square Gold Explorations Inc., the predecessor company to Golden Glacier Resources Inc., in 1986, from Komody Resources Ltd., the predecessor company to Fest Resources Inc. Golden Glacier Resources Inc. are the operators of the Joint Venture program and carried out a geological mapping, prospecting and sampling program during August/September 1986. The AM-3, AM-4 and AM-5 claims totalling 44 units, and the Virginia K Extension No. 1 Crown Grant were acquired at this time and added to the property.

Table 1

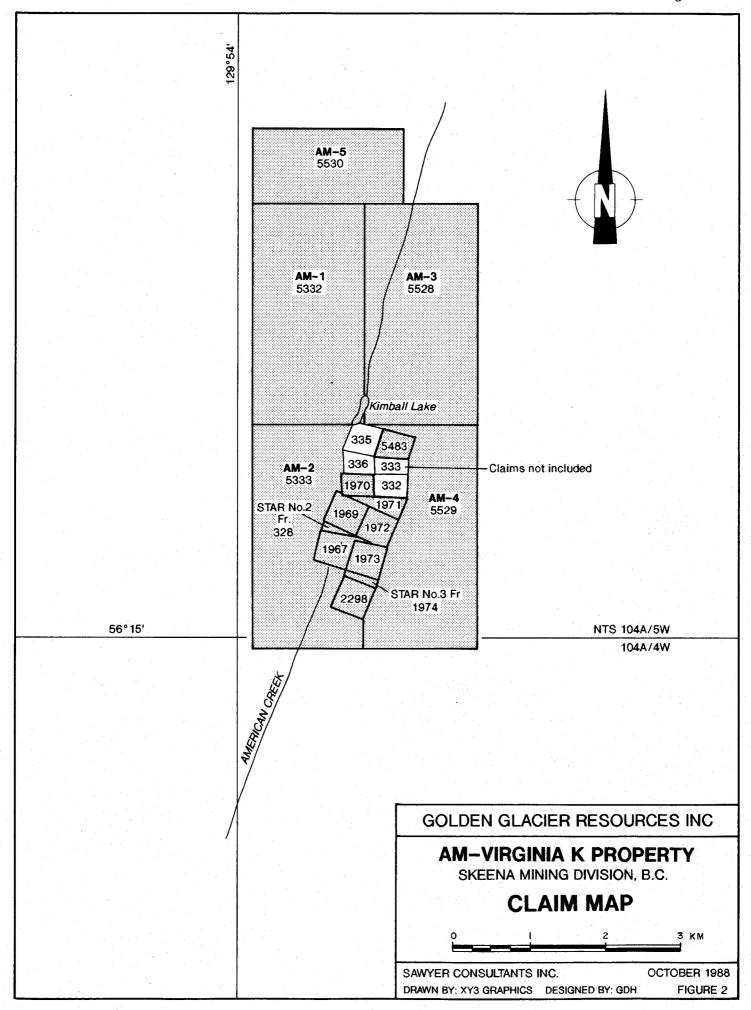
Reverted Crown Grants	Lot No.	Record No.	Expiry Date
Virginia K No. 1	5810	2298	May 27, 1991
Virginia K No. 2	5812	1973	Jan. 14, 1989
Virginia K No. 3	5816	1972	Jan. 14, 1989
Virginia K Fraction No. 3	5817	1971	Jan. 14, 1989
Virginia K Extension No. 1	5822	5483	Aug. 18, 1991
Virginia K Extension No. 4	5819	1970	Jan. 14, 1992
Virginia K Extension No. 5	5815	1969	Jan. 14, 1989
Virginia K Extension No. 6	5813	1967	Jan. 14, 1989
Star No. 2 Fraction	5814	328	Oct. 1, 1989
Star No. 3 Fraction	5811	1974	Jan. 14, 1989
Modified Grid Claims	No. of Units	Record No.	Expiry Date
AM-1	18	5332	Apr. 22, 1992
AM-2	18	5333	Apr. 22, 1992
AM-3	18	5528	Sept. 26, 1989
AM-4	18	5529	Sept. 26, 1989
AM-5	8	5530	Sept. 26, 1989

#### LOCATION AND ACCESS

2

The AM - Virginia K property is located on the headwaters of American Creek, a south-flowing tributary of Bear River and lies about 42 air kilometres north of the town of Stewart, B.C. The property is centred on latitude 56°17'N and longitude 129°53'W, shown on topographic map NTS 104A/5.

The claims cover both sides of American Creek and are roughly centred on Kimball Lake, a small Lake on American Creek. The Virginia K Reverted Crown Grants lie on the east side of American Creek south of Kimball Lake, the old Moonlight prospect lies west of the creek to the west of Kimball Lake.



Access to the property at present is by helicopter from Stewart, B.C. A pack-horse trail some 17 kilometres long was constructed to the Virginia K and Moonlight properties in the early 1930s from the Bear River, but has long since fallen into disrepair and disuse. The retreat of the American Creek glacier over the past 20 years has opened up a possible surface access route along a series of fault controlled benches and ridges on the west side of American Creek. Several areas on this route may require rock work, there has been no ground evaluation of the route to this time.

#### **PHYSIOGRAPHY**

The property is located in the Boundary Ranges of the Coast Mountain Physiographic terrane. Extensive permanent snowfields and glaciers cover much of the higher ground. The mountains are up to 8,500 feet (3,000 metres) high, the valley sides are steep to precipitous reflecting recent emergence from mountain glaciation. A hanging glacier flowing off Bear River Ridge, about 9 miles (14 kilometres) south of the property, occupied the floor of the valley up to 50 years ago, causing problems of access to the early workers on the property. The American Creek glacier as it was known, has since retreated up the valley side and presently terminates at about 4,500 feet (1,400 metres) elevation, as a perched glacier.

The valley of American Creek is steep-sided, with elevations on the property ranging from 3,000 feet (914 metres) at Kimball Lake, to more than 6,500 feet (1,900 metres) along the ridges. The topography on the west side of American Creek near the headwaters is more subdued with a number of benches and ridges locally marked by small patches of scrubby spruce occupying areas away from avalanche trails and snow chutes.

The weather is typical of the northern Coast Mountains with heavy winter snowfall and associated extreme avalanche and snowslide danger. The summers are generally cool and wet with snow occurring on the mountains in any month of the summer. The lower slopes on the property are partially snow free in mid August, snowfall commences in late September and starts accumulating by mid to late October.

The property is available for surface exploration work from mid August until mid October each year, this is dependent on the previous winter's snow pack and the rate of snow melt in the spring and early summer. Large patches of snow can remain all year in some locations.

#### HISTORY AND PREVIOUS WORK

The mineralized showings at the head of American Creek were discovered by D.D. Kimball in 1929, the Excelsior Prospecting Syndicate was formed in 1930 to explore the showings at both the Virginia K and the Moonlight properties. A pack-horse trail was completed to the properties in 1932.

Exploration work continued on both properties to 1935 when limited mining was carried out on the Virginia K claims. Discoveries of

spectacular pockets of native gold were made on the Moonlight property in 1936 and 1937, with underground development carried out from 1938 through 1939. The Great North Mining Company carried out trenching and x-ray diamond drilling on the Moonlight group of claims in 1955. Trail work was completed and a cabin erected on the access trail and beside the workings on the Moonlight vein.

The Virginia K Group was explored by diamond drilling in 1956, when Canex Exploration Ltd. optioned the property. Frontier Exploration Inc. carried out further prospecting, trenching and sampling of the Moonlight vein area in 1966. In 1979 Tournigan Mining Exploration Ltd. carried out mapping and sampling of the Moonlight vein and reconnaissance mapping of the surrounding area.

In 1980 Komody Resources Ltd. acquired the Reverted Crown Grants on the Virginia K property and during the course of exploration work a high grade vein was discovered. A 1,500 lb. bulk sample, averaging 182 ounces per ton silver, was mined and shipped to the smelter.

Komody Resources Ltd. consolidated the Moonlight and adjoining Bugnello claims under the same ownership as the Virginia K property in 1981, carrying out some limited exploration each year. The Moonlight vein was leased for high-grading in 1984, and it was reported that further spectacular finds of arborescent gold were made by the lessors.

In 1986 the AM-1 and AM-2 modified grid claims were staked to cover the lapsed Moonlight and Bugnello claims. The property comprising the Virginia K Group of Reverted Crown Grants and the AM-1&2 claims was acquired under option by Square Gold Exploration Inc. A program of geological mapping, prospecting and sampling was carried out over the Moonlight and Bugnello mineral occurrences on the west side of American Creek, where several veins carrying gold and silver mineralization were discovered to the north of the old Moonlight vein. Additional modified grid claims were staked, the AM-3, AM-4 and AM-5, totalling 44 units, a Reverted Crown Grant was acquired, and added to the Joint Venture property.

The results of the 1986 program were sufficiently encouraging for recommendations to be made for a program of trenching and sampling on the new vein discoveries, and for additional geochemical soil sampling and geological mapping. During August 1987 a 12 foot x 16 foot cabin was constructed near the mineralized vein showings on a bench about 1,200 feet (365 metres) above creek level. An extensive program of trenching and sampling was carried out over the newly discovered mineralized veins, as well as some geological mapping and geochemical soil sampling on the AM-3 and AM-4 claims. The program was terminated by heavy snow in early October 1987.

The 1987 program outlined two gold/silver bearing veins in some detail, the veins are up to 3.0 feet (0.9 metres) wide and were traced over 300 feet to 400 feet (90 metres to 120 metres) along strike. Mineralization consists of quartz-siderite veins carrying sphalerite, galena and chalcopyrite. A program of diamond drilling was recommended to test the down dip extensions of the veins.

#### GEOLOGY

#### Regional Geology

The Stewart area is underlain by a north to northwest trending assemblage of upper Triassic to lower Jurassic volcanic and sedimentary rocks of the Hazelton Group occurring in an island arc complex, capped by middle Jurassic marine basin turbidites of the Bowser Lake Group on the east. The sub-aerial volcanic pile is constructed of differentiated andesitic to dacitic calc-alkaline volcanics with interbedded sedimentary facies. Variations in the volcanic facies mapped by recent workers in the area indicate that volcanic vents and palaeotopographic highs were centred at Mount Dilworth and at Lay Lake on Bear River Ridge lying west of the AM-Virgina K property. It is likely that other volcanic centres were located nearby.

The stratovolcano of the island arc complex was underlain by a coeval, epizonal subsidiary magma chamber at a depth of about 2 kilometres. Late stage magmatic, bimodal feldspar-porphyry feeder dykes and volcanic rocks cut up through the entire andesitic sequence and were extruded at the surface. The exposed coeval intrusives are the Texas Creek batholith and the Summit Lake stock, the dyke phase of the Texas Creek batholith is known as the Premier Porphyry in the mining camps.

A younger intrusive suite, the Hyder Quartz Monzonite of middle Eocene age, outcrops in the Stewart area, including a batholithic phase as well as several minor plugs and a widespread dyke phase termed the Hyder Dykes. These Tertiary intrusives lie within the eastern margins of the Coast Plutonic Complex while the smaller stocks and dykes have been considered satellites of the Complex.

The Stewart area lies near the boundary of the Cordilleran Intermontane Belt and the Coast Plutonic Belt. The major structural deformation of the area may be related to plate tectonics and collision, the volcanics were deformed along major northerly trending fold axes and later intruded by stocks and batholiths of granitic rocks. Later deformation and faulting was accompanied by granitic intrusions during the early Tertiary.

The mineral deposits of the Stewart area were responsible for much of the past economic activity in the area and account for most of the present activity. The mineral deposits have been the focus of ongoing studies by provincial and federal Geological Surveys, such as Alldrick (1982-1988), and Anderson (1983-1988). The majority of the deposits consist of precious metal veins, which are late stage to post-intrusive epithermal veins emplaced in the andesitic to dacitic host rocks of the upper Triassic to lower Jurassic stratovolcanic complex of the Hazelton Group. The veins are spatially related to the coeval Texas Creek Granodiorite stocks.

A second system of silver-rich galena-sphalerite-freibergite veins in the area appears to be related to the intrusion of Eccene-age biotite-granodiorite stocks and dykes of the Hyder Quartz Monzonite.

#### Local Geology

The AM - Virginia K property covers the headwaters of American Creek north of Kimball Lake. The property is underlain by a north-northwest trending assemblage of Hazelton Group volcanic and sedimentary units deformed along major northerly trending fold axes. The northern section of American Creek follows the course of a major fault trending about 014°, while further south the creek lies near the axial plane of the major American Creek anticlinal structure which trends north-northwest.

The claims are underlain by the faulted core of the American Creek anticlinorium, exposing the lowest units of the Hazelton Group along the creek. The units consist of dark grey to black argillites associated with interbedded limestone units on the Virginia K group of Reverted Crown Grants. On the west side of the creek the basal argillite unit is succeeded upwards by interbedded siltstones and argillites. The siltstones contain some Bouma sequences and represent a turbidite facies of sedimentation. This unit is succeeded upward on the west side of the valley by an assemblage of green and maroon fragmental volcanics including volcanic tuffs, agglomerates and volcanic flow rocks.

The anticlinorium was much affected by faulting, the major north trending fault underlying the claim block crosses the axis of the anticlinorium obliquely, and apparent axial plane faults or shears strike parallel to the fold axes. The majority of these northerly trending strike slip or axial plane faults do not appear to have had much displacement but some have acted as the focus for a series of major faults roughly paralleling the main American Creek fault zone. The faults have also acted as zones of weakness for emplacement of the intrusive dykes evident on the west side of the valley and for the associated zones of silicification and carbonate alteration.

A series of roughly parallel east-west faults strike across the anticlinorium and the major north-south fault zones. The east-west faults are believed to be later than the major north-south faults and are certainly later than the westerly dipping quartz carbonate veins and vein systems. The two fault systems appear to have had a block faulting effect on the stratigraphic units underlying the property, more detailed surface mapping will be required to determine the size and extent of the fault blocks.

The mineralization of interest occurs with quartz, quartz siderite and quartz calcite veins within zones of alteration in volcanic tuffs underlying the AM-1 claim on the northwest portion of the property. The quartz veins were discovered along strike from the Moonlight vein during the late 1930s, and were known as the Bugnello showings. Three x-ray drill holes were put down in 1955 on a quartz carbonate vein within the present area of interest, the holes were all drilled to the west.

Reconnaissance geological mapping and sampling during the 1986 program discovered a series of west dipping quartz and quartz carbonate veins in the general area of the old Bugnello showings. The 1987 exploration program of geological mapping, drilling and blasting of trenches and sampling of the exposed mineral occurrences on these veins successfully outlined, in some detail, two gold/silver bearing quartz veins up to 3.0

feet (0.9 metres) wide and from 300 feet to 400 feet (90 metres to 120 metres) along strike. The veins disappear under talus to the north and appear to weaken or have been cut off by faulting to the south.

The mineralization occurs as pyrite, sphalerite, galena and chalcopyrite within quartz carbonate veins, in a zone of silicification and carbonate alteration apparently related to intrusive dykes. The veins are vuggy in part with crystalline quartz and sulphides occurring within the Mineral relationships and structure within the veins indicate there was more than one episode of emplacement. The veins are heavily manganese stained and surface oxidation of sulphides has occurred. The carbonate occurring in the quartz carbonate veins is light brown in colour, usually crystalline and has been identified as siderite, an iron carbonate. zones of buff weathering alteration within the area of interest had been considered due to silicification and some carbonatization of the original volcanic tuffs, however the primary alteration mineral has been identified as ankerite and occurs with some silicification. Ankerite is an iron manganese carbonate and this may be the source of the manganese staining within the oxidized zone.

There were several episodes of quartz veining in the area, ranging from tectonic gash veins of limited extent to quite large veins of bull quartz related to metamorphism, and quartz to quartz carbonate veins with variable strike and dip. The quartz siderite veins of economic interest within the main area of the Bugnello showing are north-south striking and dip to the west at moderate angles. Surface expressions of these westerly dipping quartz veins has shown the veins pinching and swelling along strike to widths of over 3.0 feet (1.0 metre) with crosscutting by later east-west striking quartz veins. The majority of the veins occur within altered volcanic tuffs but similar veins have been noted within the siltstone/argillite sequences.

A highly altered dyke of fine grained granodiorite occurs west of the main exposure of Vein No. 1, with extensive disseminated pyrite mineralization. Further south the granodiorite dyke can be seen to dip moderately west and contains a west dipping quartz carbonate vein up to 2.0 feet (0.6 metres) in width cutting obliquely across the dyke. We are unaware whether this vein was sampled during the 1987 program but it demonstrates that the westerly dipping quartz carbonate veins postdate the intrusive granodiorite dykes.

#### 1988 DRILL PROGRAM

A diamond drilling program totalling 1496 feet (456 metres) in six holes, drilled from three set-ups, was carried out on the AM-1 claim of the AM - Virginia K Group of claims. The drill program was designed to test the down dip extensions of two gold/silver bearing quartz veins delineated by the 1987 program of trenching and sampling. The area of the quartz veins was discovered during the 1986 exploration program and consists of an area of alteration cut by a series of westerly dipping quartz carbonate siderite veins carrying interesting values in gold and silver. The drill program was recommended in the Report on the AM 1 and 2 and Virginia K Group of claims

for Glacier Resources Inc. by J.W. Murton and Associates dated November 20, 1987.

The AM - Virginia K property was visited on July 30, 1988, but the program had to be delayed because of the heavy snow cover remaining from the winter. The program was postponed and was initiated on 18th August 1988. The drill equipment and personnel were moved onto the property on 21st August 1988, diamond drilling commenced on 22nd August 1988.

The area recommended for drill testing is located at about 4,200 feet (1,300 metres) elevation and because of the remaining snow cover the first drill station had to be located further south than proposed. The drill station, Set-up No. 1, was located at Station 2+66N O+92E.

Two holes were drilled from Set-up No. 1 on an azimuth of 090° and dip of -50° and -60°. The two drill holes intercepted strongly altered fragmental volcanics and tuffs as well as relatively unaltered fragmental volcanics and maroon hematitic volcanic tuffs. Interbedded siltstones and argillites were intercepted at depth with obvious shear or fault controlled contacts. The geology is shown on the Drill Cross Sections, Figure 4.

Drill Set-up No. 2 was located close to the recommended location, sufficient snow had melted off in three days to permit the building of the set-up. The set-up was located at 3+55N O+95E, two holes were drilled on azimuths of O85° and dips of -50° and -70°. Both drill holes intercepted a series of quartz carbonate veins down dip from the surface exposures trenched and sampled in the 1987 program. The geology is shown on Figure 5, Cross Section of the Drill Holes.

Drill Set-up No. 3 was located at 3+40N 1+96E and was designed to test Vein No. 2 to depth. DDH 88-5 was drilled at -50° on an azimuth of 110° and was collared in siltstones and argillites, entering altered volcanic tuffs and crystal tuffs at 115.0′ (35.0m) which continued to 180.5′ (55.0m). Interbedded siltstones and argillites were intercepted to the end of the hole at 193.0′ (58.8m). The drill hole details are illustrated in Figure 6.

DDH 88-6 was drilled at -50° but on an azimuth of 080°, and was collared in siltstone and argillite, entering altered volcanics at 69.0' (21.0m), continuing to 190.0' (58.0m). Interbedded siltstones and argillite were intercepted to the end of the hole at 198.0' (60.3m). The drill hole details are shown in Figure 7.

The diamond drill program was carried out by Len's Drilling Ltd. of Princeton, B.C., using a Hydracore drill rig and utilizing BQ wireline drill tools. The drill core was logged, sampled and split at the drill site using a Longyear wheel type core splitter.

Split samples were bagged, tagged and delivered to Bondar-Clegg & Company Ltd. of North Vancouver, B.C. The samples were fire assayed for gold and silver with screening for metallics carried out on the total sample pulverized to 150 mesh. The -150 mesh material was fire assayed using one assay ton aliquots. Copper, lead and zinc were assayed normally by wet chemical methodology.

The drill and personnel were mobilized to the property on 21st and 22nd August 1988 using Vancouver Island helicopters based at Stewart, B.C. Bell 205B and Bell 206B helicopters were used for mobilization. The Bell 205B has a lift capacity of some 3,500 lbs. at sea level and moved the drill equipment, camp and groceries to the property in five sling loads.

The personnel were demobilized from the camp on 2nd and 3rd September 1988, using a Bell 206B helicopter. The drill and equipment as well as the drill camp were demobilized to Stewart on 5th September 1988.

#### DISCUSSION OF RESULTS

The results of the 1988 diamond drill program to test the two quartz veins delineated by surface exploration in the 1987 program are disappointing in that the grades in the quartz carbonate veins were significantly lower than the grades returned on surface samples. The drill program was successful in intercepting several quartz carbonate veins which were not previously known from surface exploration. The drilling has also provided much more information on the structure of the property by showing the effect of faulting and shearing on the stratigraphic and structural relationship of the volcanic tuffs and agglomerates to the siltstone/argillite sequences. It now appears that north-south faulting has played an important part in breaking the western limb of the American Creek anticlinorium into segments or blocks, which have been broken further into fault blocks by the strong east-west shearing and faulting observed in the 1987 program.

The 1988 program has shown the quartz carbonate veins to be continuous down dip from the surface exposures, and that the veins pinch and swell down dip as well as along the strike. The alteration as shown by the drilling is more extensive than expected from surface exploration, the type of alteration is rather different from the silicification and carbonatization indicated by surface mapping. The alteration is predominantly ankeritic, with ankerite occurring as the principal carbonate in the altered volcanic tuffs. The carbonate occurring in the quartz carbonate veins is mainly siderite with lesser calcite, while calcite appears to be associated with the vuggy, late stage veining. The mineralization in the westerly dipping quartz siderite veins hosting the gold/silver values consists of pyrite, sphalerite, galena and chalcopyrite as well as silver bearing minerals, not observed during the core logging.

#### CONCLUSIONS AND RECOMMENDATIONS

The 1988 diamond drill program on the AM - Virginia K property has confirmed the presence of gold/silver bearing quartz-carbonate-siderite veins to depth. The veins are associated with complex zones of ankeritic carbonatization and silicification of fragmental volcanics and volcanic tuffs, apparently related to late stage intrusive dykes of Tertiary age. These dykes are superimposed on earlier intrusive dykes related to the complex structural features of the area. These intrusive and structural relationships are complicated by later east-west faulting of the major north-south fault systems along the American Creek anticlinorium.

The results of the drill program are encouraging and show that the property has the potential to host significant gold/silver mineralization in a series of quartz carbonate veins related to late stage intrusive events overprinting earlier episodes of mineralization. The late stage epithermal events are believed related to the Hyder intrusive suite of Tertiary age, the earlier mineralization was associated with the Texas Creek batholith and the subvolcanic Premier Porphyry intrusive dykes.

We recommend that a program of detailed surface exploration, mapping and sampling be carried out on the property, in order to delineate structures. We recommend that further diamond drilling be undertaken once the surface mapping program has outlined the structural controls and the locations of the important mineralized quartz carbonate veins are known. We would strongly recommend that the drill set-ups be prepared in advance of the commencement of the drilling program, in order to avoid delays and problems in locating drill set-ups.

The snow pack on the property and in the area should be monitored from July onwards in order to allow the surface exploration to commence as soon as the major part of the snow pack has thawed. The limited field season available on the property may result in the Phase II program being delayed until the following season.

GORDON D. HOUSE

ELLON

Respectfully submitted,

SAWYER CONSULTANTS INC.

Gordon D. House, M.S., F.G.A.C.

### STATEMENT OF COSTS INCURRED

### 1988 EXPENDITURES

#### Labour

Geology, Engineering, Supervision and Report (July 29 to 30, 1988, Aug. 17 to Sept. 5, 1988, and Oct. 23 to Nov. 3, 1988)	\$13,656.59
Diamond Drilling - 1,495 feet BQ	41,807.91
Consumables	
Helicopter Charter	13,743.75
Travel, Food, Accommodation (Aug. 17 to 21, 1988, Sept. 3 to 5, 1988)	1,790.09
Expediting Services, Radios (Aug. 18 to Sept. 3, 1988)	726.09
Assaying (76 samples, assayed for Au, Ag, Cu, Pb, Zn, screened for metallics)	3,762.00
Report preparation, secretarial, etc.	1,775.88
Total Expenditures	\$77,262.31



SAWYER CONSULTANTS INC.

Gordon D. House, M.S., F.G.A.C.

#### CERTIFICATE OF QUALIFICATIONS

- I, Gordon D. House of North Vancouver, British Columbia, DO HEREBY CERTIFY:
- 1. That I am a Consulting Geologist and President of Sawyer Consultants Inc., with business office at Suite #701, 525 Seymour Street, Vancouver, British Columbia, V6B 3H7.
- 2. That I am a Graduate of Trinity College, Dublin, in 1961, with a B.A. in Honors Natural Science Geology. I received a M.S. degree in Geology from the University of Alaska, Fairbanks, in 1980.
- That I am a Member of the Institution of Mining and Metallurgy, London, since 1964, and a Registered Chartered Engineer with the Council of Engineering Institutions, London. I am a Fellow of the Geological Society, London; a Member of the Society of Mining Engineers of the American Institute of Mining, Metallurgical and Petroleum Engineers; a Member of the Canadian Institute of Mining and Metallurgy; and a Fellow of the Geological Association of Canada.
- 4. That I have practised my profession as a Geologist since 1962 in Ireland and West Africa; since 1965 in British Columbia, Yukon, Northwest Territories, Saskatchewan, Manitoba, Ontario, Nova Scotia, Alaska, Arizona, California, Nevada, Oregon, Idaho, and Mexico. I have undertaken professional visits to Germany, Australia, New Zealand, Fiji, and South Africa.
- 5. That the information, opinions and recommendations in this report are based on work carried out by me on the property from July 30, 1988 to September 3, 1988, on Reports on the property by J.W. Murton & Associates, on a review of the literature on the area, and on personal knowledge of the geology and mineral deposits of the area from work in the Stewart area since 1965.
- 6. That I own no interest in any of the claims or properties to which this report refers, nor in any of the mineral properties owned by Golden Glacier Resources Inc., or Fest Resources Inc., nor any interest in the shares or securities of Golden Glacier Resources Inc., or Fest Resources Inc., or any associated or affiliated companies, nor do I expect to receive any such interest.



Gordon D. House, M.S., F.G.A.C.

Just Henre

Dated at Vancouver, British Columbia this 15th day of November, 1988.

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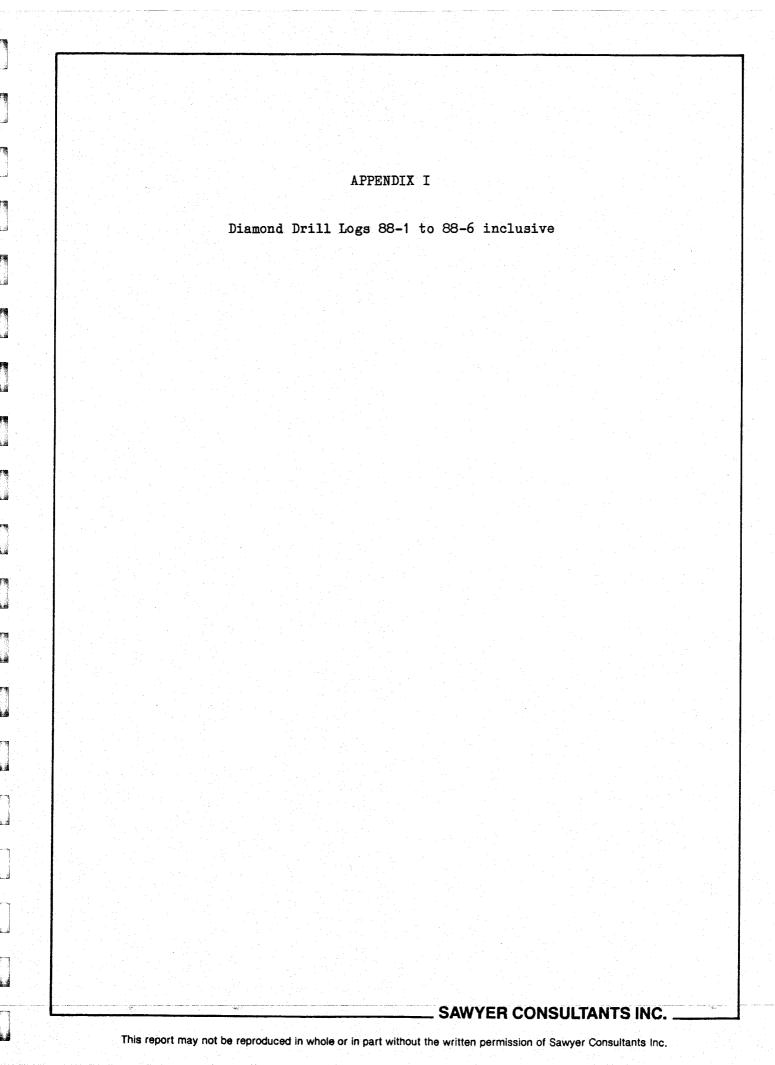
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COLLAR:	HOL	E SURVEY	
Metric: 2+68N	METHOD: -		
0+93E	FOOTAGE	AZIMUTH	DIP
ELEVATION 4200' ASL	0	090	-50
CORE SIZE BO			
LOGGED BY Gordon D. House			
DATE LOGGED _ Aug . 23-24, 1988	1		
MAP REFERENCE No. 104 A/5			
	1 1 1 1 1		

SAWY	ER CC	NSULTAI	NTS II	NC.	•
					_

COMPANYNAME GOLDEN GLACIER RESOURCES INC.

PROPERTYNAME American Creek/AM - Victoria-K

DRILLING CONTRACTOR Len's Drilling Ltd.

ASSAYER Bondar-Clegg & Company Ltd.

PURPOSE OF HOLE To test depth extension of surface veining

HOLE No.	88-1
CLAIM NAME No.	AM-1
COMMENCED	Aug. 22, 1988
FINISHED	Aug. 24, 1988
FINAL DEPTH	303.0 92.35 #
PROJECT No.	
<u> </u>	

FROM	то	RECOVY DESCRIPTION		SA	MPLE		ASSAYS								
							No.								
o	1.8m 6.0	0.9m 3.0'	Casing.												
1.8m 6.0°	5.5m 18.0'	3.05m 10.0'	Bleached, very light green coloured, porcellaneous, fine grained,												
			altered, fragmental, volcanic, much disseminated pyrite giving												
			speckled appearance, quartz carbonate veining at from 30° to 60°												
			to core axis, mostly narrow to 5-10 mm, very fine quartz stringer												
			stockwork throughout.												
on discount of the			$6.0$ '- $8.0$ ' - oxidized, leached quartz vein, vuggy at $30^{\circ}$ to core										1 T		
			axis.									. 1.			
			8.0'-12.0' - very pale green speckled porcellaneous altered											4	
			volcanic, much disseminated pyrite to 7%, series quartz carbonate												
			veinlets to $\frac{1}{2}$ " at 8.5', 10.0', 11.0', 11.5', rust on fractures.										,		
			12.0'-15.0' - slightly silicified, bleached with quartz carbonate									¥ .			
			veins carrying sphalerite, galena, pyrite, much disseminated												
			pyrite to 10%, veins at from 30° to 45° to core axis.												

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 23-24, 1988	
COMPANY NAME	Golden Glacier Resources Inc.	
PROPERTY NAME	American Creek	

ROPER	TY NAMI	E <u>Amer</u>	ican Creek					<del></del>	HOLE		88-1		
пом	то	RECOVY	DESCRIPTION			MPLE	·		AS	SAYS		<del></del>	1 41
1.8m 6.0	5.5m 18.0'	(cont.)	15.0'-18.0' - slightly coarser grained, fine quartz stringers at	FROM	то	WIDTH	No.						
			angles, 1-3 mm, disseminated pyrite to 10%. 15.1' - 1" quartz										
			vein, minor carbonate, at 60° to core axis, barren. 16.0' - barren										
			ኒ" quartz vein at 45° to core axis. 17.0' - ኒ" quartz carbonate										
			vein at 80° to core axis, galena, sphalerite, honey coloured to										
			near black sphalerite. 17.8' - ½" quartz vein.										
5.5m 8.0'	9.0m 29.5	3.5m 11.5'	Silicified, quartz veined shear zone at 10°-15° to core axis, in										
			bleached, altered, fragmental volcanic, alteration decreasing to										
			29.5', texture fine grained, porcellaneous to coarser, darker										
			coloured - from very pale green-brown to light green, quartz										
			stringer veins at medium-high angles to core axis, disseminated										
			pyrite decreasing to 29.5'.										
			18.5'-20.0' - healed shear zone, oxidized leached sulphides,										
			quartz veined, on shears at 5° to 10° to core axis, light brown										
			effervescent siderite/ankerite carbonate on vein margins, minor										
			disseminated pyrite to L5%.										
			20.0'-26.0' - fine grained, porcellaneous light green-brown,										

SAWYER CONSULTANTS INC.

DATE LO		0-1	23-24, 1988 den Glacier Resources Inc.										
PROPER			rican Creek					HOLE	No	88-1			
FROM	то	RECOVY	-COW		SA	MPLE		AS	ASSAYS		<del></del>		
			DESCRIPTION	FROM	то	WIDTH	No.						
5.5m 18.0'	29.5	(cont.)	disseminated pyrite to 5%, quartz veins at 20.5' at 60° to core										
			axis, at 21.4' at $80^{\circ}$ to core axis - 1" quartz - barren, at 22.5'										
			at $30^{\circ}$ to core axis, at 23.5' at $30^{\circ}$ to core axis - all barren.										
			26.0'-27.0' - healed shear - quartz carbonate veined at 30° to										
			core axis, - cross fracture at 70° to core axis puts jog in vein										2.00
			to 20° to core axis - barren.										
pour a support			27.0'-29.5' - medium green fragmental volcanics, andesites, tuffa-										
			ceous matrix, cut by quartz carbonate stringers at 70° to core										
			axis. Minor disseminated pyrite fragments decrease in size to										
			29.5', alteration very slight from 27.0' on.										
9.0m 29.5°	12.5m 41.0		Dark green, fine-medium grained fragmental volcanic, tuffaceous										
			in part, bleached, pyritic fragments containing to 20% disseminated										
			pyrite, much quartz stringers, generally at high angles from 50°-75°										
			to core axis.										
			33.0'-34.0' - quartz stringers at 40° to core axis, healed breccia										
						1							

associated.

PAGE 3 OF 18

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 23-24, 1988		
COMPANY NAME	Golden Glacier Res	sources Inc.	 
PROPERTY NAME	American Creek		
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ROM	то	RECOVY	DECORPTION		SA	MPLE		AS	SAYS			
			DESCRIPTION	FROM	то	WIDTH	No.					Γ
9.0m 29.5'	12.5m 41.0°	(cont.)	37.0'-39.0' - tuffaceous andesite, fragments to 3"-3" only in									
			very fine matrix, several parallel quartz stringers '," thick, at									
			30° to core axis.				1 1 1 1 1 1 1 1 1					
12.5m 41.0'	13.6m 44.5	1.1m 3.5'	Bleached, altered, partly silicified kaolinized fragmental volcanic									
			fragments perfectly preserved, shear zone 42.5'-43.3' with quartz									
			carbonate veining at 45° to core axis, minor quartz veining with	- :								
			sideritic carbonate and black manganese? stringers.									
ej di			42.0'-43.3' - shear zone at 40°-45° to core axis, quartz ankerite/									
			siderite vein to 2.5" at 42.5'.									
			44.0' - contact between fine grained tuff and coarser lapilli tuff.									
3.6m 4.5	18.7a 61.5	5.2m 17.0'	Medium-dark green, medium grained fragmental volcanic tuff, lapilli									
			tuff to fragments to several inches across, quartz veined, breccia									
			zones, healed quartz carbonate stringers, variable disseminated									
			pyrite.				-					
			44.5'-50.0' - coarse fragmental tuff/volcanic, slight bleaching of									
			some fragments, much disseminated pyrite in fragments.				<del></del>					

SAWYER CONSULTANTS INC.

DATE LO			23-24, 1988 en Glacier Resources Inc.									
PROPER	ITY NAM	E <u>Amer</u>	ican Creek					HOLE	No	88-1		
FROM	то	RECOVY	DESCRIPTION		SA	MPLE		AS	SAYS			
13.bm	18.7	(cont.)		FROM	то	WIDTH	No.	 <del> </del>	ļ	ļ	<del> </del>	
44.5	61.5	(cont.)			ļ					<u> </u>	<u> </u>	
			1/2" at 20° to core axis, much disseminated pyrite - to 10% but			<u> </u>						
			stringer at $5^{\circ}$ - $10^{\circ}$ to core axis from 51.0'-53.0', quartz vein at									
			55.0' at 30 <sup>0</sup> to core axis, rusty.									
			58.0'-59.0' - shear, brecciated, quartz carbonate veins/stringers									
			at $60^{\circ}$ to core axis, kaolinized? gougey clay.									
			59.0'-61.5' - bleached/altered fragmental tuff, brecciated, quartz									
			carbonate stringers at 50°-65° to core axis. Shear/quartz carbonate									
			vein at 30° to core axis - cuts off breccia zone.									
18.7m 61.5	22.8m 75.0'	4.4m 16.0'	Green fragmental volcanics, tuff, andesite fragments, cut by series									
			quartz carbonate veins, altered bleached breccia zone with quartz									
			carbonate veining at from 20°-30° to core axis, disseminated pyrite.						1. 13.			
			63.0' - 2" barren quartz carbonate vein at 80 <sup>°</sup> to core axis,									
			similar at 63.5.									
and a second			63.5'-64.0' - bleached altered fragmentmental volcanics, dissemi-				: .					
			nated pyrite.									

64.0'-67.0' - healed shear zone, disseminated pyrite in volcanics,

PAGE \_\_\_\_\_ OF \_\_\_\_\_ 18

SAWYER CONSULTANTS INC.

DATE LO		Gold	23-24, 1988 den Glacier Resources Inc.											
PROPER	RTY NAM	EAme	rican Creek						HOLE	No	88-1			
FROM	то	RECOVY	DESCRIPTION		SA	MPLE		T	AS	SAYS		<del></del>	***********	
				FROM	то	WIDTH	No.							
61.5	75.0	(cont.)	quartz carbonate vein to 6" at 40° to core axis, cut by quartz											
			carbonate veins to ½" at 80° to core axis.											
			66.0' - shear plane, quartz carbonate vein, at 30° to core axis.											
			70.0' - 2" quartz carbonate vein at 20° to core axis in fragmental											
			volcanics.		:									
			72.0'-72.5' - large cubic blebs of pyrite to %" in matrix,											
			tuffaceous, of fragmental volcanics.											1. 1. 1.
			73.0' - quartz carbonate vein at $20^{\circ}$ to core axis, pyrite stringer											
			at 85° to core axis.											
	30.5m 100.0	7.6m 25.0'	Medium to dark green fragmental volcanics, quartz carbonate											
			stringers and veins, bleached, altered brecciated zones,											
grein			hematitic - maroon coloured matrix in part, variable disseminated											
			pyrite.											
			75.0'-75.5' - quartz carbonate vein, barren, sheared chloritic											
			volcanic material incorporated in part.				-							
-			75.5'-79.5' - fragmental volcanics, disseminated pyrite, blebs to											
			1/8", quartz carbonate vein at 78.5' at 45° to core axis.											

PAGE 6 OF 18

SAWYER CONSULTANTS INC.

PROPER	TY NAM	E Amer	ican Creek						HOLE	No	88-1		
FROM	то	RECOVY	DESCRIPTION	1	S	AMPLE		1	AS	SAYS			
		(cont.)		FROM	то	WIDTH	No.					 <b> </b>	<b></b>
75.0'	100.0	(cont.)	79.5'-80.5' - bleached altered fragmental volcanics, shear, quartz										
			carbonate veining at 25° to core axis, breccia filling yellow		ļ								
	7 6		carbonate at 79.8'-80.0'. Footwall contact at 75° to core axis.										
			80.0'-80.2' - pale red, maroon coloured alteration to fragmental										
			volcanics.				1,1		i.				
			83.0'-85.5' - bleached, altered fragmental volcanics, disseminated										
			pyrite cut by quartz carbonate veins at $75^{\circ}$ and $20^{\circ}$ . 83.0' - $\frac{1}{2}$ "									- 1	
			vein at 75°.										
			84.7'-85.0' - brecciated fragmental volcanics, red/maroon hematitic										
			alteration breccia zone with quartz carbonate veining at $75^{\circ}$ to										
			core axis.										
			88.0'-89.0' - narrow quartz carbonate veins at 80° to core axis.										
			90.0' - quartz carbonate vein at 15° to core axis.										
			92.0' - quartz carbonate vein at 30° to core axis.										
			95.0' - quartz carbonate vein at 85° to core axis.		1.1								
			99.0' - quartz carbonate vein at 85° to core axis.										

PAGE 7 OF 18

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ELOGGED	Aug. 23-24, 1988			ل
MPANY NAME	Golden Glacier Resources Inc.			

COMPANY NAME

1UPER	I Y NAM	Amet	ican Creek						HOLE	No	88-1		
ROM	то	RECOVY	DESCRIPTION		SA	MPLE			AS	SAYS			
30.5m 00.0'	36.0m 118.0'	5.3m 17.5'	Dark green, fine grained, fragmental volcanics, much quartz	FROM	то	WIDTH	No.						
			stringers at 70° to core axis, disseminated pyrite, barren quartz								1.		
			carbonate veins, becoming bleached altered, quartz veined and						. i -				
			broken ground.										
			100.0'-109.0' - dark green fragmental volcanics, quartz stringers										
			at 70° to core axis throughout, very minor pyrite, occasional blebs										
			and stringers, tuff layers or fragments at 106.0'. Slightly										
			porphyritic - relict feldspar porphyries from 105.0'-108.0',										
			suggestion of feldspathization from 107.0'-109.0'.										
			109.0'-110.5' - lighter green fragmental volcanics, quartz										
			carbonate shear at 109.0' at 25° to core axis, becoming more					*:					
			bleached, altered to 110.5', increased pyrite content.	-			:						
			110.5'-111.2' - large barren quartz carbonate vein at 70° to core				-						
			axis, selvedge on footwall.	1									
			111.2'-116.0' - broken, medium green fragmental volcanics, quartz										
			stringers and veins at 60°-70° to core axis, quartz vein, vuggy										
			at 114.5', barren.	. :			<u> </u>						
			116.0'-118.0' - becoming bleached to very light green-brown,										

SAWYER CONSULTANTS INC.

Aug. 23-24, 1988 Golden Glacier Resources Inc. COMPANY NAME American Creek PROPERTY NAME

PROPER	TY NAM	E Amer	ican Creek					HOLE	No	88-1		
FROM	то	RECOVY	DESCRIPTION		SA	MPLE		AS	SAYS	-	<del></del>	-
1			DESCRIPTION	FROM	то	WIDTH	No.					
30.5m 100.0'	36.0m 118.0'	(cont.)	porcellaneous, relict fragmental/tuffaceous texture, increased									
			pyrite, quartz carbonate veins at 85° to core axis at 117.0', and									
			117.5'.									
36.0m 118.0'	42.8m 140.5'	6.4m 21.0'	Bleached, altered, fine grained volcanic tuff, quartz carbonate									
			veined, broken ground, clay gouge in part, healed shear with									
			quartz carbonate - siderite veins, much sheared and quartz stringer									
	-		filled dark green dyke? - very broken and rusty planes, 10% quartz									
			carbonate filled breccia shear zone, to dark green fragmental									
			volcanics.									
			118.0'-124.5' - shear zone, brecciated, altered, clay gouge and									
			breccia at 119.5' and 123.0' at 60° to core axis, broken ground									
			between with clay filled thin fractures, very bleached, leached									
			quartz carbonate stockwork - pyrite only at 123.5'-124.5'.									
			124.5'-128.5' - light green, fine grained, volcanic tuff, slightly									
			altered quartz stringers, broken ground 128.0'-128.5'.							4.4		
			128.5'-134.0' - dark green, fractured, quartz stringers, fragmental									
			volcanics.							2		

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 23-24, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek

HUPEH	I Y NAM	E <u>Amer</u>	ican Creek					HOLE	No	88-1		
FROM	то	RECOVY	DESCRIPTION			MPLE		AS	SAYS			-
6.0m 18.0	42.8m 140.5	(cont.)	134.0'-135.0' - quartz carbonate filled breccia zone, barren.	FROM	то	WIDTH	No.					
	1.		135.0'-140.5' - dark green fragmental volcanics, fragments to 3"-4"									$\vdash$
			across in fine grained tuffaceous matrix, disseminated pyrite,									T
	•		minor quartz carbonate stringers at higher angles to core axis.									
2.8n 10.5	50.6m 166.0	7.6m 25.0	Dark green fragmental volcanics, light green tuffaceous volcanics,									
			quartz carbonate veins and stringer zones - healed shears, shear								75.0	Γ
			breccia zones.									
			140.5'-143.0' - medium green fragmental volcanics, quartz carbonate									Γ
			vein at 70° to core axis at 142.0'.									
			144.0'-145.0' - healed shear filled quartz carbonate stringers and									
		<u> </u>	included sheared country rock at $40^\circ$ to core axis, much disseminated									
			pyrite - to 10%, lapilli tuff.								1 T	
			145.0'-148.0' - fragment size increasing, increased quartz carbonate									
			stringers at 70° to core axis.									
			148.0' - 4" quartz carbonate vein at $30^{\circ}$ to core axis, irregular									
			contacts.		1 4							
	l		148.5'-151.5' - quartz carbonate stringered zone - shear zone? at									

SAWYER CONSULTANTS INC.

	OGGED		23-24, 1988										
	NY NAME MAN YTF	• ———	len Glacier Resources Inc. ican Creek						HOLE	No.	88-1		<u> </u>
	<del>,</del>	·							1.000	140			
FROM	то	RECOVY	DESCRIPTION		·	MPLE			AS	SAYS			
42.8m 140.5	50.6m	(cont.)	30° to core axis in fine grained tuffaceous volcanics, stringer	FROM	10	WIDTH	No.	-		1			
			zone at 151.5' at 70° to core axis.										<u> </u>
			151.5'-155.0' - light green fragmental volcanic, tuffaceous,										
			angular fragments to 3", much coarse disseminated pyrite.										
			155.0'-161.0' - light green, fine grained tuffaceous volcanics, to										
			lapilli tuff, disseminated pyrite.										
			161.0'-163.0' - shear zone, brecciated, rounded by fragments,										
			black crushed matrix, pyritic, shear planes at 45° to core axis.										
	57.3a 188.0	6.7m 22.0°	Pale grey-green shear zone, sheared brecciated quartz carbonate										
*			veined and altered zone, planes at $30^{\circ}-40^{\circ}$ to core axis, dissemi-										
			nated pyrite, and stringers, almost total replacement with										
			quartz-ankerite-carbonate.			-						- 7-	
			166.0'-177.0' - pale green-brown sheared brecciated and quartz										
			carbonate stringer/vein replacement zone, carbonatized, dissemi-										
			nated pyrite, planes at $30^{\circ}$ - $40^{\circ}$ to core axis, healed brecciated										
			shear zone.									5. 4 - 1. 4 . 1.	

177.0'-187.0' - light grey-green, fine grained tuffaceous volcanics

SAWYER CONSULTANTS INC.

PAGE 12 OF 18

DATE LOGGED Aug. 23-24, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek

HOPEH	I Y NAMI	- Amer	ican Creek						HOLE	No	88-1		
FROM	то	RECOVY	DESCRIPTION		SA	MPLE			ASS	SAYS	- Charles - Languis		
0.6m				FROM	to	WIDTH	No.						
66.0'	188.0	(cont.)	disseminated and stringer pyrite, quartz carbonate stringers at							<u> </u>			
			50° to core axis, healed breccia.										
			187.0'-188.0' - tuff layer at $20^{\circ}$ to core axis, undulating contact,		7								
			to 3" thick.										
7.3m 88.0	66.4m 218.0'	9.1m 30.0'	Light green-brown, fine grained, bleached, altered volcanic tuff,										
			porcellaneous, silicified and carbonatized, quartz carbonate			1 2							
			veins and stringers, tuffaceous layers, brecciated zones, dissemi-										
			nated pyrite gives speckled appearance in part, feldspathic										
			alteration in part.										
	1 1 2 1		188.0'-193.0' - pale brown, bleached, fine grained tuff, relic and										
			carbonatized, shear planes at $30^{\circ}$ to core axis, quartz veins at										
		9.	$40^{\circ}$ to core axis at 188.5', 190.0' and 191.5', pyrite.					·					
			193.0'-196.0' - darker to grey tuff, brecciated bands at $5^{\circ}$ -10 $^{\circ}$ to										
			core axis, with fragments of fine grained tuff, pyrite, healed										
X 1 2			shear. 194.0'-195.0' - quartz carbonate veining parallel at $50^{\circ}$ - $60^{\circ}$										
			to core axis.										
			196.0'-212.0' - similar light pale brown, bleached, fine grained										

SAWYER CONSULTANTS INC.

PROPER	ITY NAMI	E Ameri	ican Creek					HOLE	No	88-1		
FROM	то	RECOVY	DESCRIPTION		SA	MPLE	<del></del>	AS	SAYS	<del>- i, i</del>		
	L		DESCRIPTION	FROM	то	WIDTH	No.		- 4			
188.0	218.0	(cont.)	tuff, silicified and carbonatized, disseminated pyrite, diffuse						<u> </u>			
			boundaries to quartz carbonate veins and stringers, - at 197.0'									
			at $80^{\circ}$ to core axis, at 200.0' at $70^{\circ}$ to core axis, at 203.0',				4.5					
den de			205.0', 206.5', 209.0', 210.0' - narrow veins at $50^{\circ}$ to $70^{\circ}$ to				4,54					
			core axis.									
			212.0'-218.0' - feldspar porphyry fragments, in fine grained									
			volcanic tuff, slightly darker brown-green colour, diffuse									
			boundaries to quartz carbonate veins at 213.0', 213.6', 215.0' and									
			217.0' - veins at 35° to core axis, almost appears as quartz									
			ankerite replacement from 214.0'-216.0'.						. :			
	70.0m 229.6	3.6m 11.7'	Black unaltered volcanic tuffs, and dark grey siltstone, shear									

zone, quartz carbonate veining, mineralized quartz-siderite?- ankerite? veins, at  $30^{\circ}$  to core axis galena, sphalerite, chalco-

pyrite, pyrite, manganese stain, footwall gouge to altered volcanic

218.0'-219.0' - sheared, brecciated, altered, bleached, fragmental

volcanic, quartz carbonate veins, stringers and breccia filling

Aug. 23-24, 1988

tuffs.

DATE LOGGED

SAWYER CONSULTANTS INC.

<b>)</b> .	

DATE LOGGED	Aug. 23-24, 19	88		
COMPANY NAME _	Golden Glacier	Resources	Inc.	
PROPERTY NAME	American Creek			

FROM TO REC		RECOVY		ASSAYS										
4 m	70.0m	_[		FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn	Ţ	I
8.01	229.6	(cont.)	at 30° to core axis, pyritic.		66.7m 219.0	1.0								
			219.0'-219.4' - slightly altered black lapilli tuff, dark brown,	66.7m 219.0	67.3m 221.0	2.01								
			shear planes at 45°, footwall quartz carbonate vein to 3".											
			219.4'-221.5' - black lapilli tuff, sheared, brecciated, quartz	1.										
			carbonate, brecciated fragments in shear breccia, planes at 35° to											
			core axis, disseminated pyrite, blebs pyrite.											Г
			221.5'-222.1' - sheared, brecciated, black tuff and band bleached	67.3m 221.0	67.6m 222.0'	1.0'								Γ
			altered tuff, planes at 30° to core axis - cut and offset 2 mm by			. 3								
			fractures at right angles to 30° planes and at 50° to core axis,							÷				Г
			disseminated pyrite.											
			222.1'-222.8' - brecciated light brown-buff quartz carbonate	67.6m 222.0	67.9m 223.0°	1.0'								
			vein, shear planes with gouged black tuff, graphitic, large vein											
			bleb pyrite with chalcopyrite at 35° to core axis at 221.4',				<del></del>							-
			at 221.6' regular buff-brown carbonate vein to 1", at 30° to core											
			axis, black graphitic? sheared tuff on planes, vein margins at $30^{\circ}$	67.9m 223.0'	68.6m 225.01	2.0'								
			to core axis, veins/blebs pyrite and chalcopyrite plus pyrite/	1			*. ***********************************			1.2				
$\perp$			chalcopyrite mixed, minor galena, sphalerite noted.											
$\perp$			222.8'-224.8' - broken, quartz buff carbonate veined, dark grey											Γ

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 23-24, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek

HOLE No. 88-1

FROM TO RECO		5500111	DECOMPTION .		SA	MPLE			ASS				
ном	то	RECOVY	COVY	FROM	то	WIDTH	No.						
6.4m 18.0	70.0m 229.6'	(cont.)	siltstone, sedimentary appearance, rounded - subrounded grains to										
			1-2 mm may have volcanic component but not obvious, pyrite/chalco-					11.5					
			pyrite associated quartz carbonate veins.										
			224.8'-229.6' - dark grey siltstone, brecciated and healed quartz										
			carbonate stringers and fracture fillings at 50°-70° to core axis,										
			minor disseminated pyrite.										
·		4 1									1.2		
0.0m	73.9m 242.6	3.9m 13.0'	Light buff-brown, fine grained, porcellaneous, bleached, altered,										
			fragmental volcanics, silicified, carbonatized, diffuse boundaries		· -								
			to quartz veins at 65°-70° to core axis, disseminated pyrite gives				• .						
			speckled appearance.										
			229.6' - gouge/shear plane at 50° to core axis, sheared contact.					i i					
			241.5'-242.6' - brecciated, shear planes with black graphitic										
			slickensides at 35° to core axis.										
					1.								
3.9m 2.6	76.2m 250.0		Dark grey to black argillite, much disseminated pyrite, brecciated										
			and sheared, broken ground and gouge, carbonate - quartz veined,										
			carbonatized weakly.										

SAWYER CONSULTANTS INC.

DATE LO			23-24, 1988 n Glacier Resources Inc.														
COMPANY NAME Golden Glacier Resources Inc.  PROPERTY NAME American Creek									HOLE No. 88-1								
			SAMPLE			1	ASSAYS										
FROM	то	RECOVY	DESCRIPTION		то	WIDTH	No.							<u> </u>			
73.9m 242.6	76.2m 250.0	(cont.)	242.6'-246.0' - broken ground, black graphitic-looking slickensides														
			on fractured argillite, disseminated pyrite.														
			246.5'-247.5' - black clay gouge, brecciated argillite fragments,										1 2 2 2				
			planes at 40° to core axis, carbonatized, weakly effervescent.					4.5 4.0						e e gris			
			248.5'-248.6' - carbonate vein, minor quartz associated, at 65° to														
			core axis.										4.				
76.2m 250.0	79.6m 261.0		Light pale greenish-brown buff, bleached, silicified volcanic?,														
			intrusive dyke?, no relict texture, ghost lathes of feldspar?														
			micas? amphiboles?, disseminated pyrite gives slight speckled														
			appearance.														
			250.0' - contact between black argillite, slightly fractured and														
			healed and quartz veined, bleached, altered? volcanic? intrusive?,														
			contact sharp at 60° to core axis.														
			250.0 - 261.0' - pale buff, porcellaneous, bleached, no texture,														
			volcanic? intrusive?, quartz veins, diffuse at from 50° to 70° to														
			core axis.														
		<del>}</del>		+				<del></del>	<del></del>	<del></del>	-	+	+	+			

PAGE 16 OF 18

SAWYER CONSULTANTS IN

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	OGGED . NY NAME	0-13-	n Glacier Resources Inc.									
PROPER	RTY NAMI	E Ameri	can Creek					HOLE	No	88-1		
FROM	то	RECOVY	DESCRIPTION		S	AMPLE		AS	SAYS		R	PRINCE 10 10 10 10 10 10 10 10 10 10 10 10 10
79.6m	<u> </u>		DESCRIPTION	FROM	то	WIDTH	No.					
	262.5	0.46m 1.5'	Black, fractured siltstone, brecciated, quartz carbonate veins at									
			60° to core axis, rusty planes.	4.7								
80.0m 262.5	82.7m 271.5	2.7m 9.0	Light brown-buff, porcellaneous, bleached, altered volcanic?									
			intrusive?, no relict textures, diffuse quartz veins, at $30^{\circ}$ - $50^{\circ}$		- 11							
			to core axis, brecciated black siltstone/argillite, shear bounded.									
			262.5'-267.0' - bleached, silicified, altered volcanic?, diffuse									
			quartz vein stockwork.									
			267.0'-267.1' - brecciated, black siltstone with quartz vein at $70^{\circ}$									
a revision of			to core axis.									
			267.1'-268.0' - silicified, brecciated, bleached, altered									
			volcanics?, diffuse quartz seams at $70^{\circ}$ to core axis and at $30^{\circ}$ to									
			core axis.					4.				
			268.0'-271.5' - bleached, altered volcanics, schist texture very									
			faint and looks tuffaceous, lapilli tuff?, suggestion of felds-									

Aug. 23-24, 1988

pathization.

PAGE 17 18

SAWYER CONSULTANTS INC.

PAGE 18 OF 18

PROPER	TY NAM	E Ameri	can Creek						HOLE	No	88-1						
5001				SAMPLE				т	AS	ASSAYS							
FROM		RECOVY	DESCRIPTION	FROM	то	WIDTH	No.	1	1	T	T	T	T	T			
82.7m 271.5'	92.3m 303.0	9.9m 32.5'	Dark grey siltstone, fine grained, rounded to sub-rounded grains														
	14.1	11.5	1 mm to 2 mm maximum, no bedding noted, black, dense, fine grained														
de d			argillite.														
			271.5'-273.4' - dark grey siltstone, contact at 271.5' at 70° to														
			core axis, at 271.7' a shear, quartz carbonate filled, stringers														
			at 40° to core axis.			ŀ											
			273.4'-277.5' - black, dense, fine grained argillite, disseminated	N			. :			1							
			pyrite.														
			277.5' - contact to dark grey siltstone, at $5^{\circ}$ to core axis,														
			fragments black argillite incorporated in top 1"-2" of siltstone -														
			suggestion of inverted beds?				1 1 1 1										
			277.5'-303.0' - dark grey siltstone, may be a volcanic component,														
			uniform grain size. 290.5'-291.0' - black argillite band to 40°														
			to core axis.						1.5								
			92.3m 303.0' - end of hole.														
Š.			3 0														
			GORDON D. HOUSE S									1					
			Os Abox			1					1	<b>†</b>					

COLLAR:	HOL	E SURVEY	
Metric: 2+68N	METHOD: -		
0+93.5E	FOOTAGE	AZIMUTH	DIP
ELEVATION 4200' ASL	0	090	-59
CORE SIZE BO			
LOGGED BY Gordon D. House			
DATE LOGGED Aug. 25-26, 1988			
MAP REFERENCE No. 104 A/5			

						. F== .
SAW	YER	CON	SULT	ANTS	INC.	L.
						السا

COMPANY NAME GOLDEN GLACIER RESOURCES INC.

PROPERTY NAME American Creek - AM-1

DRILLING CONTRACTOR Len's Drilling Ltd.

ASSAYER Bondar-Clegg & Company Ltd.

PURPOSE OF HOLE To test depth extension and attitude of vein intersected in DDH 88-1

HOLE No.	88-2	
	AM-1	
COMMENCED	Aug. 24, 1988	
	Aug. 25, 1988	١.
	298.0' 90.8m	
PROJECT No.		

FROM	то	RECOVY	DESCRIPTION		SA	MPLE	ille and				ASSAYS	S			
				FROM	то	WIDTH	No.		l'	T	T	T	T	T	
o	1.8m 6.0	-	Casing.												
							71.5.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.						<b> </b>	T	
1.8m 6.0	8.5m 28.0	6.4m 21.0'	Pale buff-brown, bleached, altered, volcanic tuff, no relict												
			texture, sheared, brecciated quartz carbonate veining, sulphides,											<b> </b>	
			associated galena, sphalerite, chalcopyrite, much disseminated								7				
			pyrite giving speckled appearance (pyrite may be after mafics) -											$\vdash$	
			light coloured tuff, may be felsic tuff, rhyolite-dacite tuff,												
Turney de l'			slightly altered, but lack of texture indicates highly altered												
A company			fragmental tuff.				· ·								
-			6.0'-8.5' - pale buff "speckled" tuff, much disseminated pyrite,												
			narrow quartz stringers at 70° to core axis, oxidized material												
			on fractures.					- 12-12							
			8.5'-10.3' - shear zone, quartz carbonate veins at $40^{\circ}$ to $45^{\circ}$	2.6m 8.5'	2.9m 9.5'	1.0'								Γ	
			to core axis, at 8.7' a 2" vein with sulphides, galena, sphalerite,	2.9m 9.5'	3.2m 10.5'	1.0'									
			minor chalcopyrite.	10:5"	12.5	2.0'			:						

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 25-26, 1988	
COMPANY NAME	Golden Glacier Resources Inc.	
	American Creek - AM-1	

HOLE No.\_\_\_\_\_88-2

ROM	то	RECOVY	DECORIDADA		SA	MPLE			ASS	SAYS				
HUM			DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn	Ι	
1.8m 6.0	8.5# 28.0	(cont.)	10.3'-11.0' - quartz carbonate healed breccia zone, minor sulphides.						ě.					
			11.0'-13.0' - slight green colouration, bleached fragments,					43.70						
			"speckled", buff tuff in fine grained, light pale green matrix,				:							
			quartz veins to ½" at 12.0' and 12.5', associated sulphides,											
			galena, sphalerite, minor disseminated pyrite.											
			13.0'-19.0' - pale green buff, speckled tuff, becomes finer						- 1					
			grained from 16.5', quartz carbonate veins at 14.5', no sulphides;											
			16.5'-17.5' - series narrow quartz stringers at 75° to core axis;											
			18.0'-19.0' - series sulphide-bearing veins, quartz stringers,	5.5m 18.0'	5.8m 19.0	1.0'								
			with galena, sphalerite.											
			19.0'-26.0' - healed shear breccia zone, broken, bleached, pale											
			green altered volcanic, quartz carbonate veining at 80° to core	6.1m 20.0'	6.7m 22.0	2.0'								
			axis at 19.5'-20.0', 21.5'-22.0' - quartz carbonate vein at 35 <sup>0</sup>	6.7m 22.0'	24.0	2.0'								
			to core axis with siderite, minor sphalerite, galena;	7.3m 24.0'	7.9m 26.0'	2.0'								
	*. ·		22.5' - quartz carbonate vein at 85° to core axis; 23.0' - quartz	7.9m 26.0'	8.5m 28.0°	2.0'								
			carbonate vein at 30° to core axis; 25.5'-26.0' - quartz carbonate							1				
			veining at 45° to core axis.											
			26.0'-28.0' - speckled tuff, cut by quartz carbonate sulphide								4.			

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 25-26, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

HOLE No. 88-2

		0500.04			SA	MPLE		ASS	SAYS			
ROM	то	RECOVY	DESCRIPTION	FROM	то	WIDTH	No.					T
1.8m 6.0	8.5m 28.0	(cont.)	stringers/veins at 60° to 70° to core axis, healed shear veined				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
			quartz carbonate at 28.0' at 50° to core axis.									
					1 1							
8.5m 28.0	11.9m 39.0	3.35#	Pale green, slightly altered, fragmental tuff, texture distinct,	l v								
			angular to sub-rounded fragments, darker band/dyke?, more mafic				* 1.					
			massive volcanics, much veined quartz carbonate at 40° to 60° to									
			core axis, pale green fragmental volcanics.									
		N 4	28.0'-33.0' - pale green fragmental volcanics, slightly altered,									
			distinct texture fragments, quartz carbonate veining from 29.0'-									
	4		31.0' at 30° to core axis.								1 A	
			33.0'-37.0' - darker, fine grained to 1 mm, tuff/siltstone,									
			blebs pyrite at 35.5', cut quartz carbonate veins at 60° to									
			core axis.									
			37.0'-39.0' - pale green fragmental volcanic, distinct fragments.									
							4.1 A					
1.9°0 39.0	19.8m 65.0	7,9m 26.0'	Healed shear breccia zone, brecciated dark volcanics and									
			fragmental volcanics, light green fragmental volcanics, andesites,									
			minor quartz carbonate veining, disseminated pyrite, dark green									

PAGE \_\_\_\_\_ OF \_\_\_\_16

SAWYER CONSULTANTS INC.

HOLE No. 88-2

DATE LOGGED Aug. 25-26, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

				T T	67	MPLE		ASSAYS							
ROM	то	RECOVY	DESCRIPTION	FROM	TO	WIDTH	No.		ASS	MIS			<u> </u>	7	
39.0	19.8m 65.0	(cont.)	fragmental volcanics, large quartz carbonate veining - barren,												
			to lighter coloured fragmental volcanics - bleaching, in hanging-												
			wall shear breccia zone.												
The second second			39.0'-45.0' - healed shear zone, brecciated fragmental volcanics												
			and dark, fine grained tuff, much veined quartz carbonate stringers		,					*					
			and veins at 60° to core axis, but quartz vein stockwork from												
			44.0'-45.0', quartz carbonate vein at $39.0'-40.0'$ at $25^{\circ}$ to $30^{\circ}$ to					3							
			core axis, much oxide + carbonate/siderite, brecciated volcanics,												
			much disseminated pyrite.												
			45.0'-48.0' - fine grained, pale green, tuffaceous volcanics, no												
			fragments.												
			48.0'-60.0' - medium green, fragmental volcanics, very minor			1.0									
			disseminated pyrite, quartz carbonate veins at 51.0', 54.0' and									5.7			
			55.5' at 60° to core axis.												
			60.0'-61.0' - large quartz carbonate vein at 25° to core axis,												
			minor pyrite.												
			61.0'-62.0' - bleaching of pale green volcanics, quartz carbonate												
			stringers, at 30° to core axis.								:				

PAGE 4 OF 16

COLLAR:	HOL	E SURVEY	
Metric: 3+60N	METHOD:	•	
0+95E	FOOTAGE	AZIMUTH	DIP
ELEVATION 4210' ASL	0	085	70
CORE SIZE BQ			
Gordon D. House			
DATE LOGGED Aug. 29-30, 1988			
MAP REFERENCE No. 104 A/5			

					-
SAWYER	CON	SULTANTS	INC	<b>)</b> .	L.
3					

COMPANY NAME	GOLDEN GLACIER RESOURCES INC.	
PROPERTY NAME	American Creek - AM-1	
DRILLING CONTRAC	CTOR Len's Drilling Ltd.	
ASSAYER Bonda	r-Clegg & Company Ltd.	
PURPOSE OF HOLE	To test down dip extensions of surface	veining

HOLE No.	88-4	
CLAIM NAME/No.	AM-1	
COMMENCED	Aug. 28, 1988	_
FINISHED	Aug. 29, 1988	
FINAL DEPTH	251.0' 76.5m	_
PROJECT No.		
. <u> </u>		

FROM	то	RECOVY	DESCRIPTION		SA	MPLE		·	 ASSAYS		
	1			FROM	то	WIDTH	No.	<u> </u>			
0	3.35m 11.0'		Casing.								
3.35m L1.0'		5.03m 16.5'	Quartz carbonate veined, pale green to buff, silicified, altered								
			volcanic tuff at collar.								
			11.0'-17.0' - boulders dark green volcanic.								
			17.0'-18.0' - quartz carbonate siderite veined, pale green tuff	5.2m 17.0	5.5m 18.0	1.0'					
			at 45° to core axis, galena, sphalerite, chalcopyrite, pyrite.								
			20.0'-20.5' - quartz carbonate siderite vein at 45° to core axis,	5.9m 19.5	6.2m 20.5	1.0'					
			minor sulphides.								
			22.0'-23.0' - brecciated, pale green, altered tuff, vuggy quartz	22.0	7.0m 23.0	1.0'					
			vein at 22.0' and at 23.0' at 80° to core axis, with sulphides						** 1		
			galena, sphalerite, chalcopyrite, disseminated.								
			23.0'-32.0' - very bleached, buff-brown volcanic tuff, no relic				7.4				
			textures, quartz carbonate stringers at 25°-30° to core axis,								
			at 30.0' and 32.0', disseminated pyrite.								

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 29-30, 1988	
COMPANY NAME _	Golden Glacier Resources	Inc.
	American Creek - AM-1	

axis.

88-4 HOLE No., SAMPLE ASSAYS RECOVY DESCRIPTION FROM WIDTH Au Ag. Cu Pb Zn 9.75m 14.9m 32.0' 49.0' 5.2m 17.0' Medium green coloured fragmental tuff, less alteration, fragments visible. 33.0'-35.0' - quartz carbonate veinlets at 25°-30° to core axis. 47.5'-49.0' - quartz carbonate siderite vein at 30°-40° to core axis, veins coalesce, much disseminated pyrite, no economic sulphides. 14.9m 28.04m 13.1m 49.0 92.0 43.0 Pale green to buff, siliceous altered volcanic tuffs, no relict textures, zones of brecciation, shearing and quartz carbonate siderite - sulphide veining, veins with diffuse boundaries in part, disseminated pyrite in part. 49.0'-59.0' - pale buff-green, very altered tuff at 85° to core axis, quartz carbonate stringer at 30° to core axis at 57.0'. 18.0m 18.5m 59.0' 60.7' 59.0'-60.7' - quartz carbonate siderite vein filled shear, quartz 1.7 carbonate centre, banded vein, galena, sphalerite, chalcopyrite. 60.7'-66.5' - similar altered buff, quartz carbonate siderite veins at 61.6' at 30° to core axis, 62.5' and 63.5' at 80° to core

PAGE 2 OF 10

SAMPLE

26.2m

86.0

26.8m

90.0

88.0° 2.0°

2.01

84.01

88.01

WIDTH

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug.	29-30,	1988			4	
COMPANY NAME	Golde	en Glac	ier Re	sources	Inc.		
PROPERTY NAME	Amer:	ican Cr	eek -	AM-1			

DESCRIPTION

66.5'-70.0' - shear zone, breccia zone, quartz carbonate siderite
healed veins at 75° to 80° to core axis, minor disseminated pyrite,

no economic sulphides noted, barren vein.

barren except for pyrite.

axis, minor galena, sphalerite.

axis, stringer with galena, sphalerite.

pyrite only.

pyrite.

70.0' - vuggy quartz vein at 85° to core axis, barren.

71.5' - 2" quartz vein at 85° to core axis, barren.

75.0' - quartz vein at 85° to core axis, barren.

73.0' - two parallel quartz veins to ½" at 85° to core axis,

80.0' - quartz carbonate siderite vein at 80° to core axis,

84.0'-86.0' - quartz carbonate siderite filled shear zone,

veins at 80° to core axis with sulphides, sphalerite, galena,

86.0'-88.0' - quartz carbonate siderite vein to 7" at 75° to core

88.0' - pale green, siliceous altered tuff, disseminated pyrite.

88.0'-90.0' - shear quartz carbonate siderite vein at 30° to core

TO

RECOVY

88-4 HOLE No ... **ASSAYS** 

PAGE 3 OF 10

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 29-30,	1988	
COMPANY NAME	Golden Glac	ier Resources	Inc.
PROPERTY NAME	American Cr	eek - AM-1	

HOLE No. 88-4

1		П		1	94	MPLE		r —	1	SAYS				
FROM	то	RECOVY	DESCRIPTION	FROM	TO	WIDTH	No.	Au	Ag	Cu	Pb	Zn	T	1
14.9m 49.0'	28.04m 92.01	(cont.)	90.5' - black/grey carbonate vein at 30° to core axis.					, Au		- 50		. 2.11		
				-										
28.044 92.0'		2.1m 7.0'	Darker grey-green and buff, sheared volcanics, quartz carbonate											
			stringer zone, brecciated.							,				
			92.0'-93.0' - brecciated quartz carbonate siderite minor galena,											
			very minor sphalerite.											
			93.0'-99.0' - similar sheared, dark grey and buff, altered	29.2m 96.0	29.8m 98.0	2.0								
and the same of th			volcanics, planes at 30° to core axis, minor disseminated pyrite.	*										
		4.9m 16.0	Pale green, silicified altered tuff, quartz carbonate filled											
			shearing at 102.0', 107.0' and 109.0' - at 25° to core axis.											
	40.5m 133.0	5.5m 18.0'	Black sheared argillite, fragments pale green tuff incorporated,				**.				. V			
			whole with planes at 30° to 40° to core axis, bands of pale green,				,							
			altered, brecciated tuff with quartz carbonate veining.					100						
			115.0'-120.0' - mixed black argillite and pale green tuff breccia,											
			lineation at 30° to core axis, quartz carbonate siderite veins at											
			ll6.0' - chalcopyrite blebs.		35.7m 117.0'	1.0'	<del></del>							

PAGE 4 OF 10

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 29-30, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

HOPER	TY NAM	E Amer	ican Creek - AM-1						HOLE	No	88-4			
FROM	то	RECOVY	DESCRIPTION		SA	SAMPLE			AS	SAYS				
				FROM	то	HTOIW	No.	Au	Ag	Cu	Pb	Zn	I	I
15.0	133.0	(cont.)	120.0'-123.5' - pale green volcanic tuff, altered, brecciated,			111								
			quartz carbonate veining; 121.0'-121.5' - quartz carbonate,	36.75m 120.6	37.06m 121.6	1.0'	ı					V .		
			siderite vein at 75° to core axis, chalcopyrite blebs.											
			123.5'-128.5' - black, brecciated, sheared argillite, fragments											
1			dark grey siltstone and altered tuff, quartz carbonate - siderite	ļ										
			veins at 30° to core axis - pyrite only.											
			128.5'-132.0' - quartz carbonate filled breccia zone, planes		39.6m 130.0'									
			at $75^{\circ}$ to core axis, with quartz carbonate siderite veins at $80^{\circ}$	39.6m 130.0	40.2m 132.0'	2.0'								
			to core axis at 129.0', disseminated, and blebs sphalerite, galena,				·							
			chalcopyrite, blebs chalcopyrite to ½" x ¼". 131.5' - quartz											
			carbonate siderite veins, much chalcopyrite, associated bronze						3, 3					
			brown crystalline pyrrhotite?, non-magnetic, pyrrhotite colour.											
	41.5m 136.0'	0.9m 3.0'	Massive quartz carbonate - siderite vein, hangingwall contact	40.5m 133.0'	41.5m 136.0'	3.0'	1							
			at $70^{\circ}$ to core axis, footwall contact at $60^{\circ}$ to core axis.											
			134.0'-135.0' - siderite vein at $40^{\circ}$ footwall and $80^{\circ}$ hangingwall,											
			much chalcopyrite, associated siderite veins within vein system.											
ote:	No m	ore mine	ralization for sampling to 251.0'.											

SAWYER CONSULTANTS INC.

Aug. 29-30, 1988 DATE LOGGED Golden Glacier Resources Inc. COMPANY NAME American Creek - AM-1 88-4 PROPERTY NAME HOLE No. SAMPLE **ASSAYS** FROM RECOVY DESCRIPTION WIDTH 41.5m 43.6m 136.0 143.0 2.1m 7.0' Black sheared argillite, disseminated pyrite, cut by a quartz stringer at high angles to core axis, quartz carbonate siderite narrow vein at 138.2' at 20° to core axis, no sulphides, at 140.2' another quartz siderite vein at 70° to core axis - no sulphides. 43.6m 46.9m 143.0 154.0 3.4m 11.0' Dark grey siltstone, black argillite - banded in part, cut by quartz carbonate stringers at medium to high angles to core axis. At 144.0' narrow 3" band black argillite in grey siltstone at 25° to core axis. 146.0'-146.8' - brecciated, pale green - buff, altered tuff, quartz carbonate veined, hangingwall at 30° to core axis, footwall contact at 70° to core axis, a horst block. 148.0'-149.0' - vuggy quartz carbonate vein, in sheared argillite. 151.2' - quartz vein, 1", at 80° to core axis. 46.9m 51.4m 4.4m 154.0 168.5 Pale green to buff, silicified altered volcanic tuff, hangingwall contact with black argillite at 40° to core axis, footwall contact

to sheared and quartz veined grey siltstone at 40° to core axis,

PAGE 6 OF 10

SAWYER CONSULTANTS INC.

PROPE	RTY NAM	E Amer	ican Creek - AM-1					HOLE No. 88-4						
FROM	то	RECOVY	DESCRIPTION		S/	AMPLE			ASSAYS					
46.9m	51.40		JEGOTII HOR	FROM	то	WIDTH	No.					Ţ		
154.0	168.5	(cont.)	quartz stringers, quartz carbonate veins, siderite stringers and											
			sulphide stringers.											
			155.8'-156.0' - quartz carbonate vein at 70° to core axis, no	1 5/							1			
			sulphides, minor pyrite.											
- per constant			156.5'-157.5' - thin 3 mm stringer siderite at 70° to core axis,											
			sulphide stringers to 2 mm at $70^{\circ}$ and $30^{\circ}$ to core axis, sphalerite,											
			chalcopyrite with pyrite in stringers, 2 or 4 only.											
			160.0'-161.0' - quartz carbonate vein, diffuse boundaries, at 30°											
			to core axis.											
			164.0' - banded quartz vein, black to dark grey carbonate on walls,											
			quartz centre, at 30° to core axis.	7										
			165.0'-166.0' - quartz carbonate vein at 65° to core axis, altered								1. 1. 1. 1.			
			wall rock with feldspar/carbonate blebs, no sulphides except pyrite											
			noted.											
			168.0'-168.5' - black bounded quartz vein at 5° to core axis, cut					- 1						<del>                                     </del>
			at 168.5' by banded, black, carbonate bordered, quartz carbonate											<u> </u>
			vein, 3/4" at 40° to core axis.											

PAGE 7 OF 10

SAWYER CONSULTANTS INC.

DATE LO			29-30, 1988 en Glacier Resources Inc.																	
PROPER			ican Creek - AM-1						HOLE	No	88-4									
FROM	T	DECOM		1	S	AMPLE		T T	I AS	SAYS		-	**************************************							
	J	RECOVY	DESCRIPTION	FROM	то	WIDTH	No.		T		T	1	T							
51.4m 168.5	05.2m 214.0	13.8m 45.5'	Dark grey siltstone, black siliceous argillite, quartz tension																	
			gash veining, quartz carbonate veining, banded argillite in part.																	
			168.5'-175.0' - dark grey siltstone, uniform texture and grain																	
			size of approx. 1 mm to 2 mm.																	
			175.0'-177.0' - black brecciated argillite, quartz and quartz																	
			carbonate veins at 25° to 70° to core axis.																	
			177.0'-198.0' - dark grey siltstone, brecciated and fractured																	
			with quartz veining and quartz carbonate veining, bands of black																	
			argillite, very brecciated, fractured at 179.0', 185.0', 187.0',																	
			188.5' - quartz carbonate veined at $30^{\circ}$ to $40^{\circ}$ to core axis.				1													
			182.5'-184.0' - black argillite/siltstone, brecciated fracture																	
			zone, planes at 30° to core axis, healed quartz carbonate.																	
			185.0' and 189.5' - quartz carbonate siderite veins - no sulphides.																	
			191.0'-198.0' - black argillite with quartz carbonate stringers																	
			at low angles to core axis, fractured and brecciated.																	
			198.0'-200.0' - dark grey siltstone.																	
			200.0'-206.0' - black banded argullibe, coarser silty bands at 25°																	

PAGE 8 OF 10

SAWYER CONSULTANTS INC.

Aug. 29-30, 1988 DATE LOGGED Golden Glacier Resources Inc. COMPANY NAME PROPERTY NAME \_\_American Creek - AM-1 88-4 HOLE No. SAMPLE **ASSAYS** FROM TO RECOVY DESCRIPTION WIDTH 51.4m | 65.2m 168.5'214.0'(cont.) 206.0'-214.0' - dark grey, siltstone, very minor quartz stringer. 214.0 225.0 11.3 Brecciated and fractured dark grey siltstone, black argillite interbanded, much quartz carbonate veining and breccia filling, disseminated pyrite, no economic sulphides noted. 215.0'-216.0' - large zone quartz carbonate filling of brecciated area. 217.5'-218.5' - quartz carbonate filled breccia zone, breccia fragments of dark argillite. 221.2'-222.0' - quartz carbonate veins at 30° to core axis. 08,0m 70.7m 2.1m 225.0'232.0' Interbanded grey siltstone and black argillite, fractured, quartz stringers, planes and stringers at 30°-40° to core axis. 70.7m 75.9m 232.0'249.0' 17.0' Dark grey siltstone with bands black argillite, quartz carbonate filled breccia and fracture zones, disseminated pyrite. 232.0'-233.0' - quartz carbonate vein at 45° to core axis, no

sulphides.

PAGE 9 OF 10

SAWYER CONSULTANTS INC.

Aug. 29-30, 1988 **DATE LOGGED** Golden Glacier Resources Inc. COMPANY NAME American Creek - AM-1 PROPERTY NAME \_ 88-4 HOLE No .. SAMPLE **ASSAYS** FROM RECOVY DESCRIPTION WIDTH 70.7m 75.9m 232.0 249.0 (cont.) 236.0' - quartz carbonate banded vein at 70° to core axis. 76.5€ 0.6m Fracture shear zone in dark grey siltstone, quartz carbonate vein at 35° to core axis to 250.2', cut by shear in black argillite, brecciated and quartz carbonate healed, graphitic shear planes at 80° to core axis, minor disseminated sphalerite, galena noted in healed shear from 250.5'. 76.5m 251.0' - end of hole. GORDON D. HOUSE

PAGE 10 OF 10

COLLAR:	HOL	E SURVEY	
Metric: 3+42N	METHOD:	-	
1+97E	FOOTAGE	AZIMUTH	DIP
ELEVATION 4100 ASL	0	110	-50°
CORE SIZE BO			
LOGGED BY Gordon D. House			1
DATE LOGGED Aug. 31-Sept. 1, 198	38		
MAP REFERENCE No 104 A/5			
		- N	

				- 1
CAWVE	D CONS	ULTANTS	SIMO	
SAITIE	n cons	OFINITIO	3 11 <b>1</b> U.	- 3

COMPANY NAME GOLDEN GLACIER RESOURCES INC.

PROPERTY NAME American Creek - AM-1

DRILLING CONTRACTOR Len's Drilling Ltd.

ASSAYER Bondar-Cleqg & Company 1td.

PURPOSE OF HOLE To test down dip extension of surface veining at 3+50N 2+26E

HOLE No.	88-5
CLAIM NAME/No	AM-1
COMMENCED	Aug. 30, 1988
FINISHED	Aug. 31, 1988
FINAL DEPTH	193.0'58.8m
PROJECT No.	

FROM	то	RECOVY	DESCRIPTION		SA	MPLE				ASSAYS		
				FROM	то	WIDTH	No.					
0	1.5m 5.0	-	Casing. No recovery.						11.00			
1.5m 5.0	3.9m 13.0	2.4m 8.0	Dark grey siltstone, black argillite with quartz stringers.	-								
			5.0'-7.0' - rusty, oxidized, grey siltstone.								:	
			7.0'-8.0' - black argillite, carbonate vein at contact at 7.0'									
	* 4		at 45° to core axis, grey quartz carbonate fracture filling.									
			8.0'-13.0' - grey siltstone, coarser grained, to 3-4 mm - grains								i	
			angular, black argillite included.									
	20.9m 68.7'	16.8m 55.0'	Dark grey siltstone, layered/bedded in part, banded black									
			argillite, minor quartz carbonate stringers, black argillite,						1.1			
			breccia zones with quartz carbonate filling, very minor dissemi-									
			nated pyrite, slightly carbonatized, black banded argillite from					1. 1.				
			17.0'-22.0', banding at 75 <sup>°</sup> to core axis.			* .	*.					
			22.0'-29.0' - black argillite. 28.0'-29.0' - quartz carbonate									

PAGE	. 1	 Æ	- 9	

SAWYER CONSULTANTS INC.

88-5

DATE LOGGED Aug. 31 - Sept. 1, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

				<del>                                     </del>	64	MPLE		T	I	SAVO		***										
ROM	то	RECOVY	DESCRIPTION	FROM	TO	WIDTH	No.		AS:	SAYS		T		Т								
3.9m 13.0	20.9m 68.7	(cont.)	stringer/veined, at 20° to core axis.																			
			34.0'-34.8' - quartz carbonate vein, at 20° to core axis, breccia																			
			fragments argillite included.																			
			37.0'-45.0' - black argillite, bands siltstone, planes at 35°-45°											Γ								
			to core axis.			-					,											
			45.0'-48.0' - dark argillaceous fine grained siltstone.																			
			48.0'-49.0' - brecciated zone, contact from argillite to siltstone,									- :										
			contact at 80° to core axis, carbonate veined.																			
			49.0'-68.7' - dark grey siltstone, uniform composition, no																			
			layering evident; 61.8'-61.9' - shear, carbonate vein at 80° to	-																		
			core axis; $62.0'-63.0'$ - quartz carbonate vein at $15^{\circ}$ to core axis.																			
20.9m 58.7	23.7m 78.0	2.8m 9.3'	Contact at 68.7' to pale green, bleached, silicified, altered tuff,																			
			crystals tuff, with narrow quartz stringer at 15° to core axis																			
			cut off by contact, stringer carries galena, sphalerite and chalco-					· · · · · · · · · · · · · · · · · · ·			£1.1											
			pyrite in minor amounts, disseminated pyrite in tuff, none in grey	·																		
			siltstone above contact, contact at approx. 80° to core axis,																			
			an irregular wavy contact - appears erosional since no tuff										15.1									

PAGE 2 OF 9

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 2	7-29, 19	38		
COMPANY NAME .	Golden	Glacier	Resources	Inc.	1 1
PROPERTY NAME					-

HOLE No. 88-3

					SA	MPLE			ASS	AYS		+ + x /	
ROM	ТО	RECOVY	DESCRIPTION	FROM	TO	WIDTH	No.	Au	Aq	Cu	Pb	Zn	
31.0	16.1a 53.0	(cont.)	of feldspar laths, sericite alteration more common, as is carboni-				-	oz/ton	oz/ton	*	•	. •	
			zation, much disseminated pyrite; at 41.0° carbonate stockwork								: · · · · ·		11 25 11
			of stringers, quartz carbonate veins at 80° to core axis at										
			44.8' + 45.5'.										
			46.5'-47.0' - breccia zone, darker stringers - pyrite?										
			47.0'-53.0' - altered bleached dyke - contact to volcanic tuff		1.5								
			obscured by alteration, much brecciated and healed quartz carbonate										
			veins/stringers, disseminated pyrite, blebs chalcopyrite in	14.9m 49.0	15.4m 50.5	1.5'							
			quartz carbonate veins at 50.0', sericite crystals noted increasing.										
16.1 <b>.</b> 53.0'	26.9a 88.5	10.8 35.5	Pale green to buff, bleached volcanic tuff, silicified - slightly		-								
-			carbonatized, very faint relict textures indicate fine grained										
			to fragmental volcanic tuff, quartz carbonate veining and quartz										
1	-		carbonate filled breccia zones, disseminated pyrite, galena,			. :							
1.1			sphalerite and chalcopyrite, associated quartz carbonate veins.										
			53.0'-54.5' - quartz carbonate vein at 35° to core axis, oxidized							1 1 1 1			
			fracture, mostly at 5° to core axis, and carbonate stringers,	16.15m 53.0'	16.6m 54.5'	1.5'							
			sphalerite, chalcopyrite, 54.5' vein at 80° to core axis.										

PAGE 3 OF 11

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 27-29, 1988	
COMPANY NAME	Golden Glacier Resources Inc.	 
	Amoust con Crook - Att-1	

HOLE No. 88-3

DO14	70	D500\N			SA	MPLE			ASS	SAYS			 
ROM	то	RECOVY	DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn	
16.lm 53.0	26.9m 88.5	(cont.)	55.0' - quartz stringer with bleb chalcopyrite.										
			58.5'-59.5' - quartz carbonate/siderite vein, at 85° to core axis,	17.8m 58.5	18.1m 59.5'	1.0'							
			parallel series veins - multiple veins, banded, late stage vuggy	18.1m 59.5	18.6m 61.0'	1.5'							
7			quartz vein with quartz crystals into carbonate filled vug,									•	
			pyrite, chalcopyrite, galena, sphalerite.										
			59.5'-62.0' - series quartz carbonate veins, at 60.3' at $70^{\circ}$ to										
			core axis, with sulphides associated, sphalerite, galena.								* % .		
and the second of			63.0'-67.0' - series parallel quartz carbonate/siderite veins at	19.2m 63.0	19.96m 65.5	2.5'						-	
			$80^{\circ}$ to core axis, at $64.5$ '- $64.7$ ' at $85^{\circ}$ to core axis, at $65.5$ '-	19.96m 65.5	20.4m 67.0'	1.5'							
			65.7' at 75° to core axis, associated sulphides, pyrite, chalco-	20.4m 67.0	20.7m 68.0'	1.0'	_						
			pyrite, sphalerite, galena.	20.7m 68.0	21.3m 70.0'	2.0'							
			67.0'-76.0' - pale green, altered, bleached crystal tuff,	21.3m 70.0'	21.9m 72.0'	2.0'							
			crystals to 10 mm, disseminated pyrite, quartz carbonate siderite										
			veining at 80° to core axis at 67.9'-68.0', 68.4'-68.6', 68.7',	-									
			68.8', 69.1', 69.7', 70.2', 70.5', 75.3', 75.8', veins and quartz					100					
			siderite replacement zones/breccia filling carry sulphides,										
			sphalerite, galena, especially from 67.0'-72.0'.							7			
			76.0'-79.0' - massive quartz carbonate-siderite veins, veins at										

PAGE 4 OF 11

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 27-29, 1988	
COMPANY NAME	Golden Glacier Resources Inc	
DOODEDTYNAME	American Creek - AM-1	

HOLE No. 88-3

					SA	MPLE			AS	SAYS				-
ROM	TO	RECOVY	DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn	T	T
3.0'	20.9m 88.5	(cont.)	76.5'~77.8', 77.0'-77.8', 78.1'-79.6' - all with blebs and dis-	23.16m 76.0	23.46m 77.0								et a la	
			seminated sphalerite, galena, chalcopyrite.	23.46m 77.0'	23.8m 78.0'	1.0'						:		
			79.0'-86.0' - pale green, silicified, altered crystal tuff.	23.8m 78.0'	24.1m 79.0	1.0'	***************************************							
			86.0'-88.5' - brecciated, pale green crystal tuff, quartz	i -										
			carbonate siderite, vein from 86.0'-86.8' - sulphides.	26.2m 86.0	26.5m 87.0	1.0'	e in <sub>N</sub>							
6.9 <b>a</b> 8.5	30.02m 98.5	3.04m 10.0	Pale green, altered, bleached tuff, mixed with dark grey, fine											
			grained, shaley sediments, sediments with fragments rounded of											
			bleached tuff, quartz carbonate veining.											
			88.5'-90.0' - mixed grey, fine grained tuff/shale and altered,											
			brecciated, bleached tuff, tuff fragments, rounded in "shale".											
			90.0'-92.0' - pale green, altered tuff, disseminated pyrite,				_							
			rough lineation at 30 $^{\circ}$ to core axis. 90.5' - quartz carbonate vein											
annak sara			92.0'-93.5' - sheared, brecciated black shale with 40% brecciated											
			pale green tuff fragments, much disseminated pyrite.					100						
			93.5'-94.5' - pale green, altered tuff crystal, pyrite.											
			94.5'-98.5' - mixed pale green tuff, brecciated and dark grey/											
			black shale, shear/lineation planes at 45°-50° to core axis,											

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 27-29, 1988	
COMPANY NAME _	Golden Glacier Resources In	nc.
PROPERTY NAME	American Creek - AM-1	

HOLE No. 88-3

ROM	то	RECOVY	DECORPTION		SA	MPLE			ASS	SAYS			
nowi			DESCRIPTION	FROM	то	WIDTH	No.	Au	рĄ	Cu	Ph	Zn.	
6.9a 8.5	30.02m 98.5	(cont.)	disseminated pyrite.							73			
.02a 8.5	42.4 <b>0</b> 139.0	12.2m 40.0	Pale green altered tuff, volcanic tuff mainly, brecciated and										
			quartz carbonate veining in part, becoming more competent,										
			brecciated and fractured, oxidized fractures to 138.0'.										
			98.5'-102.5' - brecciated, pale green tuff, disseminated pyrite,										
			altered, minor stringers quartz carbonate at high angles.			i							
			102.5'-104.5' - major quartz carbonate vein, brecciated quartz	31.2m 102.5	31.7m 104.0								
			carbonate veining, siderite, minor quartz on walls of vein,		32.0m 105.0								
			late stage vuggy quartz, sulphides to centre, galena, sphalerite,										
			chalcopyrite, hangingwall planes at 70° to core axis, as is centre										
			shear gouge, footwall contact at 70° to core axis at 103.8',										
			brecciated tuff and quartz carbonate to footwall, contact at 104.5'				À					1	
			at 80° to core axis.										
			104.5'-109.0' - altered tuff, quartz carbonate siderite veins										
			at high angles to core axis $75^{\circ}$ - $80^{\circ}$ , disseminated pyrite, galena,				1.						
			sphalerite, associated quartz carbonate veining, minor disseminated										
			sulphides.										

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 27-29, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

HOLE No. 88-3

ROM	то	RECOVY			SA	MPLE			AS	SAYS				
UM		HECOVY	DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn	1	T
.02 <b>a</b> 3.5		(cont.)	109.0'-113.0' - broken, altered, pale green, crystal tuff, minor											
1			quartz carbonate veining, minor sulphides.											
			113.0'-114.0' - parallel quartz carbonate siderite veins, galena,	113.0	34.7m 114.0'	1.0'								
			sphalerite, chalcopyrite, pyrite at 45° to core axis, banded,								1			
			horst of altered tuff.											
			114.0'-126.0' - altered tuff, pale green, silicified, occasional											Γ
			stringer quartz and black sulphides, in part galena, sphalerite,											
			plus minor disseminated sulphides.											
The second second			126.0'-130.0' - brecciated, quartz carbonate veined, stringer		39.0m 128.0'	2.0'								
			zone, sulphides, galena, sphalerite, chalcopyrite.	39.0m 128.0	39.6m 130.0'	2.0'								
			131.5'-132.5' - quartz carbonate siderite vein to 1.5" at 25°						-					
			to core axis, galena, sphalerite, chalcopyrite.	40.0m 131.5	40.4m 132.5'	1.0'								
8			132.5'-136.5' - similar tuff, minor stringers quartz carbonate											
			with sphalerite, galena, disseminated pyrite.				,							
			136.5'-137.0' - fractured breccia zone, rusty.		2									
			137.5' - narrow band black shale, gougey.										, N.	
			138.5'-139.0' - broken ground, contact to black siliceous shale,							:				
			quartz veined at 80 to core axis.											

PAGE \_\_\_\_7 \_\_\_ OF \_\_\_\_11

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 27-29, 198	8		
COMPANY NAME _	Golden Glacier	Resources	Inc.	
PROPERTY NAME	American Creek	- AM-1		

88-3 HOLE No.\_ ASSAYS

FROM	то	RECOVY	DESCRIPTION		SA	MPLE			ASS	SAYS			N 1	
			DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn		
42.4m 139.0		2.1m 7.0	Broken ground, broken dark grey siltstone and black argillite,											
-			much quartz veined at 80° to core axis, solid core with quartz											
			carbonate vein, oxidized at 30° to core axis, rest broken rusty											
			ground.											
		7 E 7 E												
45.1ª 148.0°	51.2m 168.0	16.0	Dark grey siltstone, minor black shale bands, 154.0'-156.5', and											
			165.0'-166.5', altered volcanic tuff, pale green, quartz veined						1.					
			to end vein at 168.0' - except for black shale/quartz fragment					1.						
			breccia - lost core on both sides, altered tuff "horst" of 1.0',											
			sheared black shale, disseminated pyrite throughout shale/											
			argillite. 167.0'-168.0' - chalcopyrite disseminated in shear.											
51.2m 168.0	54.3m 178.0	2.3m 7.5'	Broken ground, black argillite, grey siltstone layers, dissemi-	50.9m 167.0	51.2m 168.0'	1.0'								
			nated pyrite and pyrite stringers, sheared - planes at approx. 30°		-		`							
			to core axis, horst of 1.0' of tuff, altered, within black									:		
			argillite shears.									1,111		
							<del></del>		<b></b>					
		<del>!</del>		L	L			L	<del></del>	<u> </u>	<u> </u>	<u> </u>	L	

SAWYER CONSULTANTS INC.

DATELOGGED Aug. 27-29, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

88-3 HOLE No .. SAMPLE **ASSAYS** FROM TO RECOVY DESCRIPTION FROM TO WIDTH 54.3m 57.3m 178.0'188.0' 3.04m 10.0 Banded black argillite, graded bands with coarse layers carrying much pyrite, grading indicates "right way up", sheared green tuff. 178.0'-179.0' - sheared green altered tuff, quartz veins, brecciated, planes at 20° to core axis. 179.0'-188.0' - banded black argillite, graded beds from 1" to 3" in bedding at 45° to core axis, quartz veined. 187.5' - contact to altered, pale green volcanic tuff, at 25° to core axis. 57.3m 62.8m 188.0 206.0 5.5m 18.0' Pale green, silicified, altered tuff, relict textures in part indicates crystal tuff crystals to 5-10 mm across, quartz carbonate veins, breccia zones with quartz carbonate alteration, sulphides - galena, sphalerite, associated disseminated pyrite throughout. 188.5'-189.5' - rusty quartz carbonate vein, 1", at 25° to core axis, pyrite only. 194.0'-195.0' - quartz carbonate vein at 45° to core axis, pyrite only. 196.0'-197.0' - quartz carbonate siderite vein, at about 35° to

PAGE 9 OF 11

SAWYER CONSULTANTS INC.

88-3

DATE LOGGED	Aug. 27-29, 1988	
COMPANY NAME	Golden Glacier Resources Inc.	
PROPERTY NAME		

	I Y NAME								HOLE	No			<del></del>	
FROM	то	RECOVY	DESCRIPTION		SA	MPLE			AS	SAYS				
		AECOVI	DESCRIPTION	FROM	то	WIDTH	No.	Au	Aq	Cu	Pb	Zn		
57.3m 188.0		(cont.)	core axis, diffuse borders, carries galena, sphalerite, pyrite,											
			no chalcopyrite noted.	7				4.0						
			201.0'-202.0' - quartz carbonate vein at 15°-20° to core axis,		202.0	1.0'								
			blue colouration, galena.		62.2m 204.0	2.0'								
			202.0'-204.0' - siliceous, altered, pale green tuff, disseminated							1 34 21				
			pyrite and galena - oxide galena on crystals - white lead oxide.											
			206.0' - contact with black argillite at 80° to core axis.											
3				- 1										
	67.7m 222.0	4.9m 16.0'	Black argillite, quartz veined in part, and dark grey siltstone,											
	1 1 1 E		brecciated and quartz veined quartz carbonate, veined in part.											
			212.0'-215.5' - quartz carbonate vein at 30° to core axis,											
			black argillite, breccia fragments included, pyrite only.											
2.1														
	71.5m 235.0	4.6m 15.0	Dark grey siltstone, disseminated pyrite, minor quartz stringers,	222.5	68.1m 223.5	1.0'								
			quartz carbonate vein with sulphides.		68.5m 225.0	1.5'		A						
			222.5'-223.5' - vuggy, quartz carbonate siderite vein, banded and											
		344 9 1	brecciated, sulphide vein at 85° to core axis, galena, sphalerite,											
			pyrite.											

PAGE 10 OF 11

SAWYER CONSULTANTS INC.

Aug. 27-29, 1988 DATE LOGGED \_ Golden Glacier Resources Inc. COMPANY NAME \_ PROPERTY NAME American Creek - AM-1 88-3 HOLE No.\_\_ SAMPLE **ASSAYS** FROM TO RECOVY DESCRIPTION WIDTH 67,7m 71.6m 222.0'235.0'(cont.) 223.5'-225.0' - breccia zone, quartz carbonate siderite stringers. 71.6m 77.1m 5.5m 235.0'253.0'18.0' Dark grey siltstone, quartz carbonate stringers, black argillite, disseminated pyrite. 235.0'-238.0' - black argillite. 246.0'-246.5' - quartz carbonate stringer, sphalerite, pyrite. 252.0'-253.0' - quartz stringer veins, at 30° to core axis. 77.1m 253.0' - end of hole. GORDON D. HOUSE

PAGE 11 OF 11

Bondar-Clegg & Company Ltd.

130 Pemberton Ave. North Vancouver, B.C. Canada V7P 2R5 Phone: (604) 985-0681 Telex: 04-352667



Certificate of Analysis

REPORT: V88-07419.4 ( COMPLETE )

REFERENCE INFO:

CLIENT: GOLDEN GLACIER RESOURCES INC.

PROJECT: GLACIER

SUBMITTED BY: G. HOUSE DATE PRINTED: 21-SEP-88

ORDER	ELI	enent	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXIRACTION	METHOD
1	WT-150	-150 Pulp Weight	76	0.16		
2	WT+150	+150 Pulp Weight	76	0.01 6		
3	Au-150	Avg Gold in -150	76	0.002 OPT		Pire Assay
4	Au+150	Gold in +150 mesh	76	0.001 MG		Fire Assay
5	Au TOT	Au in total sample	76	0.002 DP1		Fire Assay
6	Ag-150	Avg Silver in -150	76	0.01 DPT		Fire Assay
7	Ag+150	Silver in +150 mesh	76	0.01 MG		Fire Assay
8	Ag Tot	Ag in total sample.	76	0.02 OPT		Fire Assay
9	Cu	Copper	76	0.01 PCI		Atomic Absorption
10	Pb	Lead	76	0.01 PCT		Atomic Absorption
11	Zn	Zinc	76	0.01 PCT		Atomic Absorption
SAMPLE	TYPES	NUMBER	SIZE FI	RACTIONS	NUMBER	SAMPLE PREPARATIONS NUMBER
D DRI	LL CORE	76	2 -1:	<b>i</b>	76	ASSAY PREP 76
REPURT	COP IES	TO: GOLDEN GLACIER R SAWYER CONSULTAN	\$10 A. MAN 1. 1847		INV01C	E TO: GOLDEN GLACTER RES. INC. SAWYER CONSULTANTS INC.

RECEIVED

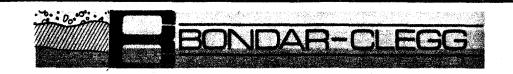
SEP 2 1 1988

SAWYER CONSULTANTS INC.

Bondar-Clegg & Company Ltd.

Bondar-Clegg & Comp.

130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667

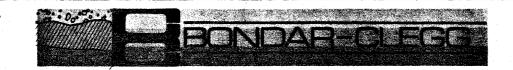


Certificate of Analysis

-	REPORT: V88-	07419.4			]				PROJECT: (	GLACIER		PAGE 1	
	SAMPLE	ELEMENT	W1-150	WI+150	Au-150	Au+150	Au 101	Ag-150	Ag+150	Ag Iot	Cu	Pb	Zn
	NUMREB	UNITS	6	G	TYO	MG	OPT	OPT	HG.	OPI	PCT	PCI	PCI
	D2 39326		317.4	21.62	0.007	0.010	0.007	0.04	0.01	0.04	0.01	<0.01	(0.01
	D2 39327		286.7	23.24	0.002	0.005	0.002	0.20	0.11	0.20	0.03	<0.01	<0.01
	D2 39328		280.3	28.55	0.005	0.008	0.005	0.26	0.20	0.25	0.02	0.02	0.05
	D2 39329		325.0	13.82	0.172	0.121	0.175	4.11	0.90	4.02	0.80	0.14	0.09
	D2 39330		279.7	22.32	0.004	<0.002	0.004	0.24	0.07	0.23	0.04	0.02	0.16
rentration.	D2 39331		287.4	14.20	0.002	0.010	0.003	0.05	0.01	0.05	⟨0.01	0.04	0.09
	D2 39332		311.9	17.56	0.002	0.010	0.003	0.07	0.01	0.07	0.01	0.02	0.10
	D2 39333		317.6	32.30	0.004	<0.002	0.004	0.11	0.02	0.10	0.03	0.02	0.08
	D2 39334		271.5	17.91	<0.002	0.010	<0.002	0.07	0.01	0.07	<0.01	0.12	0.16
w-204-2-14	D2 39335		288.0	32.46	0.006	0.023	0.007	0.15	0.07	0.14	<0.01	0.08	0.23
*****	D2 39336		285.6	21.95	0.003	0.004	0.003	0.25	0.24	0.25	0.01	0.06	0.25
	D2 39337		286.9	28.74	<0.002	<0.002	<0.002	0.13	0.06	0.12	<0.01	0.06	0.36
	D2 39338		272.8	32.79	(0.002	0.010	(0.002	<0.02	0.01	<0.02	<0.01	(0.01	<0.01
	D2 39339		294.8	20.99	(0.002	<0.002	<0.002	0.04	0.03	0.04	<0.01	0.01	0.03
	D2 39340		314.7	27.34	(0.002	0.010	<0.002	<0.02	0.01	<0.02	<0.01	<0.01	<0.01
	02 39341		208.3	20.99	<0.002	<0.002	<0.002	⟨0.02	⟨0.02	<0.02	<0.01	<0.01	<0.01
	D2 39342		273.8	26.11	0.045	0.058	0.047	2.63	1.25	2.52	0.23	0.11	0.13
	는 보다는 전환 전략 전략 전략 전략 보다.			28.07	<0.002	<0.002	<0.002	0.05	0.02	0.05	<0.01	(0.01	0.11
d d	D2 39343		332.4	T W. J.	The second section is a second section of the second section in the second section is a second section of the second section in the second section is a second section of the second section in the second section is a second section of the sect			0.03	0.02	0.08	(0.01	0.06	0.49
	D2 39345		304.4	21.31	<0.002	(0.002	(0.002	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Light of the state of	化氯苯基氯 计二代数字系统		The state of the s	The second second
	D2 39346		333.7	23.44	0.012	0.009	0.012	0.64	0.04	0.60	0.07	0.22	0.18
	D2 39347		272.6	29.92	0.002	0.010	0.002	0.03	0.01	0.03	<0.01	0.02	0.07
	D2 39348		280.7	33.24	<0.002	<0.002	<0.002	<0.02	<0.02	<0.02	(0.01	<0.01	<0.01
	D2 39349		289.2	24.58	<0.002	0.005	<0.002	0.15	0.03	0.14	<0.01	0.01	0.04
	D2 39350		291.3	24.92	<0.002	0.010	<0.002	0.04	0.01	0.04	(0.01	0.01	0.19
	D2 65826		300.1	28.32	0.003	0.010	0.004	0.09	0.01	0.08	0.01	0.01	0.11
	D2 65827		283.3	31.40	<0.002	<0.002	<0.002	0.03	0.06	0.03	<0.01	0.01	0.11
	D2 65828		283.9	25.72	<0.002	<0.002	<0.002	0.03	0.07	0.03	<0.01	0.01	0.03
	D2 65829		282.6	18.93	0.002	0.010	0.003	0.03	0.01	0.03	<0.01	0.02	0.19
	D2 65830		303.1	18.36	<0.002	<0.002	<0.002	0.04	<0.02	0.04	0.01	(0.01	0.01
	D2 65831		291.7	21.90	0.009	0.031	0.011	0.38	0.13	0.37	0.29	0.02	0.17
	D2 65832		305.7	21.91	0.097	0.125	0.102	3.68	1.60	3.58	0.57	0.07	0.10
	D2 65833		302.3	16.16	0.002	<0.002	0.002	0.09	0.03	0.09	0.01	0.01	0.02
	D2 65834		319.1	24.14	<0.002	0.010	<0.002	0.13	0.01	0.12	<0.01	0.04	0.20
	D2 65835		301.2	21.67	0.029	0.033	0.030	1.29	0.80	1.28	0.08	0.62	0.01
ambanisan A	D2 65836		314.8	21.07	<0.002	<0.002	<0.002	0.14	0.03	0.13	0.01	0.02	0.06
	D2 65837		289.7	27.95	0.044	0.019	0.042	0.19	0.05	0.18	0.02	0.04	0.20
	D2 65838		303.4	18.65	<0.002	<0.002	<0.002	0.02	<0.02	<0.02	<0.01	<0.01	<0.01
	D2 65 <b>839</b>		299.4	25.48	<0.002	0.010	<0.002	0.06	0.01	0.06	<0.01	0.06	0.18
	D2 65840		303.1	18.93	(0.002	<0.002	<0.002	0.06	0.05	0.06	(0.01	0.09	0.20
	D2 65841		292.2	20.78	(0.002	<0.002	<0.002	0.04	<0.02	0.04_	_ 0.03	0.01	0.02

Registered Assayer, Province of British Columbia

130 Pemberton Ave. North Vancouver, B.C. Canada V7P 2R5 Phone: (604) 985-0681 Telex: 04-352667



Certificate of Analysis

haji da nagaring da nagari	REPURT: V88-	07419.4		and an about the specific of t					PROJECT: (	SLACIER		PAGE 2	
	SAMPLE	ELEMENT	WT-150	WT+150	Au-150	Au+150	Au 101	Ag-150	Ag+150	Ag Tot	Cu	Pb	2n
	NUMBER	UNITS	G	6	OPI	MG	OP1	OP1	MG	OPT	PCT	PCT	PCI
	D2 65842		299.8	24.35	<0.002	0.010	<0.002	<0.02	0.01	<0.02	<0.01	<0.01	<0.01
	D2 65843		296.1	35.60	(0.002	<0.002	<0.002	<0.02	<0.02	<0.02	(0.01	(0.01	<0.01
	D2 65844		317.2	16.07	0.032	0.028	0.033	0.42	0.11	0.41	0.02	0.10	0.50
	D2 65845		295.4	21.34	0.002	0.002	0.002	0.12	0.10	0.12	<0.01	0.04	0.06
	D2 65846		301.8	11.21	0.013	0.010	0.013	0.08	0.01	0.08	<0.01	0.07	0.15
	D2 65847		318.4	16.13	0.021	0.006	0.021	0.25	0.07	0.24	<b>(0.0</b> ]	0.33	1.30
	D2 65848		296.1	19.60	0.005	0.010	0.006	0.19	0.01	0.18	<0.01	0.26	0.56
	D2 65849		339.3	10.44	0.025	0.034	0.027	0.56	0.09	0.55	0.21	0.04	0.13
	D2 65850		340.9	20.23	0.005	0.010	0.006	0.10	0.01	0.09	0.01	0.06	0.12
	D2 89011		307.8	25.93	0.002	0.002	0.002	0.22	0.09	0.21	0.04	0.01	0.10
	D2 89012		312.4	22.11	<0.002	<0.002	<0.002	0.06	<0.02	0.06	0.01	<b>&lt;0.</b> 01	0.01
	D2 89013		320.4	18.78	(0.002	<0.002	<0.002	0.06	(0.02	0.06	0.01	0.08	0.04
	D2 89026		310.3	17.76	⟨0.002	<0.002	<0.002	0.03	(0.02	0.03	<0.01	(0.01	0.07
	D2 89027		311.0	18.35	0.003	0.010	0.004	0.14	0.01	0.13	<0.01	0.07	0.39
	D2 89028		322.9	14.23	₹0.002	<0.002	<0.002	0.51	0.29	0.51	0.01	0.02	0.04
***********	D2 89029		304.5	20.56	0.007	0.020	0.008	0.20	0.07	0.19	0.03	0.06	0.52
	D2 89030		304.0	14.11	0.002	0.006	0.002	3.81	9.52	4.51	0.03	0.04	0.34
	D2 89031		308.7	25.45	0.161	0.225	0.168	0.74	0.64	0.74	0.31	0.20	0.02
	D2 89032		301.0	11.37	0.082	0.050	0.084	1.48	1.32	1.55	0.26	0.10	0.15
	D2 89033		356.7	14.58	0.138	0.233	0.151	14.38	27.08	15.94	0.40	0.06	0.01
	D2 89034		303.9	11.56	<b>&lt;0.002</b>	0.006	<0.002	0.19	0.10	0.19	0.02	0.02	0.03
	D2 89035		337.4	14.59	<0.002	<0.002	<0.002	0.17	0.04	0.17	0.01	0.13	0.42
	D2 89036		307.5	14.09	(0.002	0.010	<0.002	0.04	0.01	0.04	<0.01	0.04	0.08
	D2 89037		300.8	17.80	(0.002	0.010	<0.002	<0.02	0.01	<0.02	<0.01	0.01	0.01
	D2 89038		328.7	27.13	<0.002	0.010	(0.002	0.02	0.01	<0.02	(0.01	0.01	0.01
****	D2 89039		292.0	21.48	<0.002	<0.002	<0 <b>.0</b> 02	<0.02	⟨0.02	<0.02	<0.01	0.01	0.03
						<0.002	<0.002	80.0	0.17	0.09	<0.01	0.10	0.18
	D2 89040		324.0	26.32 17.06	<0.002 <0.002	<0.002	<0.002	0.05	(0.02	0.05	(0.01	<0.01	(0.01
	D2 89041 D2 89042		328.5 298.7	14.30	(0.002	0.010	<0.002	0.05	0.01	0.05	<0.01	0.03	0.06
	D2 89042 D2 89043		302.4	27.51	(0.002	<0.002	(0.002	0.06	(0.02	0.06	(0.01	0.04	0.05
*********	NO OGNAA		916 0	16 56	<0.002	<0.002	<0.002	0.06	<0.02	0.06	0.01	0.02	0.06
	D2 89044		316.8	16.56						0.07	0.01	0.04	0.13
	D2 89045		329.1	25.07	<0.002	<0.002	<0.002	0.07	<0.02 0.02	0.05	0.01	0.03	0.08
	D2 89046		318.7	24.00	<0.002	<0.002	<0.002	0.08		0.03	0.01	0.10	0.20
	D2 89047 D2 89049		318.5 304.9	20.50 21.30	0.002 <0.002	<0.002 0.002	0.002 <0.002	0.06	0.02 0.04	0.06	<0.01	0.04	0.05
	D2 89050	high market is to proposed in the contract of	336.3	25.00	<0.002	<0.002	<0.002	0.04	<0.02	0.04	0.01	0.01	0.02

Registered Assayer, Province of British Columbia

SAWYER CONSULTANTS INC.

COMPAI	Y NAME		en Glacier Resources Inc.											
PROPER	RTY NAM	EAmer	ican Creek - AM-1						HOLE	No	88-5			
	1.	T		Υ		AMPLE	-	<del></del>		SAYS				*********
FROM	то	RECOVY	DESCRIPTION	FROM	то	WIDTH	No.	<del> </del>	T AS	SATS	<del></del>	т	<del>T</del>	Т
20.9a 68.7	23.7m 78.0	(cont.)	fragments in siltstone, volcanic tuff with darker green crystals,											
			diffuse, and high relief, light brown/blue alteration crystals											
			becoming more common - sericite?, very narrow stringers of											
			carbonate at 65° to core axis, bleached margins to stringers											
			from 76.5'.											
23.7m 78.0	25.3m 83.0	1.5m 5.0'	Pale green altered tuff, silicified, carbonatization in part, minor											
			disseminated pyrite, very fractured - oxidized, rusty, discoloured -											
			oxidized sulphides or carbonate?, fractures at $40^{\circ}$ to core axis,									-		
			some apparently with stringers quartz carbonate but rusty weather-											
			ing occurs.											
	30.6m 100.3	5.3m 17.3'	Volcanic tuffs, part altered, part unaltered, silicified crystal											
			tuff.											
			83.0'-84.2' - dark green "unaltered" tuff, alteration front at 83.6'			1								
			at 70° to core axis.											
			84.2'-87.6' - pale green, altered, silicified crystal tuff,											
<u>.</u>			alteration front at 84.2' at 30° to core axis.											

PAGE \_\_\_3\_\_\_ OF \_\_\_9\_\_\_

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 31 - Sept. 1, 1988		
COMPANY NAME	Golden Glacier Resources	Inc.	
PROPERTY NAME	American Creek - AM-1		

ROM	то	RECOVY	DESCRIPTION		SA	MPLE		ASS	SAYS			
	30.6m		DESCRIPTION	FROM	to	WIDTH	No.					
3.0	100.3	(cont.)	84.2'-87.6' - minor disseminated pyrite.									
			87.6' - alteration contact at 35° to core axis, coincident with									
			rusty, oxidized quartz carbonate vein/shear at 35° to core axis.	·								
			87.6'-100.3' - dark green, silicic, crystal tuff, crystals to									
			5 mm, feldspar, irregular dark green, diffuse crystals - had		8 . 1							
			considered a dyke but alteration margins indicate as a crystal									
			tuff, relatively homogeneous, increasing minor pyrite, dissemi-									
			nated and high relief sericite alteration. 100.0'-100.3' - becomes		:							
			bleached, pale green and pyritic to contact with fine grained				1.1					
			siltstone - contact at 35°-40° to core axis, irregular.									
6 <b>m</b> 0.3	32.2 <b>m</b> 105.5	1.6m 5.2'	Dark grey, fine grained siltstone, very minor disseminated pyrite.				1 1					
			101.5' - quartz carbonate vein at 75° to core axis, 1" thick, no									
			sulphides, with 0.3' of black argillite, brecciated, with argillite									
			fragments in siltstone from 101.7' to 102.1'.									
			103.0'-104.0' - black argillite fragments in siltstone.					N. E.				
										_	7.4	

PAGE 4 OF 9

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 31 - Sept. 1, 1988 Golden Glacier Resources Inc. COMPANY NAME \_\_ American Creek - AM-1 PROPERTY NAME \_\_ 88-5 HOLE No .. SAMPLE **ASSAYS** FROM RECOVY DESCRIPTION WIDTH 32.2m 32.9m 105.5 108.0 Shear/fracture zone, brecciated siltstone and black argillite contacts at 80° to core axis cut by carbonate veins at 40° to 30° to core axis, minor disseminated pyrite. 32.9m 33.7m 108.0 110.5 Black argillite, faint banding at 20° to core axis, graded bedding. 33.7m 35.0m 110.5 114.8 1.3m Dark grey, fine grained siltstone, contact at 110.5' at 25° to core axis. 35.0m 37.3m 114.8 122.5 2.3m 7.7 Medium green, altered, silicified crystal tuff, contact at 114.8' at 45° to core axis, quartz carbonate vein at 116.5' at 70° to core axis, no sulphides. 37.3m 38.2m 122.5 125.5 0.9a Pale green, altered, silicified tuff, no relict texture discernible, diffuse quartz stringers. 38.2m 42.3m 4.1m 125.5 139.0 13.5 Pale green crystal tuff, altered, silicified, increased feldspar

crystals from 125.5' - to 5 mm across in crystalline fragment

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 31 - Sept. 1, 1988		
COMPANY NAME	Golden Glacier Resources	Inc.	
PROPERTY NAME	American Creek - AM-1		

HOLE No. 88-5

ROM	то	RECOVY			SA	MPLE	1.		AS	SAYS			***************************************	***************************************
		HECOVI	DESCRIPTION	FROM	то	WIDTH	No.	Au	Aq	Cu	Pb	Zn	7	<b>T</b>
8.2m 25.5'	42.3m 139.0'	(cont.)	matrix/groundmass, stringers and veins quartz and quartz carbonate,											
			several veins with minor siderite, galena, sphalerite, chalco-											
			pyrite associated several vein and in quartz carbonate breccia											
			filling.				1 2							
			125.5'-126.1' - feldspar crystalized tuff, increased disseminated						i.					
			pyrite.											
			126.1'-126.2' - quartz carbonate veinlet, ½", at 85° to core axis,											
			chalcopyrite in carbonate, rim of siderite.											Γ
			126.2'-128.0' - minor veinlets sphalerite, galena at various											
			angles to core axis.	38.4m 126.0	33.8m 127.5	1.5'								
·			128.0'-129.0' - quartz carbonate - ankerite veins, at 80° to	38.8m 127.5	39.3m 129.0	1.5'								
			core axis at 128.6' and at 20° to core axis at 128.5' where											
			another vein at 80° to core axis cuts it off, vuggy quartz,	-										
	11.		sphalerite, galena, minor chalcopyrite.				•							
			129.0'-130.5' - broken pale green tuff, less feldspar crystal,											
			no sulphides.											
			130.5'-132.5' - contact to feldspar rich tuff at 65° to core		40.4m 132.5	2.0'								Г
			axis, stringers at 80° to core axis with sphalerite, galena.											

PAGE \_\_\_\_6 \_\_\_ OF \_\_\_9\_\_\_

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 31 - Sept. 1, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

HOLE No. 88-5

ROM	то	RECOVY	PECODIOTION	SAMPLE					ASSAYS							
			DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn	T	I		
38.2m 25.5	42.3m 139.0	(cont.)	131.0' - 1" vuggy, quartz carbonate vein, sheared margins, at										•			
			$85^{\circ}$ to core axis, rusty oxidized sphalerite?, fractures at $60^{\circ}$													
			to core axis to 132.5' rusty oxidized, also stringers quartz with													
			sphalerite, galena to 132.5'.													
			133.2'-134.0' - brecciated, quartz veins at 70° to core axis,													
			barren.													
			134.0'-136.0' - pale green altered tuff, stringers/veinlets with		41.4m 136.0	2.0'								Γ		
			sphalerite, galena at 45 <sup>o</sup> -55 <sup>o</sup> to core axis.													
			138.0'-139.0' - fractures at 70° to core axis, much oxidized,													
			rusty.													
	43.9m 144.0	1.5m 5.0'	Darker green, less bleached, similar tuff, feldspar crystal									- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1				
			noticeable.													
										4.1						
3.9m 14.0	47.2m 155.0	3.3m 11.0'	Pale green, bleached crystal tuff, quartz stringers and quartz													
			carbonate veins, less bleached sections.													
200			146.3'-146.5' - quartz carbonate veins at 85 <sup>0</sup> to core axis and	44.2m 145.0	44.8m 147.0	2.0'										
			40° to core axis, intersect outside plane of core, sphalerite				W				1 10 1					

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 31 - Sept. 1, 1988	2 - 1 - 1
COMPANY NAME	Golden Glacier Resources	Inc.
PROPERTY NAME	American Creek - AM-1	

-OF CI	I I I I I I I I I I I I I I I I I I I		Ican Creek - An-1						HOLE	No	88-5						
ROM	то	RECOVY	DESCRIPTION		SA	MPLE		ASSAYS									
3.9a	47.2m		DESCRIPTION OF THE PROPERTY OF	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn		T			
4.0	155.0	(cont.)	galena in veins.										-				
	ļ		153.0'-155.0' - stringers with sphalerite, galena and dark specks		47.2m 155.0'	2.0'											
	<b></b>		in matrix, suspect as disseminated sphalerite galena, minor to														
			very minor disseminated pyrite.											Π			
47.2m 55.0	48.1m 158.0	0.6m 2.0'	Broken ground, brecciated, fractured, sheared, rusty oxidized				-										
			altered tuff and black argillite, relict quartz vein at $30^{\circ}$ to														
			core axis, tuff argillite contact at 80° to core axis.														
8.18	48.8m 160.0	0.6m 2.0'	Pale green altered tuff, feldspar crystals prominent, stringers		48.8m 160.0'	2.0'											
			and veins quartz and quartz carbonate with sphalerite, galena,														
			disseminated sphalerite in part in tuff - remnant stringers														
			subsequently altered?, quartz carbonate siderite vein at $50^{\circ}$ to														
			core axis at 158.2', 1" thick, stringer with sphalerite, galena				,										
			at 158.5' at 25 <sup>0</sup> to core axis, vein at 159.0' with galena,														
			sphalerite at 70° to core axis.														
Δİ.														Г			

SAWYER CONSULTANTS INC.

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ROPER	TY NAM	E Amer	ican Creek - AM-1					HOLE No		88-5				
	l .	T		SAMPLE			I ASS	SAYS						
FROM		RECOVY	DESCRIPTION	FROM	то	WIDTH	No.						L	
48.8m 60.0	52.7m 173.0'	2.1m 7.0'	Pale-medium green altered tuff, fractured, soft gougy fractures											
			at 75°-80° to core axis, feldspar crystals noticeable but diffuse											
			outlines.											
52.7a 73.0	54.9m 180.0	2.1m 7.0'	Pale green, bleached, altered, silicified tuff, crystal tuff - but											
			crystal outlines diffuse and obscured, minor disseminated pyrite.											
			173.0'-174.0' - brecciated ground.											
			178.0'-179.0' - rusty oxidized fractures, disseminated sulphides.											
	58.8m 193.0'		Sheared breccia zone, black argillite and altered tuff intermixed,											
			dark grey siltstone, quartz stringers, black argillite bands,				·							
			coarser grey siltstone bands to end of hole at 193.0'.											
			58.8m 193.0' - end of hole.											
			SSOCIATION											
			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\											
			GORDON D. HOUSE S											
7			The state of the s											

COLLAR:	HOLI	SURVEY	
Metric: 3+42N	METHOD:	-	
1+97E	FOOTAGE	AZIMUTH	DIP
ELEVATION 4100' ASL	0	080	-50
CORE SIZEBQ			
LOGGED BY Gordon D. House			
DATE LOGGED Sept. 1-2, 1988			
MAP REFERENCE No. 104 A/5			
			1

SAWYER CONSULTANTS INC.

COMPANY NAME	GOLDEN GLACIER RESOURCES INC.		
PROPERTY NAME.	American Creek - AM-1		
DRILLING CONTRA	CTOR Len's Drilling Ltd.		
ASSAYER_ Bond	ar-Clegg & Company Ltd.		
PURPOSE OF HOLE	To test down dip extension of	surface vein	systems

HOLE No.	88-6		
CLAIM NAME/No	AM-l		
COMMENCED	Aug. 31,	1988	
FINISHED	Sept. 2,	1988	
FINAL DEPTH	198.0' 60	).3m	
PROJECT No			

FROM	то	RECOVY	DESCRIPTION		SA	MPLE				ASSAYS		
				FROM	то	WIDTH	No.	11.0		T	T	T
0	0.9m 3.0'		Casing.							its.		1
0.9m 3.0'	20.4m 67.0'	19.5m 64.0°	Dark grey siltstone, fine grained, coarser bands, suggestion of									
			rhythmic sedimentation, Bouma sequence? turbidites?, 2.5' graded									
			bed, black argillite bands with minor disseminated pyrite, rip-up								1. Table 1.	
			argillite clasts noted, brecciated fracture zones, shear zones,							<u> </u>		
			quartz carbonate and quartz veining and stringers, minor to									
			very minor disseminated pyrite.									
			3.0'-8.0' - rusty, oxidized fractures.									
			10.5'-13.3' - graded bed sequence from dark argillite band to									
			coarse siltstone/sandstone at 13.3' contact at 50°, fragments									
			black argillite in bottom 1.0' - rip-up clasts.		:							
			15.7'-16.2' - large rip-up clasts argillite in sandstone matrix,			7.4			1. 11			
			contact at 50° to core axis.									
			23.0'-26.0' - black argillite band, brecciated zone quartz									

			ο.	
PAGE	1	06	7	

SAWYER CONSULTANTS INC.

88-6

HOLE No.\_

DATE LOGGED	Sept. 1-2, 1988	
COMPANY NAME	Golden Glacier Resources Inc.	
	American Creek - AM-1	

1				100	SA	MPLE		ASS	SAYS				
FROM	то	RECOVY	DESCRIPTION	FROM	то	WIDTH	No.						
0.9m 3.0°	20.4m 67.0	(cont.)	carbonate, healed from 23.2'-24.2', no attitudes.							1.3			
			30.0'-32.5' - black argillite, breccia zone, quartz carbonate										
			veined, minor pyrite.										
			37.5'-38.1' - quartz carbonate vein, stringer zone, at 65° to					2.					
			core axis, minor disseminated pyrite.										
			40.0'-45.0' - grey siltstone with large, to 6", black argillite								*		
			fragments.	7.1									
		1.77	45.0'-47.0' - banded argillite, bands at 20°-25° to core axis.					 					
			47.0'-53.0' - siltstone with large argillite fragments up to 6"										
			long.										
-			53.0'-58.5' - grey siltstone, homogeneous.				· .	 					
			58.5'-60.5' - black argillite, minor disseminated pyrite, quartz										
742			carbonate vein at 15° to core axis, no sulphides.										1.1
												H 14 F	
20.4m 67.0	26.7m 87.5	6.2m 20.5	Dark green, altered, silicified crystal tuff, diffuse relict										
			texture; vague crystal outlines, minor disseminated pyrite,										
			slight carbonatization, stringers quartz and quartz carbonate.										
			72.0'-73.6' - shear zone, quartz carbonate vein at 15° to core axis										

PAGE 2 OF 9

SAWYER CONSULTANTS INC.

DATE LO		C-1-	. 1-2, 1988 en Glacier Resources Inc.											
PROPER	TY NAM	E Amer	ican Creek - AM-1						HOLE	No	88-6			
FROM	то	RECOVY	DESCRIPTION	SAMPLE		Ī	ASSAYS							
		1		FROM	то	WIDTH	No.							
67.0	26.7m 87.5	(cont.)	84.2'-84.8' and 86.8'-87.1' - altered bleached halo to 2" in wall											
			rock beside quartz carbonate stringers.											
26.7m 87.5	29.9m 98.0	3.5m 11.5'	Bleached, altered, crystal tuff, quartz carbonate siderite											
			vein - 4" wide, grey siltstone and argillite - brecciated in part,											
			bleached, altered, silicified crystal tuff quartz veins, rusted,											
			oxidized fracture at 5° to 10° to core axis.								-			
			87.5'-88.7' - bleached crystal tuff, narrow stringers at 25 <sup>o</sup> to											
			30° to core axis, minor sphalerite, galena associated.											
			88.7'-89.1' - quartz carbonate siderite vein at 85 <sup>0</sup> to											
			core axis, breccia fragments, black argillite incorporated.											
			89.1'-91.3' - grey siltstone, quartz stringers, black argillite											
			to footwall contact at 20° to core axis.										1 1	
			91.3'-94.0' - bleached, altered, silicified crystal tuff, quartz											
			vein $\frac{1}{2}$ " at 20° to core axis at 93.5'.											
			94.0'-98.0' - fracture at 5° to core axis in darker green crystal											
			tuff, rusty oxidation/weathering to 1" from fracture.											
					l	T		T		1	1			1

SAWYER CONSULTANTS INC.

DATE LOGGED	Sept. 1-2, 1988	
COMPANY NAME	Golden Glacier Resources	Inc.
PROPERTY NAME	American Creek - AM-1	

88-6 HOLE No .. SAMPLE **ASSAYS** FROM RECOVY DESCRIPTION WIDTH Au Cu 13.0a 42.9m 98.0 140.8 42.8 Altered, silicified, volcanic crystal tuff, bands of fine grained crystal tuff, feldspar rich crystal tuff, zones fracturing with rusty oxidation, quartz and quartz carbonate stringers and veins, breccia zones with quartz carbonate siderite veining. 98.0'-103.5' - medium green, silicified, altered crystalline tuff, indistinct texture. 103.5'-112.0' - more altered tuff, more bleached after a quartz stringer at 75° to core axis at 103.5'; quartz carbonate fracture filling at from 25° to 35° to core axis at 104.2'-105.0'; minor pyrite. 112.0'-122.0' - pale green, altered, silicified tuff, increased feldspar content, more noticeable feldspar crystals in crystal tuff. 122.0'-125.5' - fracture zone, rusty oxidation from fractures 37.4m | 38.2m into wall rock - from 123.0' there are narrow veinlets and 123.0 125.5 2.5' 38.2m 38.9m stringers quartz carbonate with sphalerite and galena in 125.5 127.5 2.0' 38.9m 39.5m bleached, altered tuff. 127.5 129.5 2.0 125.5'-129.5' - quartz carbonate stringers, stockwork with

SAWYER CONSULTANTS INC.

Aug. 25-26, 1988 DATE LOGGED \_\_ Golden Glacier Resources Inc. PROPERTY NAME American Creek - AM-1 88-2 HOLE No .... SAMPLE **ASSAYS** FROM RECOVY DESCRIPTION WIDTH 11.9m 19.8m 39.0 65.0 (cont.) 63.0'-65.0' - irregular fracture shear, rusty, oxidized, altered tuff. 19.8m 21.6m 65.0' 71.0' Shear breccia zone, bleached, altered, fragmental volcanics, much fractured, oxidized, rusty planes, quartz carbonate veining and breccia filling. 65.0'-68.5' - shear planes, fractures at 30° to core axis, much bleached, altered, fragmental volcanics, quartz carbonate vein at 85° to core axis at 65.5'; 65.5'-67.0' - breccia with quartz carbonate matrix, very bleached, fragmental volcanics; 68.0' - oxidized, rusty shear plane at 40° to core axis, bleached wall rock. 21.6m 32.6m 11.0m 71.0'107.0'36.0' Fragmental volcanics, pale green to dark green to black, fragments from lapilli to almost cobble size, shear zones with quartz carbonate stringers/veins, quartz carbonate veining. 71.0'-81.0' - pale to medium green fragmental volcanics, increasing fragment size to 81.0', quartz carbonate veining at 71.0', 72.0',

PAGE 5 OF 16

SAWYER CONSULTANTS INC.

88-2

DATE LOGGED	Aug. 25-26, 1988		
COMPANY NAME	Golden Glacier Resources	Inc.	
PROPERTY NAME	American Creek - AM-1		

ROM	то	RECOVY	DESCRIPTION		SA	MPLE	,	ASSAYS						
		INECOVI	DESCRIPTION	FROM	то	WIDTH	No.							
71.0	32.6m 107.0	(cont.)	74.0', 79.5' at $75^{\circ}$ to $80^{\circ}$ to core axis, minor disseminated pyrite											
			in volcanics, increased amounts adjacent to quartz carbonate veins											
1.4			and stringers.											
			81.0'-82.5' - shear zone, quartz carbonate stringers at $30^{\circ}$ to $35^{\circ}$											
			to core axis over 2.5', darker colour fragmental volcanics.											
			82.5'-86.0' - dark coloured fragmental volcanics, much quartz											
			carbonate veining/stringers at 60° to 70° to core axis.											
			86.0'-97.0' - medium green fragmental volcanics, less quartz											
			carbonate veining except from 92.0' to 95.0' where irregular											
			quartz carbonate stringer from 25° to 40° to core axis; 95.5' - 5"											
			quartz carbonate vein at $40^{\circ}$ to core axis, gouge associated.											
			97.0'-107.0' - dark green fragmental volcanics; reddish-maroon											
			hematite alteration becoming more noticeable from 100.0', quartz											
			carbonate veins at 80° to core axis, at 97.0', and at 98.0'		·									
			brecciated slightly, red hematite alteration, quartz carbonate											
			veins at 75° to core axis at 102.2', red hematite alteration in										- X	
			footwall fragmental volcanics, quartz carbonate vein at 45° to											
			core axis at 107.0'.											

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 25-26, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

88-2 HOLE No .\_\_ SAMPLE **ASSAYS** FROM TO RECOVY DESCRIPTION TO WIDTH Fragmental volcanics, red-maroon hematitic alteration, shear zone - fault gouge - oxidized, rusty alteration associated, minor quartz carbonate veining, all generally at 45° to core axis. 108.7'-111.0' - bleached, oxidized shear zone, rust, planes with quartz carbonate veining at 45° to core axis, brecciated from 109.5'-110.2' with quartz carbonate matrix/vein at 25° to core axis. 111.0'-114.2' - red hematitic alteration in matrix of fragmental volcanics. 114.2' - quartz carbonate vein to  $\frac{1}{2}$ " at 45° to core axis. 114.2'-122.0' - fragmental volcanics, minor disseminated pyrite, increasing red hematite alteration to 122.0'. 37.2m 40.2m 3.0m 122.0 132.0 10.0 Fragmental volcanics, sheared, red hematite alteration of fragments in part, quartz carbonate veins, much disseminated pyrite, blebs to 3". 122.0'-123.5' - red hematite altered fragments, fine grained green matrix, quartz carbonate veins at 20 to core axis at 122.5',

PAGE \_\_\_\_\_ OF \_\_\_\_16\_

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 25-26, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

ROPERTYNAME American Creek - AM-1								HOLE	No	88-2		<del></del>		
FROM	то	BECOVY	RECOVY DESCRIPTION			SAMPLE			ASSAYS					
		1	DESCRIPTION	FROM	то	WIDTH	No.							
22.0	132.0	(cont.)	brecciated with red hematite, altered fragments and quartz				*							
			carbonate filling/veins at 20 <sup>0</sup> -45 <sup>0</sup> to core axis, from 122.5'-											
10.5			123.5' - much disseminated pyrite blebs.											
			123.5'-130.0' - similar fragmental tuff, red hematite alteration											
			fragments, quartz-pyrite stringers sub-parallel to core axis to $5^{\circ}$						1.1					
			to core axis from 123.0'-128.0', quartz carbonate stringers at 75°											
			to core axis, 130.0'-132.0' - much disseminated pyrite blebs.											
-														
40.2m 32.0	46.6m 153.0	6.4m 21.0'	Dark green fragmental volcanics, fragments to 6" across, sub-											
			angular to angular in coarser sizes, shear zone at 40° to core											
			axis with quartz carbonate veining, bleached, altered zone											
			associated breccia/shear zone, less coarse fragmental volcanics											
			with red hematite alteration of matrix, much disseminated pyrite						1.1					
		7/2	throughout.											
			132.0' - 2" quartz carbonate vein at 25° to core axis; 132.0'-											
			136.5' - fragmental volcanics, green, disseminated blebs pyrite.											
			136.5'-141.0' - sheared, dark green fragmental volcanics, altered,											
			kaolinized? quartz carbonate veins/stringers throughout from 20°											

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 25-26, 1988	
COMPANY NAME	Golden Glacier Resources	Inc.
	American Creek - AM-1	

88-2 HOLE No.\_ SAMPLE **ASSAYS** TO RECOVY DESCRIPTION WIDTH to 35° to core axis. 141.0'-143.0' - bleached alteration zone around quartz carbonate vein at 45° to core axis, relect texture preserved. 143.0'-153.0' - dark green fragmental volcanics, red hematite alteration in part, coarse fragments, quartz carbonate veins at 145.5' and 151.5' at 30° to core axis. 46.6m 55.2m 8.5m 153.0 181.0 28.0 Dark green to pale green fragmental volcanics, disseminated pyrite throughout, quartz carbonate veins and stringer zones. 153.5'-156.5' - zone quartz carbonate veins at 35° to core axis, at 153.5'-154.5' with quartz carbonate veins/stringers at 50-200 to core axis to 156.5' where cut off by quartz carbonate vein at 85° to core axis, blebs pyrite disseminated throughout. 159.0'-161.0' - lapilli tuff layering at 60° to core axis, actually healed breccia zone. 161.0'-181.0' - medium green fragmental volcanics, fragments to 2", associated volcanic fragments in fine grained green matrix, much disseminated pyrite and blebs pyrite associated with quartz

PAGE 9 OF 16

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 25-26, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

FROM		DECOVA		T	SA	MPLE	********	T T	AS	SAYS			******
1.		RECOVY		FROM	TO	WIDTH	No.						$\Box$
53.0	181.0	(cont.)	carbonate veins, which occur at 165.0', 166.0', 167.5', 175.5',										
			178.0', 180.0' - all at $25^{\circ}$ to $35^{\circ}$ to core axis.										
												1	
55.2m 1.0	56.4m 185.0'	1.2m 4.0'	Bleached altered zone, brecciated shear, quartz carbonate veining										
			at 35° to 40° to core axis, disseminated pyrite.				1 12 12 12 12 12 12 12 12 12 12 12 12 12						
56.4m 5.0	71.3m 234.0	14.9m 49.0'	Pale green to dark green fragmental volcanics, tuffs, altered in										
			part, bleached, porcellaneous in part, quartz carbonate veining,										
9			breccia zones, shear zones, disseminated pyrite and healed shears.										
			185.0'-191.0' - dark green volcanic tuff, quartz carbonate										
			stringers/shears at 30° to core axis, from 185.0'-186.5' non-frag-								- 1		
			mental tuff.										
			191.0'-198.0' - altered, brecciated, porphyry dyke rock, altered										
			but relict feldspar - pyroxene porphyroblasts "ghosts" throughout,										
			silicified, much veined + broken quartz carbonate veins at 191.5									 	
			at 80 $^{\circ}$ , at 193.5' at 70 $^{\circ}$ + 35 $^{\circ}$ , at 194.0' at 80 $^{\circ}$ , at 195.0'-196.0'					1 E					
			series at $75^{\circ}$ , at 197.0' and 198.0' at $80^{\circ}$ and cut by $20^{\circ}$ stringer,										
			disseminated pyrite and incipient feldspathization.										

PAGE 10 OF 16

SAWYER CONSULTANTS INC.

	Aug. 25-26, 1988			
COMPANY NAME	Golden Glacier I	Resources	Inc.	·
PROPERTY NAME _	American Creek -	- AM-1		

			can Creek - AM-1						HOLE	No	88-2			
FROM	то	RECOVY	DESCRIPTION		SA	MPLE			ASSAYS					
				FROM	то	WIDTH	No.			-				
185.0	234.0	(cont.	198.0'-199.5' - parallel 4" & 6" quartz carbonate veins at 30°											
			to core axis.											
			199.5'-201.2' - quartz carbonate veined porphyry dyke, brecciated					100						
			and altered to 201.2', stringers at $80^{\circ}$ to core axis, silicified.											
			201.2'-203.0' - bleached, altered, volcanic tuff, buff-brown colour											
			brecciated quartz carbonate veining at $5^{\circ}$ and $20^{\circ}$ , healing breccia											
			shear, chalcopyrite in quartz carbonate vein at 201.5'.				-							
			203.0'-213.0' - bleached, altered, brecciated tuff, silicified,											
			disseminated pyrite, stringers quartz carbonate and pyrite, carbon-		N.									
			atized to 213.0', veins/stringers at $30^{\circ}$ and $80^{\circ}$ to core axis.											
			213.0'-234.0' - bleached, buff-brown, altered tuff, brecciated and											
			quartz carbonate veined, stringers, generally at $80^\circ$ and $30^\circ$ to				** .							
			core axis. 217.0'-220.0' - buff-brown, fine grained porcellaneous											
			altered tuffs, quartz pyrite stringers at $30^{\circ}$ to core axis - quartz											
			vein at 80° to core axis at 218.0'. 220.0'-227.0' - pale green-											
			buff altered volcanic tuff, diffuse boundaries to quartz carbonate		·									
		ai .	veins at 80° to core axis. 227.0'-234.0' - pale green-buff tuff,											
			less veining. 1.0' shear at 227.0' at 45° to core axis, quartz	2 4										

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 25-26, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1 88-2 HOLE No .\_ SAMPLE ASSAYS FROM TO RECOVY DESCRIPTION HTOIW 55.4m /1.3m 185.0'234.0'(cont.) pyrite stringers at 30° to core axis. 71.3m 76.05m 4.4m 234.0'249.5' 14.5' Pale green, buff-brown, porcellaneous, bleached, altered tuff, major breccia zone, very brecciated - silicified, healed quartz very strongly silicified, almost replacement tuff fragments, very broken, brecciated, major quartz veins at 70° to core axis. 234.0'-246.0' - buff coloured, very strongly silicified breccia zone, disseminated pyrite, quartz veining, + breccia matrix, quartz veins at 235.6' at 80° to core axis, at 237.0' at 70° to core axis, from 237.0'-238.0' at  $20^{\circ}$  to core axis, and at  $70^{\circ}$  to core axis at 238.0', at 239.0'-239.5' at  $70^{\circ}$  to core axis, at 241.0' and 242.2' at 75° to core axis with much diffuse stringers. 246.0'-249.5' - pale green-buff, porcellaneous, highly silicified tuff, disseminated pyrite, much shattered tuff breccia fragments, quartz veining, diffuse, generally at 650-800 to core axis. 76.05m 80.6m 249.5'264.5' Black, sheared, brecciated argillite with mafic quartz carbonate veining, horsts of buff-brown-green, porcellaneous, bleached tuff,

PAGE 12 OF 16

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 25-26, 1988

COMPANY NAME Golden Glacier Resources Inc.

PROPERTY NAME American Creek - AM-1

HOLE No. 88-2

ROM	то	RECOVY	0500007001		SA	MPLE			ASSAYS						
1			DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn			
76.05 19.5	80.6 264.5	(cont.)	very brecciated and silicified, dark grey, fine grained siltstone,		i.			oz/ton	oz/ton		9	3			
			quartz veining, disseminated pyrite.												
			249.5'-251.0' - black, sheared argillite with breccia fragments of												
			bleached tuff, contact at 249.5' at 40° to core axis, shear planes												
			of breccia fragments at same angle to core axis as far as 251.0'.												
			251.0'-252.0' - massive quartz carbonate vein, incorporating	76.5m 251.0'	76.8m 252.0'	1.0'									
1			argillite fragments along shear planes, slickensides at $40^{\circ}$ to												
			core axis, some disseminated pyrite, last 0.2' to 252.0' is black												
			gouge, clay, mud with quartz fragments.												
İ			252.0'-253.0' - change to dark grey siltstone, fine grained - no												
			attitudes, minor quartz carbonate stringers at 50° to core axis												
			at 252.2'.												
			253.0'-257.6' - dark grey siltstone, very broken from 253.0'-254.5',												
			from 257.4'-257.6' is black argillite with quartz fragments,											Γ	
	1 1 1 1		contact at 257.4' to grey siltstone at 55° to core axis, contact												
			at 257.6' to bleached tuff at 80° to core axis.												
			257.6'-260.5' - bleached, altered buff-brown tuff, silicified,												
1			contact at 260.5° at 60° to core axis, sharp.												

SAWYER CONSULTANTS INC.

DATE LOGGED Aug. 25-26, 1988

COMPANY NAME Golden Glacier Resources Inc.

ROPERTY NAME American Creek - AM-1							HOLE	HOLE No. 88-2						
FROM	то	RECOVY	DESCRIPTION			MPLE			AS	SAYS	S		,	
76.05m	80.6m	(cont.)		FROM	то	WIDTH	No.						<b> </b>	
	201.3	(000.7)	and from 261.5'-264.5' with quartz carbonate veins at 80° to core			-								
			axis at 262.3', quartz stringers at 70° to core axis from 262.5'-											
			264.5'.											
						<u> </u>	*					<del>                                     </del>		
0.6m 4.5	83.8 <b>*</b> 275.0'	3.35m 11.0	Dark grey siltstone, disseminated pyrite, quartz stringers at high											
			angles to core axis, black argillite partings to 0.1' to 0.2',											
			gouge in part, broken ground - sheared to 275.0'.											
			267.0'-267.2' - black argillite parting at 75° to core axis.	1, .										
			270.0'-270.3' - black argillite parting at 70° to core axis,											Γ
			sheared and now black clay gouge, appears graphitic.										e de jaron Seri	
			271.0'-272.2' - black argillite, parting at 70° to core axis.											
			273.0'-274.5' - broken ground, grey siltstone.					1 1 1						
			274.5'-275.0' - black sheared argillite, gouge, graphitic, pyrite.											
3.8m 5.0'	86.25m 283.0'	1.8m 6.0'	Brecciated quartz carbonate vein, black shale/argillite/graphite											
			partings, at high angles, hangingwall contact at $70^{\circ}$ to core axis,											
		with the	very broken ground, pebbly "marbles" to grey siltstone, very											

PAGE 14 OF 16

SAWYER CONSULTANTS INC.

DATE LOGGED	Aug. 25-26, 1988	
COMPANY NAME .	Golden Glacier Resources Inc.	
PROPERTY NAME	American Creek - AM-1	***************************************

grey siltstone, fractured.

88-2 HOLE No. SAMPLE FROM RECOVY **ASSAYS** DESCRIPTION TO WIDTH No. Αu Ag Cu Pb 83.84 86.25 z/tonoz/ton 275.0'283.0' (cont.) broken in part. 83.8m 84.12m 275.0'-277.0' - quartz carbonate vein, minor disseminated pyrite. 275.01276.01 1.0' 84.12m 84.4m 277.0'-281.5' - broken ground up pebbles, quartz carbonate vein |276.0||277.0|| 1.0| material. 281.5'-283.0' - dark grey siltstone, broken. 86.25 89.3m 2.3a 283.0 293.0 Black, brecciated argillite, quartz-siderite-carbonate vein with 7.51 sulphides - pyrite, chalcopyrite, minor galena, broken vein material, dark grey siltstone, broken in part, minor quartz stringers. 86.4m 86.7m 283.0'-289.0' - 3.5' recovered, at 283.0' - 6" broken black 283.5 284.5 1.01 86.7m 87.0m argillite, siliceous, sheared, then 2.0' solid core, upper 6" in 284.5 285.5 1.0' quartz siderite - carbonate vein with hangingwall sheared black argillite with quartz fragment, quartz siderite vein at 50° to core axis, - 0.35' thick - true width banded, vuggy quartz siderite vein, vein pyrite with abundant chalcopyrite at 50° to core axis, speck galena noted. 285.9'-289.0' - about 2.0' broken ground,

PAGE 15 OF 16

SAWYER CONSULTANTS INC.

Aug. 25-26, 1988 DATE LOGGED \_\_ COMPANY NAME Golden Glacier Resources Inc. PROPERTY NAME American Creek - AM-1 88-2 HOLE No.\_\_\_ SAMPLE **ASSAYS** FROM TO RECOVY DESCRIPTION WIDTH 86.25m 89.3m 283.0'293.0'(cont.) 289.0'-293.0' - dark grey siltstone, less broken, quartz carbonate vein at 291.0' at 60° to core axis. 89.3m 90.8m 293.0'298.0' Dark grey siltstone, solid core, quartz carbonate veins at 294.0' at 45° to core axis and at 296.0' and 297.5' at 50° to core axis. 298.0' - end of hole.

COLLAR:	HOL	E SURVEY			
Metric: 3+60N	METHOD:				
0+95E	FOOTAGE	AZIMUTH	DIP		
ELEVATION 4210' ASL	0	085	-50°		
CORE SIZEBQ					
LOGGED BY Gordon D. House	T				
DATE LOGGED Aug. 27-29, 1988					
MAP REFERENCE No. 104 A/5					
	1				

CAMVE	D.	CONCL	LTANTO		110
SAWYE	л	CONSU	LIANIS	1	NL.

COMPANY NAME _	GOLDEN GLACIER RESOURCES INC.	
PROPERTY NAME.	American Creek - AM-1	
PRILLING CONTRA	ACTOR Len's Drilling Ltd.	
ASSAYER Bond	dar-Clegg & Company Ltd.	
PURPOSE OF HOL	E To test depth extension of surface veins	

HOLE No.	88-3				
CLAIM NAME/No.					
COMMENCED					
FINISHED	Aug.	28.	1988		
FINAL DEPTH	253.	01 77	7.1m	2.34.4	
PROJECT No					
***************************************					

FROM	то	RECOVY	DESCRIPTION		SA	MPLE				ASSAYS			
				FROM	то	WIDTH	No.		Γ	I	T		
o	4.9m 16.0		Casing, 1½' boulder cored.										
							<del></del>						
4.9m 16.0'	9.4m 31.0'	4.6m 15.0'	Fine grained, pale green-buff, altered, bleached tuff, dissemi-				<del></del>						
			nated pyrite, quartz carbonate veining, surface oxidation along										
			fractures to 25.0°, quartz carbonate veining at 30° to core										
	F		axis, quartz carbonate stringers.										
			16.0'-20.5' - fractured surface oxidation, discolouration of										
			carbonate to brown-rust, quartz carbonate vein to 5" at 19.5',										
			disseminated pyrite throughout.										
			20.5'-23.5' - pale green colouration, fine grained, more quartz	7.0m 23.0	7.62m 25.0	2.0'	<del>-</del>						
			carbonate/siderite veins at 20.5' at 40° to core axis, at 23.2'	7.62m 25.0	7.92m 26.0	1.0'						,	 
			at 40° to core axis + 23.5', pyrite, galena, sphalerite, minor										
£			chalcopyrite.			2							
			23.5'-23.8' - quartz carbonate brecciated vein at 40° to core				1						
			axis, pyrite stringers, minor sphalerite, galena.										

SAWYER CONSULTANTS IN

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DATE LOGGED	Aug. 27-29, 19	38	
COMPANY NAME	Golden Glacier	Resources In	c.
PROPERTY NAME	American Creek	- AM-1	

ROPER	ROPERTYNAME American Creek - AM-1								HOLE No. 88-3								
FROM	то	RECOVY	DESCRIPTION		SA	MPLE		T	AS	SAYS			**********				
			DESCRIPTION	FROM	то	WIDTH	No.										
16.0	31.0	(cont.)	23.8'-24.2' - brecciated, pale green volcanic, altered pyrite.														
			24.2'-24.8' - quartz siderite vein at 40° to core axis, two														
			parallel veins, blebs galena, sphalerite and chalcopyrite in quartz.										in ell				
			25.1' + 25.7' - narrow quartz carbonate vein at 80° to core axis.				•										
			26.8'-26.9' - quartz carbonate, brecciated vein at 80° to core axis.														
0.7	<del></del>						:										
9,4m 31.0	16.1m 53.0	6.7m 22.0'	Medium to dark green volcanic tuff, fragmental in part, bleached														
			in part, much disseminated pyrite, quartz carbonate veins and														
			stringers throughout, carbonatized.														
			31.0'-36.0' - medum green, altered volcanic tuff, disseminated														
			pyrite, contorted quartz stringers, minor sericite alteration,														
			breccia zone at 31.5', 4".								1 1 1 1						
			36.0'-38.0' - buff-brown, bleached alteration, quartz carbonate														
			vein at 36.5' at 30° to core axis, minor sphalerite, pyrite.														
			36.8'-37.2' - series of quartz healed fractures at 30° to core	3.1													
			axis, pyrite filled, also black gouge.					- 1 P	- 1- 1-								
			38.0'-46.5' - darker green, altered mafic dyke, relict altered														
			mafic mineral crystal shapes - dark green-black, ghost texture														

42.2m 43.3m

138.5 142.0 3.5

SAWYER CONSULTANTS INC.

PROPER	TY NAM	E Amer	ican Creek - AM-1						HOLE	No	88-6			4
FROM	то	RECOVY	DECODIFICAL AND ADDRESS OF THE PROPERTY OF THE		SA	MPLE		1	AS	SAYS		<del>1 7/1 (1984)</del>	<del></del>	
			DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn	T	T
	42.9m 140.8	(cont.)	sphalerite, galena and minor chalcopyrite - all at from 30°-50° to											
			core axis.											
			129.5'-130.0' - breccia zone, fracture zone - rusty, oxidized,											
			weathered.											
			130.0'-131.0' - very broken, oxidized, rusty zone, brecciated,											
4			gouge and mud, sulphides leached - fractures at approx. 45° to								11 11 11			
			core axis.				-							
			131.0'-132.5' - quartz carbonate siderite veins at 80° to core											
			axis, vuggy, sulphides, sphalerite, galena partly oxidized and											
			leached.		40.5m 133.0									
			133.0'-140.0' - bleached, fine grained tuff, silicified, narrow	1	41.1m 135.0	, ,								
			quartz carbonate or quartz siderite stringers veins - stockwork,	1	41.8m 137.0									

quartz carbonate or quartz siderite stringers veins - stockwork, with sphalerite, galena and minor chalcopyrite - all from 75° to 90° to core axis - from 137.0'-138.0' band of fragmental tuff,

138.0'-140.0' - quartz carbonate siderite stringers at 65°-75°

fragments to 25 mm - bleached, no veining or sulphides.

Sept. 1-2, 1988

Golden Glacier Resources Inc.

to core axis.

DATE LOGGED

COMPANY NAME

PAGE 5 OF 9

SAWYER CONSULTANTS INC.

DATE LOGGEDSep	t. 1-2, 1988	<u> </u>		
COMPANY NAMEGOL	den Glacier Resources Inc.			
PROPERTY NAMEAme	rican Creek - AM-l			HOLENO

FROM	то	RECOVY	DECORIOTION		SA	MPLE			AS	SAYS			 
71			DESCRIPTION	FROM	то	WIDTH	No.	Au	Ag	Cu	Pb	Zn	7
42.9m 40.0'	43.3m 142.0		Brecciated shear fracture zone, quartz carbonate veined at 85°										
			to core axis on hangingwall contact, quartz carbonate siderite vein										
			to 2" at 80° to core axis, chalcopyrite.										
							4.						
43.3m 42.0	46.9m 154.0'	3.04m 10.0	Dark grey siltstone, black argillite, quartz stringers at 80° to										
			core axis to 145.0'.										
			146.0'-148.0' - brecciated black argillite, broken ground.										
			149.0'-150.0' - quartz carbonate veining at 80° to core axis,	45.4m 149.0	45.7m 150.0'	1.0'							
			to ½", with galena, sphalerite.										
			150.0'-154.0' - black argillite, very broken, fractured, quartz										
			carbonate vein at 153.2' at 75° to core axis, 2" width, lost core.										
6.9m	47.7m	0.7m 2.4'	Dark grey siltstone, clay gouge at 154.0', quartz carbonate										
			stringers at 50° to core axis at 155.8', contact to altered				,						
			volcanics at 156.4' at 30° to core axis.										
7.7m 6.4'	48.5m 159.0'	0.8m 2.6°	Pale green, silicified altered tuff, quartz stringers at 30° to										
			core axis at 158.0', minor disseminated pyrite.										

PAGE \_\_\_\_6\_\_\_ OF \_\_\_9\_\_\_

SAWYER CONSULTANTS INC.

DATE LOGGED	Sept. 1-2, 1988		
COMPANY NAME _	Golden Glacier Resources Inc.		
PROPERTY NAME	American Creek - AM-1		

FROM	то	RECOVY	DESCRIPTION		SA	MPLE			AS	SAYS				- : :
70 E-	49.07m	1	JEGOTH FION	FROM	το	WIDTH	No.	Au	Ag	Cu	Pb	Zn		1
59.0'	161.0	1.5	Dark grey siltstone, to black fractured argillite, from 161.0' -				1							
			quartz carbonate vein $\frac{1}{2}$ " at 65 $^{\circ}$ to core axis then black argillite											
			with quartz carbonate vein and stringers at 25°-30° to core axis.											
1														
.07 <b>=</b>	49.9m 164.0'	0.9m 3.0'	Pale green, altered tuff, increased content feldspar crystals,											
			diffuse borders, minor disseminated pyrite, contact at 161.0'											
			to black argillite at 50° to core axis.											
													A .	
9.9m 4.0'	53.0m 174.0	3.04m 10.0'	Pale green altered tuff, increased carbonatization noted, quartz											
			carbonate stringers at $30^{\circ}$ to core axis with bleached alteration											
			halo to 3", from 164.0' to 165.0', then series quartz veins at											
			45° to core axis, bleached halos, minor disseminated pyrite.											
			165.0'-168.0' - fractured, altered tuff, quartz carbonate filling											
			at 166.0'-167.5'.											
			168.0'-171.5' - narrow stringers quartz and quartz carbonate	51.2m 168.0	51.8m 170.0'	2.0'								
			with sulphides, sphalerite, galena, at 171.5 oxidized quartz	51.8m 170.0	52.4m 172.0'	2.0								
			carbonate siderite vein, ½", with sphalerite, chalcopyrite.	52.4m 172.0	53.0m 174.0'	2.0'								
			171.5'-174.0' - similar, stringers quartz carbonate with											

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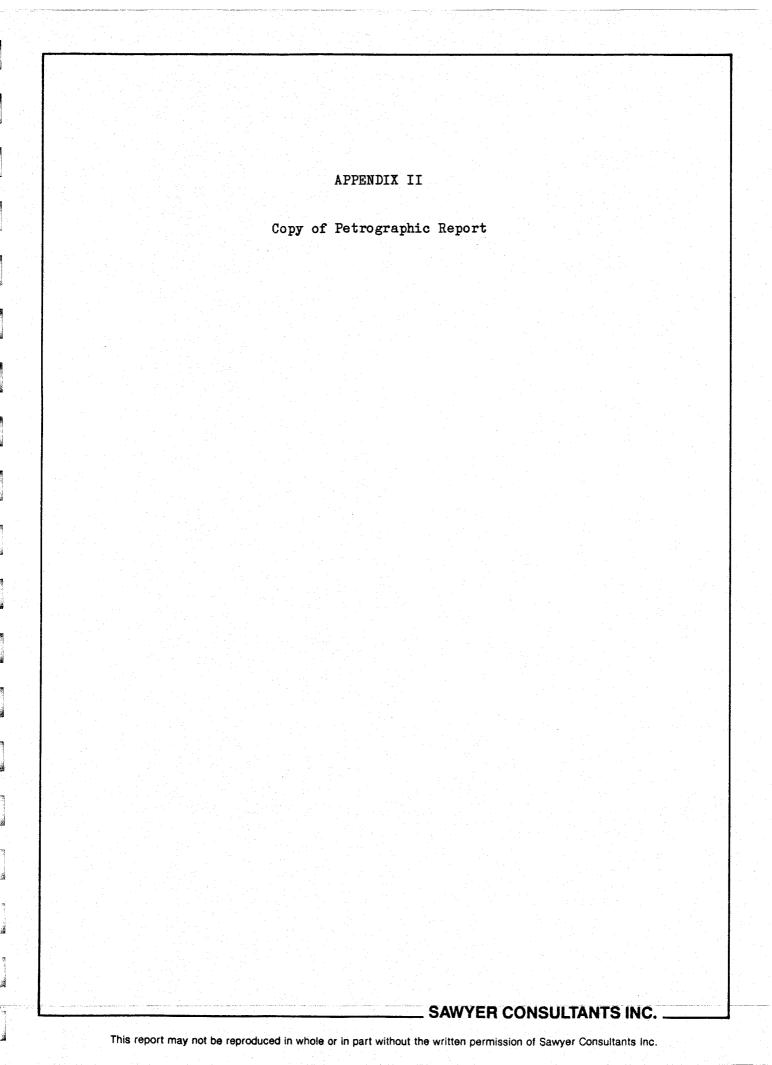
Sept. 1-2, 1988 DATE LOGGED Golden Glacier Resources Inc. COMPANY NAME American Creek - AM-1 PROPERTY NAME 88-6 HOLE No .. SAMPLE **ASSAYS** FROM TO RECOVY DESCRIPTION TO WIDTH Au Cu 164.0 174.0 (cont. sphalerite, chalcopyrite. 53.0m 53.9 0.9m 174.0 177.0 3.01 Black argillite, banded - graded bedding with pyrite crystals at base beds in coarser silt - sandstone sizes, banding at 25° to core axis. 55.0m 1.1m 177.0 180.5 Dark grey siltstone, fractured in part, minor quartz carbonate stringers. 55.0m 55.6m 0.6 Quartz carbonate veins at 80°-85° to core axis, galena, sphalerite, 180.5 182.5 2.0' 55.0m 55.6m minor chalcopyrite vein at 180.5'-180.7' and 181.7'-182.0', 180.5 182.5 2.0 quartz stringers at 20° to core axis between. 55.6m 57.3m 1.8m 182.5 188.0 6.0 Dark grey siltstone, black argillite band at 185.0'-185.5' at 30° to core axis. 57.3m | 57.9m 0.6 Quartz carbonate veins at 25° to 30° to core axis in grey silt-188.0 190.0 2.0 stone, minor disseminated pyrite, quartz stringers.

SAWYER CONSULTANTS INC.

PAGE 9 OF 9

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-HUPE)	11 Y NAMI	E MMEI.	ican Creek - AM-1						HOLE	No	88-6	 	<del></del>
FROM	то	RECOVY	DESCRIPTION			MPLE			AS	SAYS			
57.9m	60.3m	2.4m 8.0	Dark grey siltstone, uniform composition and size, at 193.5' and	FROM	то	WIDTH	No.		-				
			194.5' are quartz stringer veins at 20° to core axis, no sulphides.										
		£ 11	60.3m 198.0' - end of hole.										
							· .						
						·							
	*												
			RSOCIATION										
			32										
			GORDON D. HOUSE A					1					
			S. J. Williams										
			WELLOW!										1 1
						- 2							
1 1													





# Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
A.L. LITTLEJOHN, M.Sc. Geologist
JEFF HARRIS, Ph.D. Geologist

P.O. BOX 39 8887 NASH STREET FORT LANGLEY, B.C. VOX 1JO

PHONE (604) 888-1323

Report for:

Gordon House,

Sawyer Consultants Inc.,

701-525 Seymour St.,

Vancouver, B.C.

V6B 3H7

Invoice 7688

October 12th, 1988

### Samples:

Two drill core samples, numbered 88GH-G1 and G2, for sectioning and petrographic examination. The samples were prepared as polished thin sections.

### Summary:

Sample Gl is an intensely altered, fine-grained, andesitic volcanic - possibly a tuff. It is now composed largely of ankeritic carbonate and sericite. It contains sparse, disseminated pyrite.

Sample G2 is of vein aspect, and consists of an aggregate of sparry siderite with accessory quartz. Minor sulfides are principally chalcopyrite, as tiny, microfracture-controlled threads and specks in the siderite. Traces of several other sulfides are associated, and the assemblage includes fine-grained (10 - 15 microns) native gold or electrum.

Individual petrographic descriptions are attached.

J.F. Harris Ph.D.

(phone: 929-5867)

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SAWYER CONSULTANTS INC.

### Sample 88GH-G1

### CARBONATED VOLCANIC (TUFF?)

Din 88-4-105

### Estimated mode

Felsitic	plagioclase	25
	Chlorite	10
	Sericite	12
	Quartz	1
	Carbonate	50
	Sphene)	1
	Rutile)	
	Pyrite	1

This sample is a very fine-grained, intensely altered rock of uncertain origin.

It is composed of minutely fine-grained, felsitic material (plagioclase) with varying proportions of intergrown chlorite, in intimate, patchy intergrowth with diffuse, wispy sericite and micritic carbonate.

The distribution of these components defines a small-scale, crypto-fragmental or relict porphyritic texture which suggests probable origin of the rock as a volcanic - possibly an andesitic tuff. Coarser fragmental features (brecciation?) are weakly distinguishable in the etched cut-off block.

Accessory rutile and leucoxene form irregular wisps and scattered clumps.

The rock is cut by a few more or less diffuse, thread-like segregations of slightly coarser carbonate.

Sulfides consist of sparse, randomly disseminated, individual grains of euhedral pyrite, 0.05 - 0.3mm in size. These appear homogenous, but for rare, minute inclusions of rutile and silicate matrix. The pyrite grains are typically fringed by fibrous, cherty quartz.

No accessory sulfides or gold were seen.

The pervasive carbonate in this rock was found, by XRD, to consist of <u>ankerite</u>. A few of the more clearly defined veinlets are reactive to dilute acid, and are presumably calcitic.

### Sample GH88-G2 SPARRY SIDERITE WITH MINOR SULFIDES

DDH-88-7-135

Estimated mode

Quartz 8 90 Siderite Calcite 1 Chalcopyrite 1 Galena trace Tetrahedrite trace Pyrite trace Sphalerite trace Gold trace

This sample consists essentially of a coarse, anhedral aggregate of sparry, pale brown carbonate. Grain size ranges up to 3 or 4mm.

The carbonate was identified by XRD scan as siderite.

Accessory quartz forms interstitial pockets, and occasional veinlets and/or intergranular fillings, in the siderite aggregate.

A minor phase of a different carbonate also forms hairline veinlets, sometimes associated with the quartz. This is reactive to dilute acid, and is presumably calcite.

The sample contains sparsely scattered sulfides. These are principally chalcopyrite, sometimes with associated tiny inclusions or intergrowths of galena and tetrahedrite. Rare sphalerite is also seen.

The chalcopyrite forms grains and pockets 10 microns to 1mm or more in size, clearly controlled by the same micro-fracture network that defines the hairline calcite and quartz threads. The sulfides sometimes form segments of these same veinlets.

Pyrite occurs as occasional small groups of tiny subhedral grains, moulded around by chalcopyrite, and sometimes having inclusions of galena.

Two instances of native gold (or electrum) were seen. One is a 15 micron inclusion in chalcopyrite moulded onto pyrite, and the other is a 10 micron bleb within pyrite.

# APPENDIX III Assay Summary Sheets and Copy of Certificate of Analysis

\_ SAWYER CONSULTANTS INC.

Project Name: American Creek, AM - Victoria K

Month

Year

Company:

Golden Glacier Resources Inc.

August

1988

a. J									
Assay No.	D.D.H. No.	Footage	Width	Au oz/ton	Ag oz/ton	Cu %	Pb %	Zn %	
39326 39327	88-1	218.0'-219.0' 219.0'-221.0'	1.0'	0.007 0.002	0.04 0.20	0.01 0.03	<0.01 <0.01	<0.01 <0.01	
39328 39329		221.0'-222.0' 222.0'-223.0'	1.0' 1.0'	0.005 0.175	0.25 4.02	0.02 0.80	0.02	0.05 0.09	
39330		223.0'-225.0'	2.0'	0.004	0.23	0.04	0.02	0.16	

5 Samples Bondar-Clegg Report V88-07419.4

Project Name: American Creek AM-1

Month

Year

Company:

Golden Glacier Resources Inc.

August

1988

Assay No.	D.D.H. No.	Footage	Width	Au oz/ton	Ag oz/ton	Cu %	Pb %	Zn %	
			The state of the s						
39331	88-2	8.5'-9.5'	1.0'	0.003	0.05	<0.01	0.04	0.09	
39332 39333		9.5'-10.5' 10.5'-12.5'	1.0' 2.0'	0.003 0.004	0.07 0.10	0.01 0.03	0.02 0.02	0.10 0.08	
39334		18.0'-19.0'	1.0'	<0.002	0.07	<0.01	0.12	0.16	
39335		20.0'-22.0'	2.0'	0.007	0.14	<0.01	0.08	0.23	
39336		22.0'-24.0'	2.0'	0.003	0.25	0.01	0.06	0.25	
39337		24.0'-26.0'	2.0'	<0.002	0.12	<0.01	0.06	0.36	
39338		26.0'-28.0'	2.0'	<0.002	<0.02	<0.01	<0.01	<0.01	
39339		251.0'-252.0'	1.0'	<0.002	0.04	<0.01	0.01	0.03	•
39340		275.0'-276.0'	1.0'	<0.002	<0.02	<0.01	<0.01	<0.01	
39341		276.0'-277.0'	1.0'	<0.002	<0.02	<0.01	<0.01	<0.01	
39342		283.5'-284.5'	1.0'	0.047	2.52	0.23	0.11	0.13	
30343		284.5'-285.5'	1.0'	<0.002	0.05	<0.01	<0.01	0.11	

13 Samples Bondar-Clegg Report V88-07419.4

Company: Golden Glacier Resources Inc. 1988 August D.D.H. Assay Au Ag Cu Pb Zn No. Width % No. Footage oz/ton oz/ton % % 2.0' 88-3 23.0'-25.0' 39345 <0.002 0.08 <0.01 0.06 0.49 39346 25.0'-26.0' 1.0' 0.012 0.22 0.60 0.07 0.18 39347 49.0'-50.5' 1.5' 0.002 0.03 <0.01 0.02 0.07 39348 53.0'-54.5' 1.5 <0.002 <0.02 <0.01 <0.01 <0.01 <0.002 39349 58.5'-59.5' 1.0' 0.14 <0.01 0.01 0.04 59.5'-61.0' 39350 1.5" <0.002 0.04 <0.01 0.01 0.19 65826 2.5' 63.0'-65.5' 0.004 0.08 0.01 0.01 0.11 65827 65.5'-67.0' 1.5' <0.002 0.03 <0.01 0.01 0.11 1.0 65828 67.0'-68.0' <0.002 0.03 <0.01 0.01 0.03 65829 68.0'-70.0' 2.0' 0.003 0.03 <0.01 0.02 0.19 65830 70.0'-72.0' 2.0' <0.002 0.04 0.01 <0.01 0.01 1.0' 65831 76.0'-77.0' 0.011 0.37 0.29 0.02 0.17 1.0' 65832 77.0'-78.0' 0.102 3.58 0.57 0.07 0.10 78.0'-79.0' 65833 1.0' 0.002 0.09 0.01 0.01 0.02 65834 86.0'-87.0' 1.0' <0.002 0.12 <0.01 0.04 0.20 65835 102.5'-104.0' 1.5' 0.030 1.28 0.08 0.62 0.01 65836 104.0'-105.0' 1.0' <0.002 0.13 0.01 0.02 0.06 65837 113.0'-114.0' 1.0 0.042 0.18 0.02 0.04 0.20 65838 126.0'-128.0' 2.0' <0.002 <0.02 <0.01 <0.01 <0.01 128.0'-130.0' 2.0' <0.002 65839 0.06 <0.01 0.06 0.18 65840 131.5'-132.5' 1.0' <0.002 0.06 <0.01 0.09 0.20 65841 167.0'-168.0' 1.0' <0.002 0.04 0.03 0.01 0.02 201.0'-202.0' 65842 1.0' <0.002 <0.02 <0.01 <0.01 <0.01 202.0'-204.0' <0.002 <0.02 65843 2.0' <0.01 <0.01 <0.01 222.5'-223.5' 1.0' 0.10 65844 0.033 0.41 0.02 0.50 223.5'-225.0' 1.5' 0.002 0.04 0.06 65845 0.12 <0.01

Month

Year

26 Samples
Bondar-Clegg Report V88-07419.4

Project Name:

American Creek AM-1

Project Name:

American Creek AM-1

Month

Year

Company:

Golden Glacier Resources Inc.

August

1988

	ssay No•	D.D.H. No.	Footage	Width	Au oz/ton	Ag oz/ton	Cu %	Pb %	Zn %	
أدعا	*									
6	5846	88-4	17.0'-18.0'	1.0	0.013	0.08	<0.01	0.07	0.15	
6	5847		19.5'-20.5'	1.0'	0.021	0.24	<0.01	0.33	1.30	
t. 1	5848		22.0'-23.0'	1.0'	0.006	0.18	<0.01	0.26	0.56	
	5849		59.0'-60.7'	1.7'	0.027	0.55	0.21	0.04	0.13	
89	5850 9026		84.0'-86.0' 86.0'-88.0'	2.0' 2.0'	0.006 <0.002	0.09 0.03	0.01 <0.01	0.06 <0.01	0.12 0.07	
89	9027		88.0'-90.0'	2.0'	0.004	0.13	<0.01	0.07	0.39	
89	9028		96.0'-98.0'	2.0'	<0.002	0.51	0.01	0.02	0.04	
89	9029		116.0'-117.0'	1.0'	0.008	0.19	0.03	0.06	0.52	
89	9030		120.6'-121.6'	1.0'	0.002	4.51	0.03	0.04	0.34	
	9031 9032		128.5'-130.0' 130.0'-132.0'	1.5' 2.0'	0.168 0.084	0.74 1.55	0.31 0.26	0.20 0.10	0.02 0.15	
89	033		133.0'-136.0'	3.0'	0.151	15.94	0.40	0.06	0.01	

13 Samples
Bondar-Clegg Report V88-07419.4

Project Name: American Creek AM-1

Month

Year

Company:

Golden Glacier Resources Inc.

August

1988

Assay No.	D.D.H. No.	Footage	Width	Au oz/ton	Ag oz/ton	Cu %	Pb %	Zn . %	
							-		
89034 89035	88-5	126.0'-127.5' 127.5'-129.0'	1.5' 1.5'	<0.002 <0.002	0.19 0.17	0.02	0.02	0.03 0.42	
89036		130.5'-132.5'	2.0'	<0.002	0.04	<0.01	0.04	0.08	
89037		134.0'-136.0'	2.0'	<0.002	<0.02	<0.01	0.01	0.01	
89038		145.0'-147.0'	2.0'	<0.002	<0.02	<0.01	0.01	0.01	
89039		153.0'-155.0'	2.0'	<0.002	<0.02	<0.01	0.01	0.03	
89040		158.0'=160.0'	2.0'	<0.002	0.09	<0.01	0.10	0.18	•
	89034 89035 89036 89037 89038 89039	No. No.  89034 88-5 89035 89036 89037 89038 89039	No. No. Footage  89034 88-5 126.0'-127.5' 89035 127.5'-129.0' 89036 130.5'-132.5' 89037 134.0'-136.0' 89038 145.0'-147.0' 89039 153.0'-155.0'	No.       Footage       Width         89034       88-5       126.0'-127.5'       1.5'         89035       127.5'-129.0'       1.5'         89036       130.5'-132.5'       2.0'         89037       134.0'-136.0'       2.0'         89038       145.0'-147.0'       2.0'         89039       153.0'-155.0'       2.0'	No.       No.       Footage       Width       oz/ton         89034       88-5       126.0'-127.5'       1.5'       <0.002	No.       No.       Footage       Width       oz/ton       oz/ton         89034       88-5       126.0'-127.5'       1.5'       <0.002	No.     No.     Footage     Width     oz/ton     oz/ton     %       89034     88-5     126.0'-127.5'     1.5'     <0.002	No.       Footage       Width       oz/ton       oz/ton       %         89034       88-5       126.0'-127.5'       1.5'       <0.002	No.     No.     Footage     Width     oz/ton     oz/ton     %     %       89034     88-5     126.0'-127.5'     1.5'     <0.002

<sup>7</sup> Samples

Bondar-Clegg Report V88-0719.4

Project Name: American Creek AM-1

Month

Year

Company:

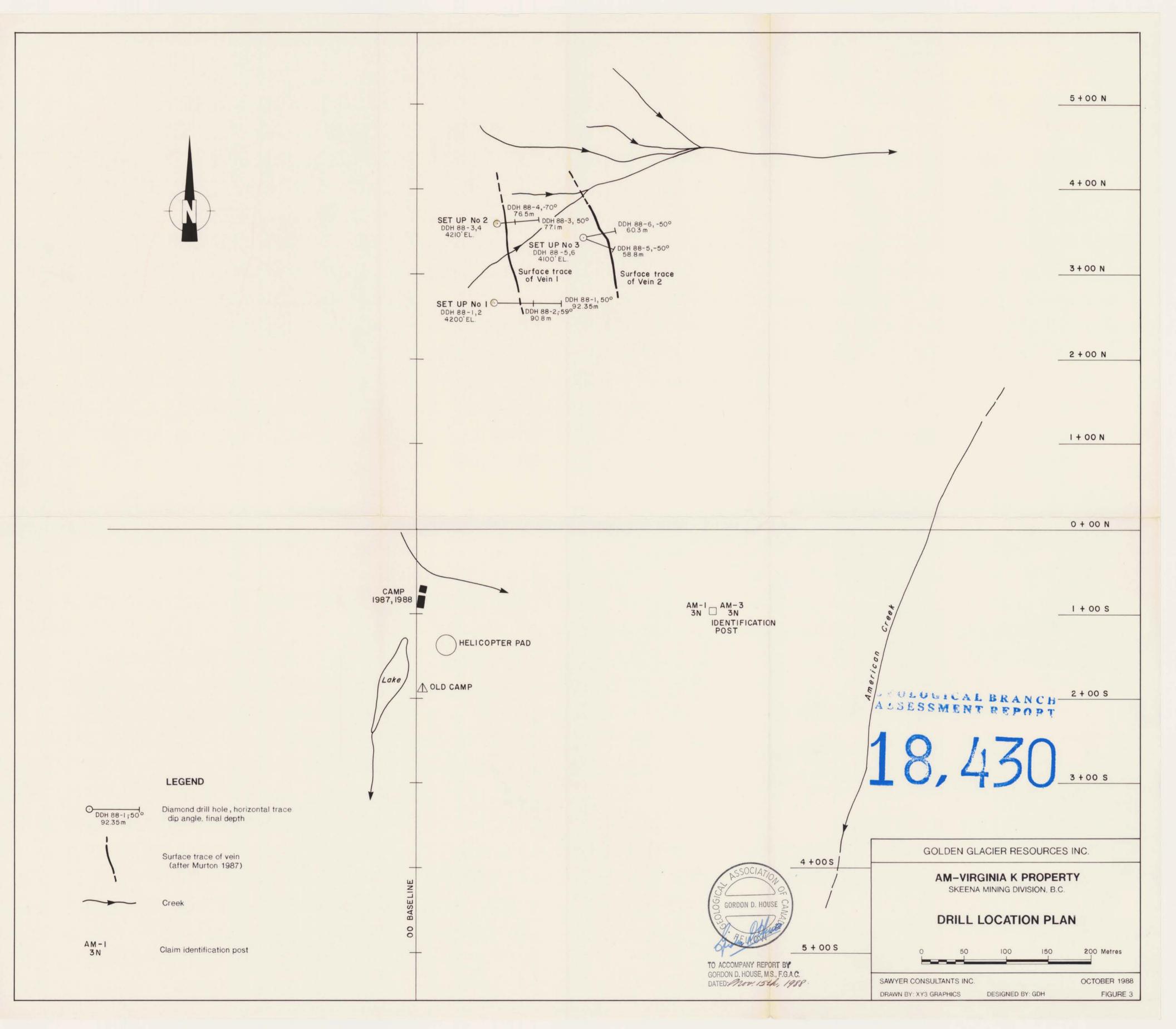
Golden Glacier Resources Inc.

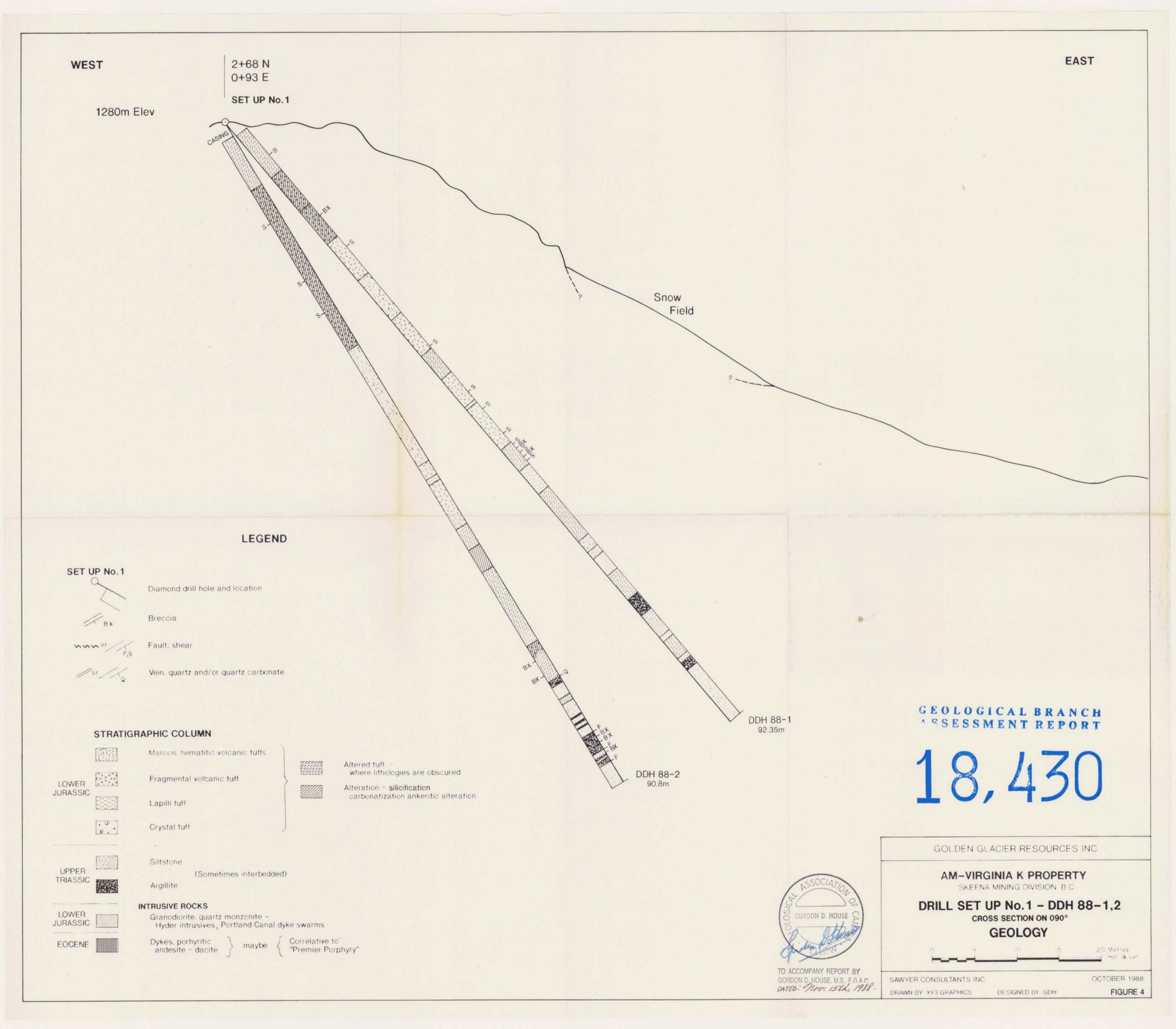
August

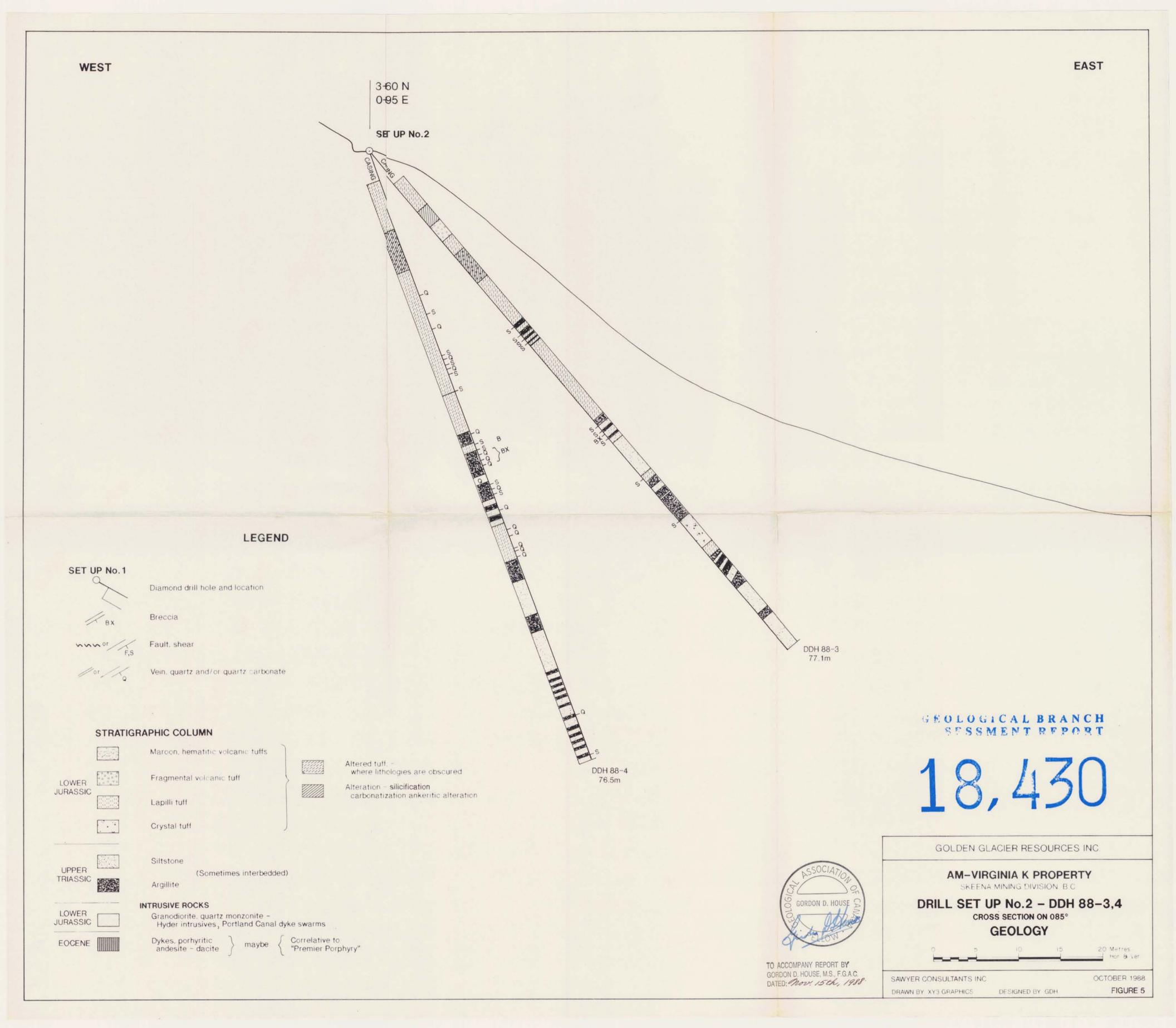
1988

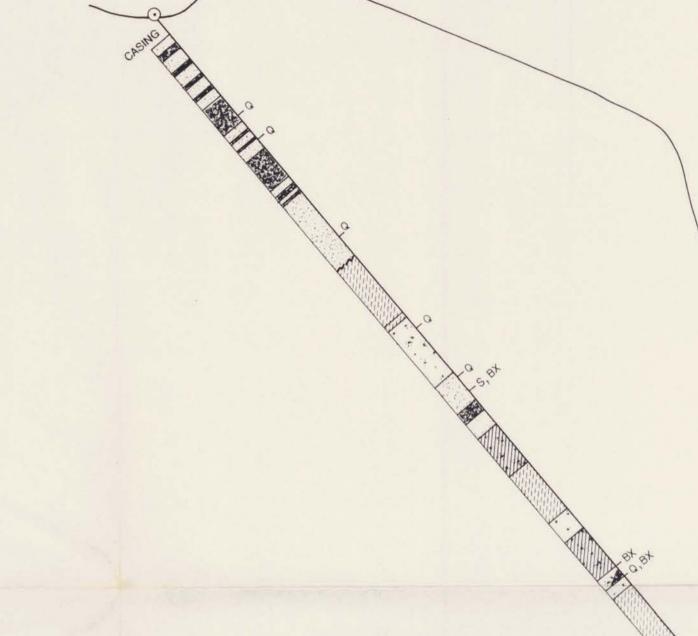
	Assay No.	D.D.H. No.	Footage	Width	Au oz/ton	Ag oz/ton	Cu %	Pb %	Zn %	
<b>F</b> 4	89041	88-6	123.0'-125.5'	2.5'	<0.002	0.05	<0.01	<0.01	<0.01	
	89042		125.5'-127.5'	2.0'	<0.002	0.05	<0.01	0.03	0.06	
أشيعاً	89043		127.5'-129.5'	2.0'	<0.002	0.06	<0.01	0.04	0.05	
	89044		131.0'-133.0'	2.0'	<0.002	0.06	0.01	0.02	0.06	
	89045		133.0'-135.0'	2.0'	<0.002	0.07	0.01	0.04	0.13	
-	89046		135.0'-137.0'	2.0'	<0.002	0.05	0.01	0.03	0.08	
	89047		138.5'-142.5'	3.5'	0.002	0.08	0.01	0.10	0.20	
	89049		149.0'-150.0'	1.0'	<0.002	0.06	<0.01	0.04	0.05	
	89850		168.0'-170.0'	2.0'	<0.002	0.04	0.01	0.01	0.02	·
	89011		170.0'-172.0'	2.0'	0.002	0.21	0.04	0.01	0.10	
	89012		172.0'-174.0'	2.0'	<0.002	0.06	0.01	<0.01	0.01	
السطا	89013		180.5'-182.5'	2.0'	<0.002	0.06	0.01	0.08	0.04	•
g. 3										

12 Samples
Bondar-Clegg Report V88-07419.4









3+42 N 1+97 E

SET UP No.3

SET UP No.1

Diamond drill hole and location

LEGEND

Vein, quartz and/or quartz carbonate

### STRATIGRAPHIC COLUMN

Marcon, hematitic volcanic tuffs

Fragmental volcanic tuff

Lapilli tuff

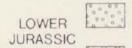
Crystal tuff

Siltstone

Argillite

INTRUSIVE ROCKS

Dykes, porhyritic andesite - dacite





TRIASSIC



LOWER JURASSIC





(Sometimes interbedded)

Granodiorite, quartz monzonite -Hyder intrusives, Portland Canal dyke swarms

Correlative to "Premier Porphyry"



Altered tuff. where lithologies are obscured

Alteration - silicification carbonatization ankentic alteration

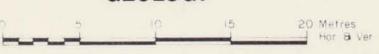
GORDON D. HOUSE

SEOLUGICAL BRANCH SESSMENT REPORT

GOLDEN GLACIER RESOURCES INC

### AM-VIRGINIA K PROPERTY SKEENA MINING DIVISION, B.C.

DRILL SET UP No.3 - DDH 88-5 CROSS SECTION ON 110° **GEOLOGY** 



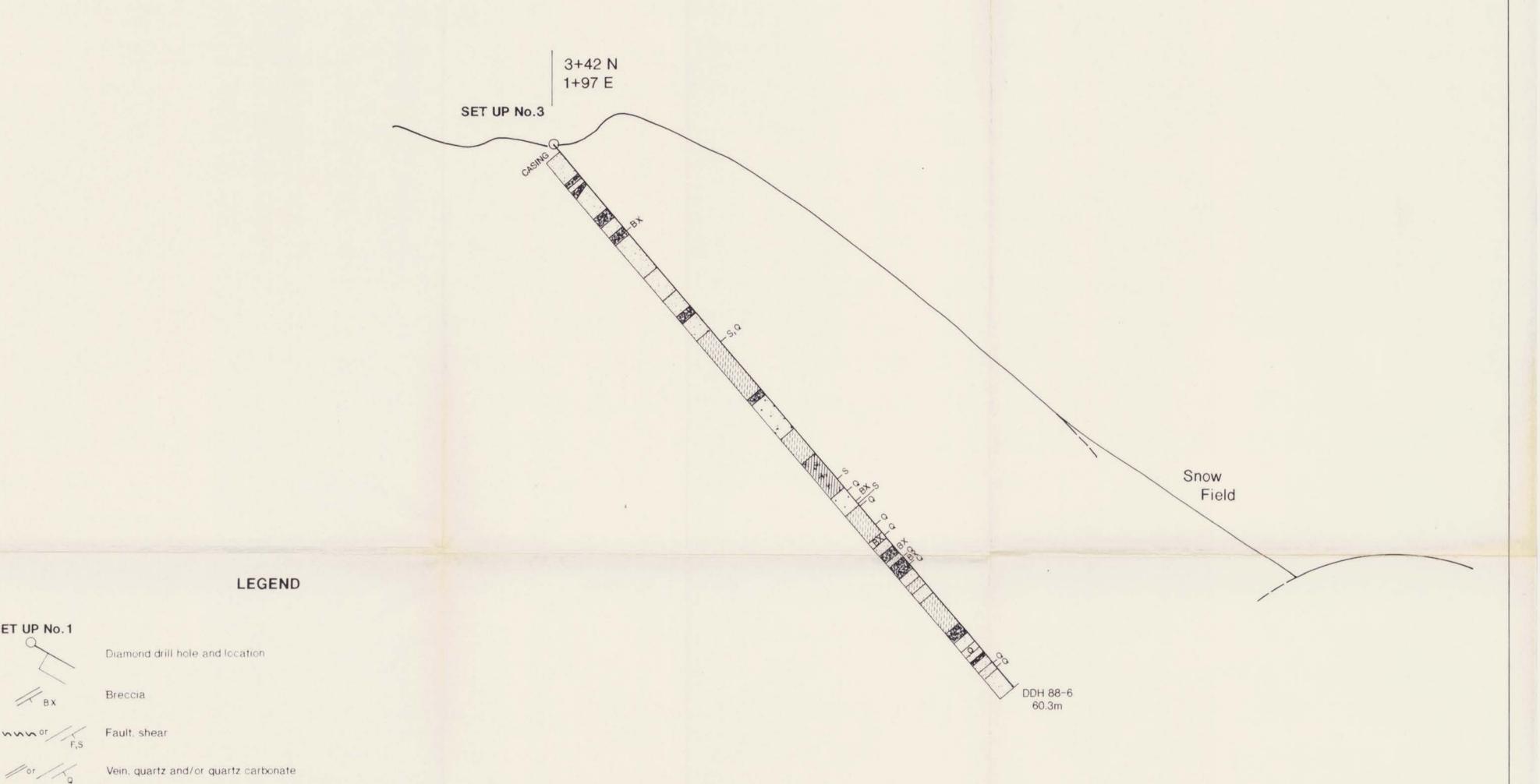
SAWYER CONSULTANTS INC. DRAWN BY XY3 GRAPHICS

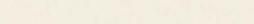
TO ACCOMPANY REPORT BY
GORDON D. HOUSE, M.S., F.G.A.C.
DATED: Prov. 15th, 1988.

DESIGNED BY GDH

OCTOBER 1988

FIGURE 6





STRATIGRAPHIC COLUMN

SET UP No.1

Marcon, hematitic volcanic tuffs LOWER JURASSIC Fragmental volcanic tuff Lapilli tuff Crystal tuff Siltstone UPPER (Sometimes interbedded) TRIASSIC Argillite INTRUSIVE ROCKS LOWER Granodiorite quartz monzonite -JURASSIC Hyder intrusives, Portland Canal dyke swarms Dykes, porhyritic andesite - dacite Correlative to "Premier Porphyry" EOCENE maybe

Altered tuff.

where lithologies are obscured

carbonatization ankeritic alteration

Alteration - silicification

Diamond drill hole and location

GEOLOGICAL BRANCH ASSESSMENT REPORT

18,430



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AM-VIRGINIA K PROPERTY SKEENA MINING DIVISION BC

DRILL SET UP No.3 - DDH 88-6 CROSS SECTION ON 080° **GEOLOGY** 

20 Metres Hor & Ver

SAWYER CONSULTANTS INC.

DRAWN BY: XY3 GRAPHICS

DESIGNED BY GDH

OCTOBER 1988 FIGURE 7