

LOG NO: 0105

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ACTION:

REPORT
FILE NO:

GEOLOGICAL AND GEOCHEMICAL
ON THE
HEY HAY PROPERTY
HEY HAY #1 TO #8 CLAIMS
ATLIN MINING DIVISION
NORTHWESTERN BRITISH COLUMBIA
NTS 104N/11

FOR
GORDON HEYDEN AND DAVID HAYWARD
P.O. BOX 29
ATLIN, BRITISH COLUMBIA
VOW 1A0

PREPARED BY
STILLWATER ENTERPRISES LTD.
2891 WEST 14TH AVENUE
VANCOUVER, BRITISH COLUMBIA
V6K 2X3

JOANNE C. FREEZE, F.G.A.C.
DECEMBER, 1987

16,820

GEOLOGICAL BRANCH
ASSESSMENT REPORT

FILMED

MINISTRY OF ENERGY, MINES
AND PETROLEUM RESOURCES
Rec'd DEC 21 1987
SUBJECT _____
FILE _____
VANCOUVER, B.C.

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INTRODUCTION

This report discusses the geology and geochemistry of a gold prospect on the Teslin Plateau of Northwestern British Columbia. Placer gold was discovered in the area in the late 1800's. The claims were staked by G. Heynen and D. Hayward to cover a potential gold source in September of 1986 and May of 1987.

G. Heynen and D. Hayward cleaned out four old trenches and prospected on the property in May and June of 1987. In August and September of 1987, J. C. Freeze, geologist with Stillwater Enterprises Ltd. carried out a geological investigation of the property. R. Prois and A. Wardwell of Stetson Resource Management Corp. carried out a limited prospecting and rock chip sampling program in the area of the trenches.

LOCATION AND ACCESS

The Hey Hay Property is located 20 air km east of Atlin on the northwest shore of Surprise Lake at latitude 59 degrees 40 minutes and longitude 133 degrees 25 minutes on N.T.S. Map Sheet 104N/11.

Access is via a 23 km long dirt road from the town of Atlin which is located on a gravel highway 90 km from Jake's Corner on the Alaska Highway. The nearest airport with scheduled flights is 100 miles away at Whitehorse, Yukon Territory. (See Figure 1)

PHYSIOGRAPHY

The property covers a moderate southeasterly facing slope which is covered by alders and dense willows at lower elevations and alpine scrubs and grass above 4000 feet (1219 metres). Elevations range from 3608 feet (1100 metres) to 4920 feet (1500 metres) above sea level. Snow cover averages 4 feet (1.2 metres) limiting geological and geochemical exploration from May to mid October. Mean annual precipitation is 20 inches (51 cm.) Mean temperatures are 51 Farenheit (11 Celcius) in June and 20 Farenheit (-7 Celcius) in January. Boulder Creek drains the property to the south entering into the northwestern edge of Surprise Lake.

HEY HAY PROPERTY

ATLIN M.D., B.C. NTS: 104 N/11

LOCATION MAP

J.C.FREEZE

DATE: AUGUST 1987

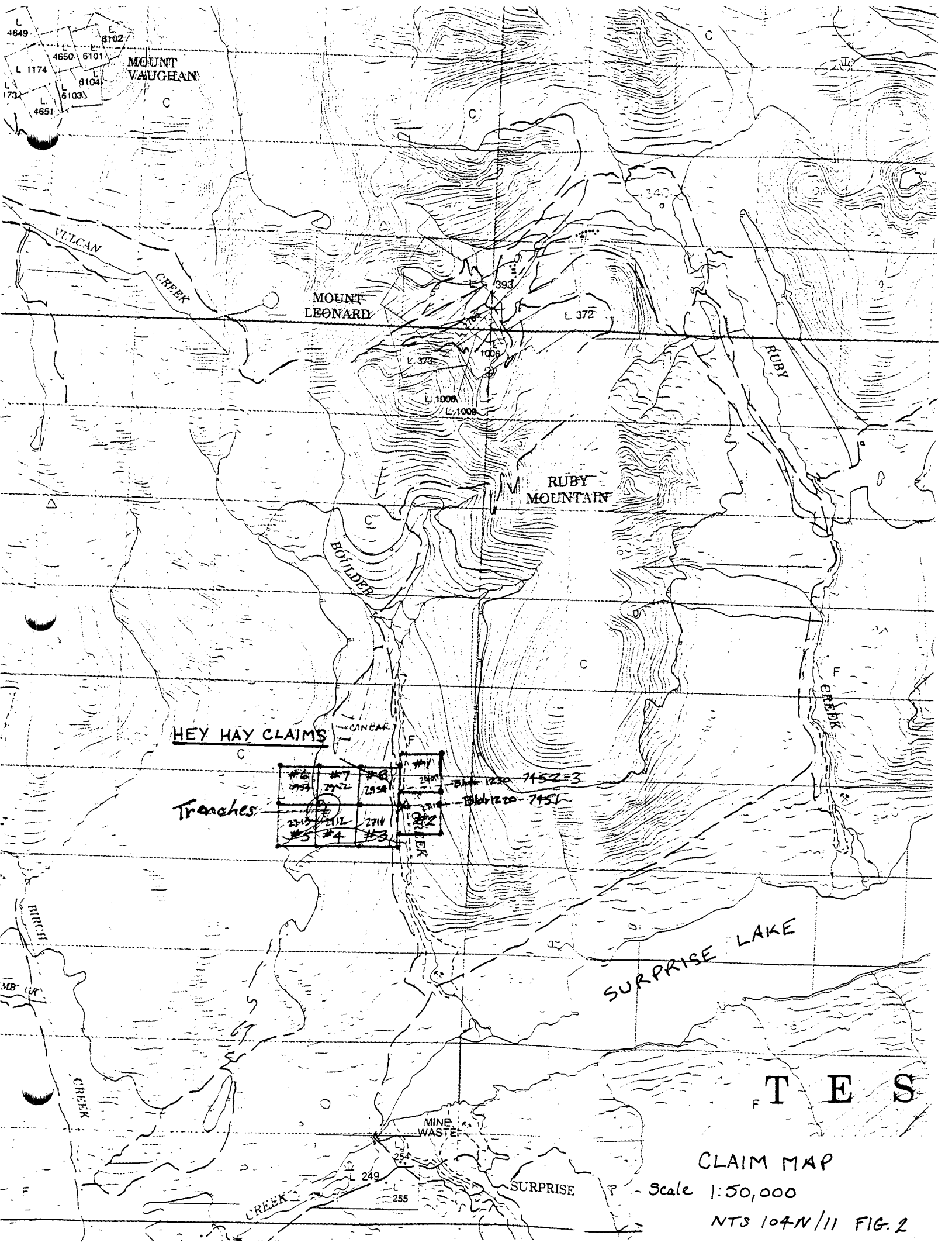
FIGURE: 1



PROPERTY

The property comprises 8 contiguous claims and is situated in the Atlin Mining Division. All of the claims are two post claims. The HEY HAY #1 to #3 claims are held by Gordon Heynen and the HEY HAY #4 to #8 claims are held by David Hayward both of Atlin, B.C. (See Figure 2)

<u>Claim Name</u>	<u>Record No.</u>	<u>No. Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
HEY HAY #1	2709	1	23/09/86	1988
HEY HAY #2	2710	1	23/09/86	1988
HEY HAY #3	2711	1	23/09/86	1988
HEY HAY #4	2712	1	23/09/86	1988
HEY HAY #5	2713	1	23/09/86	1988
HEY HAY #6	2953	1	11/06/87	1989
HEY HAY #7	2952	1	11/06/87	1989
HEY HAY #8	2954	1	11/06/87	1989



MOUNT VAUGHAN

MOUNT LEONARD

RUBY MOUNTAIN

HEY HAY CLAIMS

Tranches

#6 2953	#7 2952	#8 2951	#9 2950
#5 2945	#4 2944	#3 2943	#2 2942

Blk 1220-7152-3
Blk 1220-7151

T E S

CLAIM MAP

Scale 1:50,000

NTS 104N/11 FIG. 2

HISTORY

Boulder Creek has been mined for placer gold intermittently since 1899. Both slopes draining into Boulder Creek have been prospected for the lode source of the placer gold. In the sixties twelve trenches were bulldozed by Newmont Mining Corporation of Canada Ltd. in the vicinity of the HEY HAY claims. Following this work Cominco drilled 114.2 feet (34.8 metres) in five holes with a packsack - core drill.

GEOLOGY

The Boulder Creek area is underlain by the Pennsylvanian Cache Creek Group, Pennsylvanian/Permian Atlin Intrusions and a Cretaceous batholith. (See Figure 3)

The Cache Creek Group comprises sediments and volcanics which have been intruded by small ultramafic stocks. (Atlin Intrusions) and by undifferentiated granite rocks (Coast Intrusions) and alaskite and quartz monzonite in Jurassic and Cretaceous times.

The HEY HAY property is underlain by Cache Creek Group greenstone intercalated with small limestone and quartzite sections. Three small peridotite and meta-diorite stocks have been mapped as intruding the Cache Creek Group just west of the property. A large alaskite stock intrudes the greenstones to the northeast of the claims.

MINERALIZATION

In the trenches bulldozed by Newmont pyrrhotite and pyrite occur as disseminations and irregular massive lenses with minor amounts of chalcopyrite, tetrahedrite, galena, sphalerite, fluorite, cassiterite and scheelite in altered talcose basic volcanics and peridotite.

On the HEY HAY claims disseminated pyrrhotite, chalcopyrite and pyrite occur in the volcanics on strike with a quartz vein crosscutting the andesite adjacent to a limestone bed. The volcanics have been hornfelsed and altered to actinolite adjacent to the quartz vein.



HEY HAY CLAIMS REGIONAL GEOLOGY

NTS 104 N/11

DRAWN	PROJECT	DATE	FIG
		DEC 87	3

PRECAMBRIAN
OR
PALÆOZOIC

PALÆOZOIC

PENNSYLVANIAN AND PERMIAN

ATLIN INTRUSIONS

Peridotite; meta-diorite and meta-gabbro; 9a, serpentinite; 9b, carbonitized serpentinite, 9c, talc bearing (steatitized) ultramafic rocks

CACHE CREEK GROUP

6. Chert, argillite, chert pebble conglomerate and chert breccia; derived quartzite and schist, minor 7 and 8

7. Greenstone and volcanic greywacke; derived amphibolite; minor 6 and 8

8. Limestone and limestone breccia

PENNSYLVANIAN AND, OR PERMIAN

4. Andesite, basalt, and related pyroclastic rocks; conglomerate, sandstone, shale

5. Limestone

May be in part or wholly equivalent to 6, 7, 8

MISSISSIPPIAN AND/OR EARLIER

SYLVESTER GROUP

3a greenstone, chlorite schist, greywacke, quartzite, quartz-biotite schist, 3b, impure crystalline limestone

PRE-PERMIAN

Quartz monzonite

YUKON GROUP

Hornblende quartz-feldspar schist and gneiss, quartzite, crystalline limestone. May be in part equivalent to 3

Undifferentiated, mainly volcanic rocks of uncertain possibly several ages. Andesite, basalt, agglomerate, tuff, breccia, chlorite and quartz chlorite porphyry, thuyolite. In part probably Triassic, probably equivalent to 10

Bedding (horizontal, inclined, vertical, overturned)

Bedding (direction of dip known, opposite side of bed unknown)

Schistosity or foliation (direction of lineation)

Fault (direction approximate assumed)

Anticline (arrow indicate direction of plunge)

Syncline (arrow indicate direction of plunge)

+ x y z

QUATERNARY

PLEISTOCENE AND RECENT

17. Glacial drift, alluvium

TERTIARY AND QUATERNARY

16. Olivine basalt and scoria; 16a, Tertiary; 16b, Pleistocene

TERTIARY (?)

15. 15a, quartz monzonite; 15b, granophyre; 15c, gabbro and diorite

CRETACEOUS OR TERTIARY

SLOKO GROUP

Andesite, basalt; albite trachyte, albite rhyolite, dacite, and related pyroclastic rocks; conglomerate, sandstone

CRETACEOUS

13a, alaskite, 13b, quartz monzonite

JURASSIC (May be in part older and younger)

COAST INTRUSIONS

Undifferentiated granitic rocks, 12a, Black Mountain body, 12b, Fourth of July Creek body, 12c, pink granite; 12d, Mount McMaster body, 12e, diorite; 12f, alkaline granite

JURASSIC

LABERGE GROUP

Volcanic greywacke, siltstone, mudstone, shale, conglomerate; minor concretionary sandy limestone

TRIASSIC (?)

Greywacke, chert, argillite, conglomerate, tuff, slate, greenstone, impure limestone, jasper

CENOZOIC

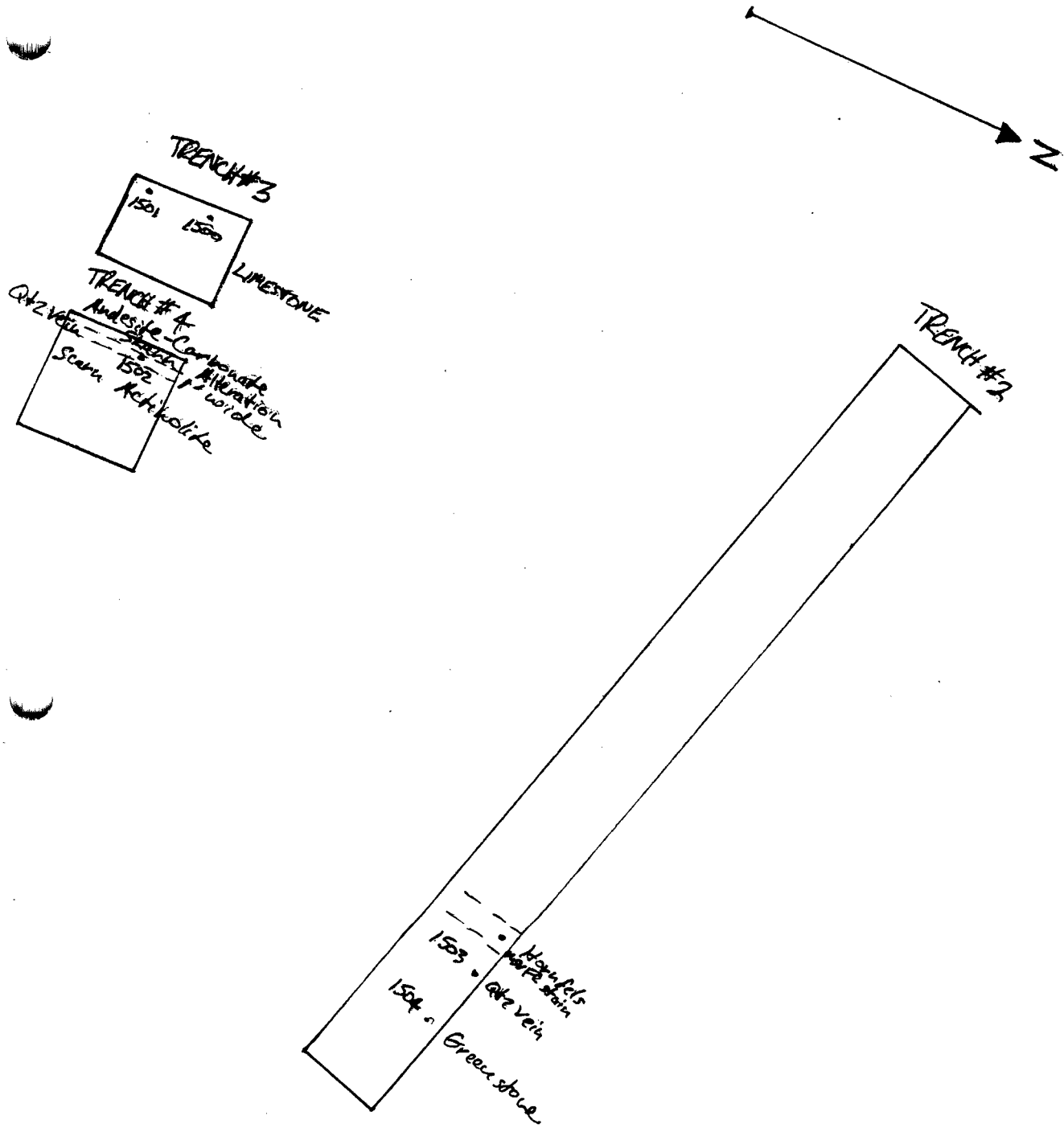
CURRENT WORK

In May of 1987 G. Heynen and D. Hayward cleaned out four trenches which had previously been blasted. They also carried out some prospecting on the claims.

Stetson Resource Management Corp. visited the property and sampled the quartz vein exposed in Trench #4 in August of 1987. Following this visit two field technicians, R. Prois and A. Wardwell measured and sampled the four trenches under the direction of J. C. Freeze, geologist, of Stillwater Enterprises Ltd. The trenches were mapped and the sampling was extended by J. C. Freeze.

An aerial reconnaissance of the entire property was carried out by J. C. Freeze and exposures in Boulder Creek were mapped and sampled.

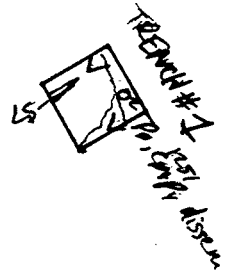
HEY HAY CLAIMS



Scale 1:10,000

JCF

Fig. 4



CONCLUSIONS

One of the samples of the quartz vein in Trench #2 is anomalous in copper (271 ppm). Three samples appear to be slightly anomalous in silver content (0.6 ppm). A sample of the limestone in Trench #3 is anomalous in arsenic (50 ppm). See Appendix I

These metal values offer some encouragement for finding mineralization on the claim block. The geological setting is good for gold mineralization which has been documented by B. Balantyne of the Geological Survey of Canada as occurring within quartz veins in carbonatized alteration zones in serpentinized ultramafics and altered greenstones. Visible gold has been found in quartz veins crosscutting the Cache Creek greenstones a few miles southwest of the claim block.

RECOMMENDATIONS

Based on the conclusions stated the following surveys are recommended:

1. A magnetometer survey should be carried out to identify any ultramafic bodies intruding the volcanics.
2. A VLF - electromagnetometer survey should be carried out to identify faults and other structures that may host mineralization.
3. A soil sampling survey should be carried out to identify a possible arsenic halo recommended by B. Ballantyne as a pathfinder to gold mineralization in the Atlin Terrane.
4. More prospecting should be carried out on the property.

Respectfully submitted,
STILLWATER ENTERPRISES LTD.



Joanne C. Freeze, F.G.A.C.

COST STATEMENT

GEOCHEMICAL ANALYSIS:

5 rocks @ \$11.50/sample	\$	57.50
5 rocks @ \$20.75/sample	\$	103.75

FOOD:

6 man days @ \$30/day	\$	180.00
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ACCOMMODATION:

3 nights @ \$40/night	\$	120.00
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VEHICLE:

4 X 4 Truck 1 day @ \$60/day	\$	60.00
40 kms. @ .18/km		7.20
Fuel		15.00

Helicopter 1.5 hrs. @ \$600/hour (3 days 1/2 hour each day)	\$	900.00
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MISCELLANEOUS:

Equipment Rental 6 days @ \$15/day	\$	90.00
Supplies		25.00

REPORT WRITING, DRAFTING REPRODUCTION:

	\$	500.00
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PERSONNEL:

J.C. Freeze, Geologist	1 day @ \$300/day	\$	300.00
D. Hayward	Prospector 1.5 days @ \$150/day		225.00
G. Heynen	Prospector 1.5 days @ \$155/day		225.00
R. Prois	Geological Technician		
	1 day @ \$150/day		150.00
A. Wardwell	Geological Technician		
	1 day @ \$150/day		150.00

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Sub Total:	\$	3,108.45
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ADMINISTRATION OVERHEAD @ 15%

	\$	466.27
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Total Cost:	\$	3,574.72
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STATEMENT OF QUALIFICATIONS

NAME: Freeze, J. C. (nee Ridley), F.G.A.C.

PROFESSION: Consulting Geologist

EDUCATION: 1981 B.Sc. Geology - University of British Columbia.

1978 B.A. Geography
University of Western Ontario

PROFESSIONAL ASSOCIATIONS: Fellow of the Geological Association of Canada

EXPERIENCE: 1986 - present: Consulting Geologist and principal of Stillwater Enterprises Ltd. Consulting in mineral exploration programs in B.C., Yukon, Ontario, Alaska.

1985 - 1986: Consulting Geologist with White Geophysical Inc. Coordinating mineral exploration projects involving geology, geochemistry, geophysics and diamond drilling in B.C. and Yukon.

1981 - 1985: Project Geologist with Mark Management Ltd. Hughes-Lang Group. Responsible for precious metals exploration programs involving geology, geochemistry, geophysics and diamond drilling in Western Canada and U.S.A.

1979 - 1981: Summer and part-time Geologist involved with coal exploration in Northeastern B.C. with Utah Mines Ltd.

REFERENCES

Aitkens, J.P.
1959

Geology of the Atlin District.
Memoir 307, Geological Survey of
Canada.

Gutrath, G.C.
1970

Coin Canyon Mines Ltd.
Geological and Geochemical
Assessment Report, Bub Claim Group
Atlin Mining Division

APPENDIX I

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
 THIS LEACH IS PARTIAL FOR IN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND S. AU DETECTION LIMIT BY ICP IS 3 PPM.
 - SAMPLE TYPE: Rock Chips AU ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: DEC 9 1987 DATE REPORT MAILED: Dec 17/87 ASSAYER: DEAN TOYE, CERTIFIED B.C. ASSAYER

STETSON RESOURCES File # 87-6099 Page 1

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AS PPM	SB PPM	BI PPM	MG %	AU* PPM
HEV HAV 7451	23	2	34	.1	8	2	3	.53	1
" 7452	72	3	35	.1	8	2	2	.62	2
" 7453	91	2	36	.1	3	2	2	.57	1
CINBAR 7454	212	223	20	17.3	13	2	32	.05	1
" 7455	5402	1682	210	257.8	125	14	490	.19	17
7724	24	2	20	.8	7	2	2	21.76	1
7725	81	14	51	2.1	9	2	2	4.13	1
7726	8	2	17	.1	4	2	2	21.47	2
7727	42	5	19	.3	3	2	4	.35	1
7728	6	2	9	.1	5	2	2	24.00	1
7729	34	17	11	.9	18	74	5	2.84	3
7730	9	2	18	.1	7	2	2	13.50	1
7731	24	2	20	.1	5	2	2	14.20	1
7732	12	5	11	.1	8	2	2	12.57	1
7733	3	2	6	.1	5	2	2	25.02	1
7734	4	2	4	.1	4	2	2	8.04	1
7735	6	2	13	.1	3	2	7	1.32	1
7736	15	2	19	.1	4	2	2	15.65	1
7744	6	2	14	.1	3	2	2	17.45	1
7745	5	2	2	.1	3	2	7	21.21	1
7746	8	2	8	.1	3	2	2	7.89	1
7747	9	2	11	.1	6	3	2	5.82	1
STD C/AU-R	59	40	133	7.5	38	17	25	.87	500

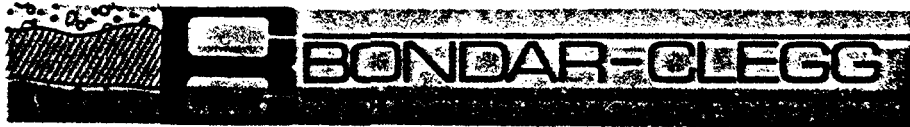
N/A

- ASSAY REQUIRED FOR CORRECT RESULT -

945 P01

ACME LABS

DEC 21 '87 14:22



REPORT: 127-7906

PROJECT: HEY HAY

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	Mn PPM	As PPM	Sb PPM	Hg PPB	Au 30g PPG
R2 RP1500		9	40	0.6	7	50	<5	10	<5
R2 RP1501		20	28	<0.5	1	<5	16	<5	<5
R2 RP1502		25	42	0.6	2	<5	21	<5	<5
R2 RP1503		34	67	<0.5	2	6	8	5	10
R2 RP1504		271	79	0.6	1	16	12	<5	5