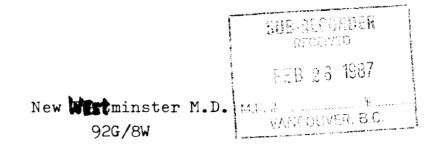
86-1005-15497

GEOCHEMICAL & GEOPHYSICAL ASSESMENT REPORT On The GOLDEN_UNIVERSE GROUP CLAIMS_



Latitude 49°18.4'N

Longitude 122°23'W 22.7'

For Owners/Operator R. Mitterer & J. Burri

FILMED

GEOLOGICAL BRANCH ASSESSMENT REPORT

S. Zastavnikovich Geochemical Consultant

1

Vancouver, B.C. December, 1986

TABLE OF CONTENTS

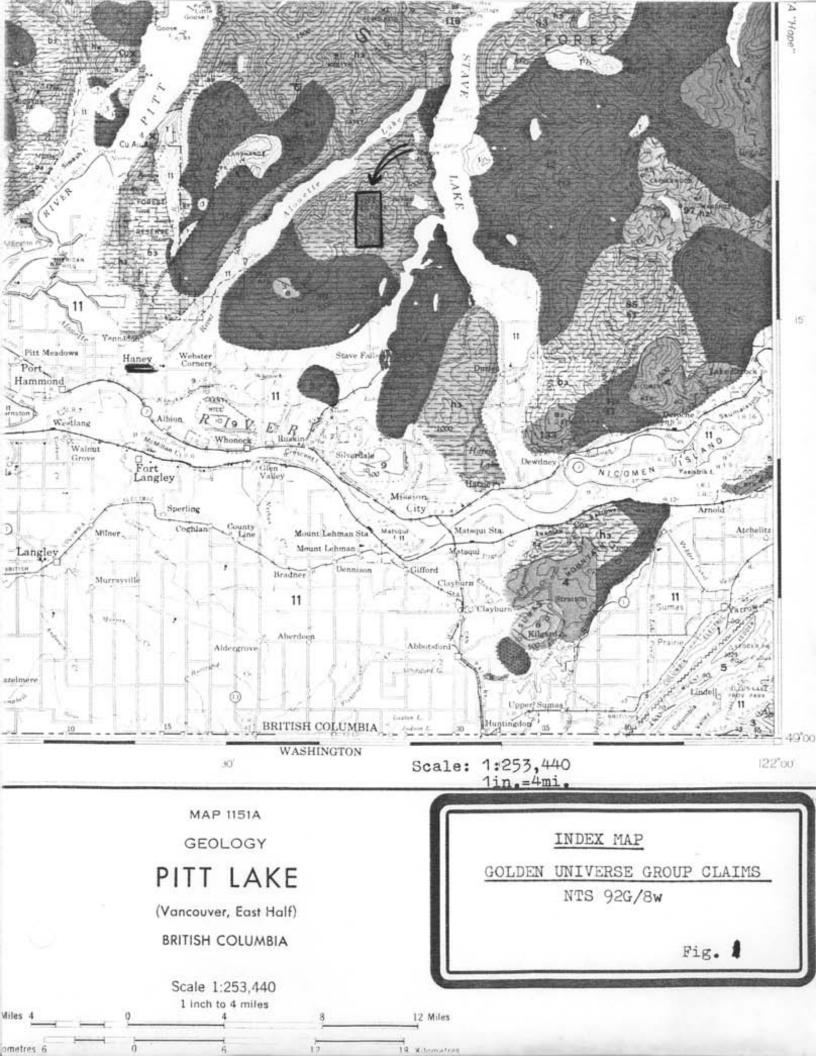
	Pa	age
1.	Index Map (Fig. 1)	1
2.	Claim Map (Fig. 2)	2
3.	Introduction & Description	3
4.	General Geology & Physiology	4
5.	Geochemical Survey	5
	Stream Sediment Geochemistry	6 6 7
6.	Geophysical Survey	8
	Memorandum Report, D.R.MacQuarrie Magnetic Survey Results VLF-EM Survey Results	9 10 11
7.	Conclusions	12

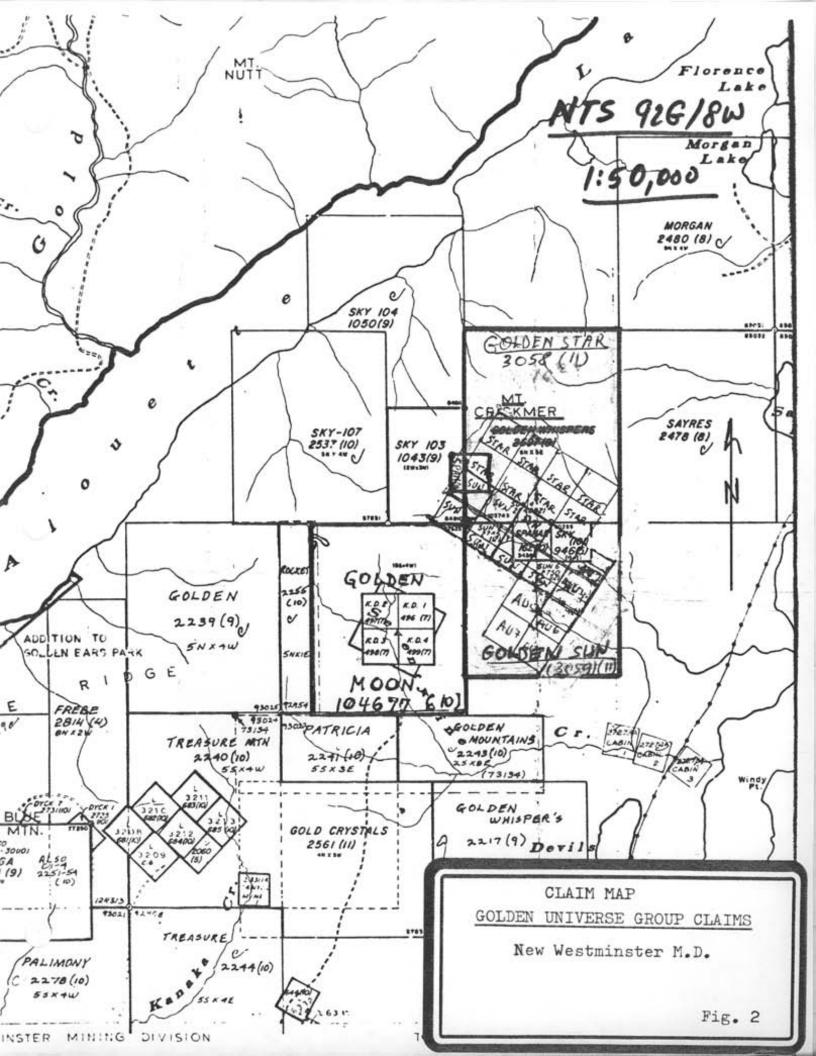
APPENDICES_

Appendix	I. S	Statement of Expenses
Appendix	II.	Statement of Qualifications
Appendix	III.	Analytical Procedures
Appendix	IV.	Certificates of Assay

MAPS_

1.	Scale 1:10,000 Geochemical Map, with topography and claim outlines, geophysical grid outline, sample location numbers and analytical results, (Fig. 3)in pocket
2.	Scale 1:2,500 Geophysical Map, Magnetic Survey at back results, (Fig 1A)
3.	Scale 1:2,500 Geophysical Map, VLF-EM Survey at back results, (Fig. 2A)in-pocket





GEOCHEMICAL & GEOPHYSICAL REPORT ON THE GOLDEN UNIVERSE CLAIMS GROUP - New Westminster M.D., Southwestern B.C.

INTRODUCTION & DESCRIPTION

The GOLDEN UNIVERSE group of mineral claims contains 60 units and consists of the Sun 1-8 (8 units), Star 1-8 (8 units), AU 1-8 (8 units), Golden Sun (16 units), and the Golden Star (20 units) mineral claims. The claim group is located 20 km northeast of Haney in the New Westminster Mining Division, on map NTS 92G/8w.

The Sun 1-8 two-post claims were staked in December 1985, while the rest of the claims in the group were staked in 1986. On three separate days in April, october and November of 1986 the writer visited the property to collect sream sediments, rock and soil samples in order to help identify geochemical parameters best suited for geochemical evaluation of the mineral potential of the claim group.

In addition, a small chain and compass geophysical orientation grid of just over two line-kilometers was laid out straddling Kearsley Creek near the western edge of the claim group, along which magnetometer and VLF-EM readings were taken by A&M Exploration Ltd., as reported on by D.R. MacQuarrie in his enclosed Geophysical Memorandum Report.

Access to the claim group is by car or truck from Haney via paved Dewdney Trunk Road to the Stave Lake Dam. The remaining three kilometers is serviced by a good allweather gravel logging road. Local access on the claim group is provided by 4-wheel drive spur roads along the north and south sides of Kearsley Creek.

GENERAL GEOLOGY & PHYSIOLOGY

The Golden Universe claim group lies equidistant between the Alouette and Stave Lakes, and straddles the steep slopes to the south and north of Kearsley Creek and to the south and north of Mount Crickmer, in the Coast Range Mountains just above the Frazer Valley Lowland. The rugged, often precipitous, slopes range in elevation from 350 m. in the lower Kearsley Creek to Mount Crickmer Peak at 1357 m., for a total relief of some 1000 meters. The Kearsley Creek cuts southeasterly through the central portion of the claims group. Outcrop cliffs are present at the highest elevations and in the creek canyons, in between which the area is mantled by extensive glacial debris cover.

The only geological mapping in the area was done by the GSC geologists in 1965 at a scale of 1:250,000 (Memoir 335 by J.A. Roddick) according to which the general claims area is underlain by medium-grained quartz diorite containing about 10 % mafic minerals, with the more complex areas also containing medium- to fine-grained dark hornblende diorite (page 231). While sampling the stream sediments, basic volcanic float was observed by the writer in the Kearsley Creek drainage, suggesting the possibility of minor roofpendants in the claims group area.

No known mineral occurences exist on the Golden Universe claims group, but near its western border a couple of old adits exist in the Kearsley Creek canyon, which follow quartz veins in shears, though no reports are known for these old workings.

GEOCHEMICAL SURVEY

Reconnaissance geochemical sampling of very limited extent was carried out by the writer over the central portions of the Golden Universe claims group, utilizing the sampling of stream sediments, soil samples, and outcrop and float rock samples. Seven field-sieved stream sediments from the active stream channels were collected in the Kearsley Creek and its tributaries. The sediments of two sample sites were subjected to processing for heavy minerals to compare the analytical values in the heavy mineral fraction to those in the regular minus 80-mesh fraction. Some 16 rock samples were collected in the claims area, a quarter of which were siliceous float samples collected by the writer, the rest are outcrop samples collected by the owners on prospecting traverses. A dozzen 'B' horizon soil samples were collected by the writer along the spur road on the north side of Kearsley Creek, at 100m. intervals and depths of 20-30 cm., in order to establish the general trace element levels in the claims area.

The minus 80-mesh fraction for each of the stream sediments, rocks, and soils samples was processed and analyzed for 32 elements by ICP, plus mercury and gold, at the Min-En Laboratory in North Vancouver, using standard geochemical methods described in Appendix III. Three of the rock samples collected by the owner, R. Mitterer, were sent for assay by him to the Chemex Laboratory Ltd. of N. Vancouver. The assay Certificates are attached as Appendix IV. Complete analytical results are presented directly on the geochemical 1:10,000 scale sample location map, which also shows topographic contours and the claims group outline (Fig. 3, in pocket).

Stream Sediment Geochemistry

A specially constructed perforated-pan and sieve was used for field-sieving of the stream sediment samples in order to enhance the uniformity of the sampled material, which in turn makes it possible to identify subtle trace element anomalies.

A total of five stream sediments were collected starting from the western claims boundary downstream along the Kearsley Creek channel at approximately ½km. intervals, with an additional sample each on a right and a left tributary. As presented on the geochemical map, Fig. 3, the analytical values indicate relatively enhanced trace element levels in arsenic, cadmium, lead, iron, and antimony in samples #2373 and 2376, both of which sites are located in the main Kearsley Creek channel. Such trace element enrichment in the main channel relative to the tributaries may be indicative of the hydromorphic contribution of the bedrock-circulating groundwaters.

A comparison of the analytical values for the heavy minerals vs the -80 mesh fractions for samples #2378 and 2379 (geochemical map, Fig. 3) indicates that the regular minus 80-mesh fraction in the field-sieved samples is adequately sensitive for gold analysis as well as for the ICP analyzed trace elements for the claims area. Detectable to very anomalous gold values are present in all of the stream sediment samples, ranging from 9 to 1,200 ppb Au in the minus 80-mesh fraction.

Greater density and extent of stream sediment sampling in the claims area is needed for complete interpretation of the stream sediment analytical results.

Rock Geochemistry

Of the sixteen rock samples collected on the property, twelve were taken by the owner, R. Mitterer, mostly of outcrops along theaccess road in the southwestern section of the claims group. In addition, five siliceous float rock samples were collected by the writer and the owners on the Sun 4 claim in the west-central portion of the claim group. Two of the float samples, #102 and S107 yielded 113ppb and 200 ppb gold respectively. As the analytical results in Fig. 3 indicate, anomalous levels of the trace elements silver, arsenic, bismuth, cadmium, cobalt, copper, iron, molybdenum, nickel, lead, antimony, vanadium, and zinc are associated with the gold values.

Silicification, particularly when associated with the base-metal sulfides, are likely the best indicators of gold enrichment in rocks in the claims group area.

Soils Geochemistry

Using a grubhoe, a total of twelve 'B' Horizon soil samples were collected at depths of 20-30 cm. in the Sun4 and Sun6 claims area. Nine reconnaissance-scale soil samples were taken by the writer at one hundred metre intervals along the spur road on the north side of Kearsley Creek to establish the general trace element concentrations in the soils of the claims area, while R. Mitterer took three additional samples on the opposite side of the creek, as plotted on the sample location map, Fig. 3, in pocket.

The analytical results provide uniformly narrowranged background values for all the trace elements, suggesting lithological uniformity in the sampled area. Soil sampling with stations not greater than 20 m. apart is needed to help outline soil anomalies caused by possible gold-related mineralization in bedrock. First, sampling along the contour just below the high cliffs to obtain a direct correlation of soil values to bedrock, as well as sampling along both banks of Kearsley Creek to identify possible hydromorphic anomalies caused by mineralization at depth, should be completed prior to sampling the soils over the glacial mantle between the cliffs and the creek.

GEOPHYSICAL SURVEY

. e. 1

As plotted on Fig. 3, a chain and compass geophysical orientation grid of limited extent was laid out in the area of Sun 2 and Sun 4 claims, with the baseline oriented southeasterly along the Sun two-posters claimline. Six lines at 100m. intervals and lengths of 150 to 550m. straddle the Kearsley Creek chanell. Magnetometer and VLF-EM readings were taken at 25 m. interval stations, the results of which are presented on two 1:2,500 scale geophysical grid maps, Figs. 5 and 6, included in A&M Exploration Ltd.'s Geophysical Memorandum Report by geophysicist D.R. MacQuarrie, attached overleaf.

He recommends covering the claims group with a 50 metre, n=1, dipole-dipole array Induced Polarization survey as the best geophysical technique to determine the overburden depths and outline zones of shearing and silicification with possible sulfides, which is the expected environment for gold mineralization on the property.



Suite 614-850 WEST HASTINGS STREET, VANCOUVER, B.C. TELEPHONE (604) 681-0191 V6C 1E1

MEMORANDUM REPORT: KEARSLEY CREEK PROSPECT

CLAIM NAME: SUN, STAR GROUPS

N.T.S.: 92 G8

MINING DIVISION: New Westminister British Columbia

OPERATOR: Rudy Mitterer

AUTHOR: Douglas R. MacQuarrie, Geophysicist

TO: Mr. Sam Zastavnikovich

RE: VLF-EM AND MAGNETOMETER FIELD EXAMINATION - October 12, 1986.

On October 12, 1986, Mr. Stuart Travis of A & M Exploration Ltd., assisted by yourself and Mr. Mitterer, completed 2.125 line kilometres of VLF-EM and 1.00 line kilometres of magnetic surveying on the property.

The purpose of the surveys was to test a limited area of the claims for the presence of massive, potentially auriferous, magnetite mineralization which was believed to be present.

No detailed geological map is available for the subject property area. The geophysical interpretation is therefore based on the geology and mineralization noted on the adjacent SKY 103 mineral claim.

Harris (1984), noted that exploration on the SKY 103 mineral claim, located immediately northwest of this property has identified several areas of shearing and alteration in quartz diorite and dioritic rocks over a strike length of at least 200 metres. Surface, and underground samples from limited underground workings, consisting primarily of quartz vein (?) material, gave generally low sporadic gold (Au) assays. Values up to one ounce per ton (oz/ton) and higher were also noted. A six hole percussion drilling program and a one hole diamond drill program gave similar results as above. The best values were obtained in DDH SK-1, that being eight feet of 0.054 oz/ton Au at a depth of 165 feet, in sheared quartz diorite. Gold mineralization is apparently associated with shear zones mineralized with chlorite, quartz, sericite and minor carbonate epidote and pyrite (Harris, 1984).

MAGNETIC SURVEY RESULTS

A grid was laid out utilizing the claim line of the Sun Group as the baseline, commencing with co-ordinate ON OE at the western-most claim post.

Lines 4, 5, 6 and 7+00E were surveyed at 25 metre intervals using a Scintrex MP-2 proton magnetometer operated by Mr. Mitterer. Magnetic survey control was established by repeating numerous readings along the road. Ties were within \pm 10 gammas suggesting the data is valid to \pm 10 gammas. The data is presented in profile form on Figure 1 at a scale of 1:2,500.

In general the data varies smoothly from a low of 55,572 gammas to a high of 57,817 gammas - values typical of areas underlain by granitic rocks. Anomalous, high readings at station 2+00 N on L 4E and at 1+00 N on L 5E, and possibly in the vicinity of the baseline on L 6+00 E may be related and are probably caused by a basic dyke, striking approximately 080° , and up to 25 metres in width. The data does not indicate the presence of any substantial concentration of magnetite mineralization.

VLF-EM SURVEY RESULTS

Lines 1, 2, 4, 5, 6 and 7+00 E were surveyed at 25 metre intervals with a Sabre Model 27, VLF-EM receiver tuned to Annapolis, Maryland. The data is presented in profile form at a scale of 1:2,500, on Figure 2.

10

2

Using this instrument significant conductors generally have local field strength highs of greater than 10 per cent above background, are co-incident with dip angle crossovers of greater than 10 degrees peak to peak, and have positive Fraser Filter values. In order to calculate the Fraser Filter on L6 E, dummy values were inputted at station 1+00 N, which had not been surveyed in the field.

No conductive zones were noted by the survey. Dip angle changes are probably related to topographic and overburden effects. Maximum coupling of the electromagnetic field would have occurred with any east-west striking bodies. It would appear that the previously noted magnetic 'dyke' (strike 080°) is not conductive, indicating it to be a competent (non-sheared) intrusive rock containing minor disseminated rather than massive magnetite.

Further geophysical surveying on the property is warranted. 1 would recommend covering the claims with a 50 metre, n=1, dipole-dipole array Induced Polarization survey. This survey technique is very useful to outline silicified zones (apparent resistivity highs), shear zones (apparent resistivity lows), sulphide (pyrite) concentrations and also overburden depths. Trenching or drill testing of marked IP highs co-incident with apparent resistivity highs would be warranted.

Respectfully submigged,

Douglas K. MacQuarrie, Geophysicist

3

CONCLUSIONS

- 1. Anomalous trace elements in some stream sediment samples from the main Kearsley Creek channel are suggestive of hydromorphic enrichment related to bedrock-circulating groundwaters in contact with possible gold-related mineralization at depth.
- 2. Based on very limited bedrock and float rock sampling, the best guides to gold mineralization on the property are zones of silicification, particularly if enriched with base-metal sulfides.
- 3. Future soil sampling must take into account that the expected environment for gold mineralization on the property are relatively narrow shear zones, therefore reducing the sampling interval to maximum 20 m. spacing is necessary.
- 4. To determine the overburden depths and outline zones of shearing and silicification with possible gold mineralization on the Golden Universe group claims, the geophysical method of choice is a dipole-dipole array Induced Polarization survey.

APPENDICES

APPENDIX	1	Statement of Expenditures
APPRENDIX	11	Statement of Qual-ifications
APPRENDIX	111	Analytical Procedures
APPENDIX	IV	Certificate of Assay

APPENDIX I.

STATEMENT OF EXPENDITURES

(Golden Universe Group Claims)

Geochemistry -Salaries, S.Zastavnikovich, geochemist, July5, Oct. 12, Nov.25, 3 days @250 750 E.Bush, prospector, 2 days @150 300 R.Mitterer, J. Burri, owners ____ 10 man-days @25 250 Food, 105 4x4 Truck, 3 days @35 Travel 117 Gas and mileage 60 Owners, 3 trips gasoline Field Supplies, maps, air photos, bags, flagging, topofil, 94 Analysis -Total samples, 35, ICP, Hg, Au, 3, Assay Au, Ag, 867 Geophysics -150 Salaries, S. Travis, technician, 1day@150 325 Geophysical Memorandum, interpretation Assesment Report Preparation -Writing, drafting, typing, filing 500 Total Expenditures \$ 3,518

	APP	EN	D.	IX	II
--	-----	----	----	----	----

STATEMENT OF QUALIFICATIONS

I.- Sam Zastavnikovich, do hereby certify that:

- 1. I am a graduate of the University of Alberta with the Degree of B. Ed. in Physical Sciences, 1969.
- 2. I have been a practicing exploration geochemist with Falconbridge Ltd. of Toronto and Vancouver for thirteen continuous years as:

1969-1975: Field geochemist, international. 1975-1979: Project geologist-geochemist, B. C. 1979-1982: Exploration geochemist, worldwide, where I was engaged in all aspects of geochemical exploration, including research and development of improved sampling techniques, and advanced geochemical interpretation, as well as the writing of final, budget, and assessment reports.

- 3. I am a voting member of the Association of Exploration Geochemists.
- 4. I am a consulting geochemist with offices at 5063 56th. St., Delta, B. C.

aniponi

S. Zastavnikovich, Expl. Geochemist

<u>Analytical Procedure</u> - The samples were analyzed by Min-En Laboratories Ltd. of 705 West 15th St., N.Vanc, as follows:

The stream sediments were oven-dried in their original water-resistant kraft paper bags at 95°C and screened to obtain the minus 80 mesh fraction for analysis. The rock samples were crushed and pulverized in a ceramic-plated pulverizer.

A suitable weight og 5.0 or 10.0 grams is pretreated with HNOz and HClO4 mixture.

After pretreatment the samples are digested with Aqua Regia solution, then taken up with 25% HCl to suitable volume and aliquot used for the 26 element ICP trace element analysis.

From the major remaining portion of the sample, Gold is preconcentrated by standard fire assay methods, then extracted with Methyl Iso-Butyl Ketone and analyzed by Atomic Absorption.

For Mercury analysis, 1 gram of sieved material is sintered at 90°c for 4 hours, then digested in HNO₃ and HCl acids mixture, and analyzed by the Hatch and Ott flameless AA method.



AFFENDIX IV. Chemex Labs Ltd.

Geochemists

Registered Assayers

ן ר

212BrooksbankAveNorthVancouver, B.C.CanadaV7J.2C1Phone(604) 984.0221Telex043.52597

CERTIFICATE OF ASSAY

Analytical Chemists •

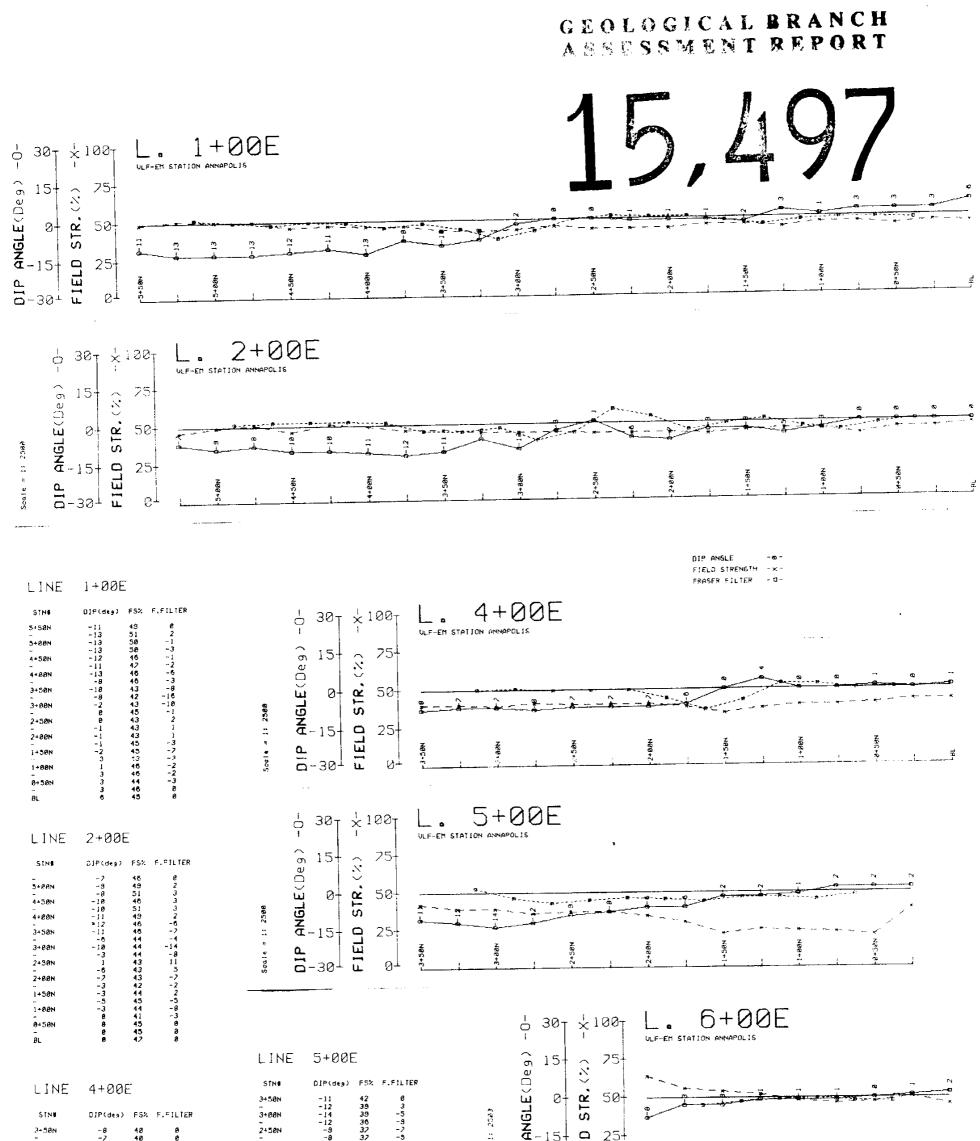
	DENTE OF ADDAT		
TO : MITTERER, RUDY	CER	#	: A8617301-001-A
	INV	DICE #	: 18617301
590 EAST 17TH AVE.	DAT	E	: 9-SEP-86
VANCOUVER, B.C.	P.0	. #	: NONE
V5V 184			

Sample description	Prep code	Ag FA	AU FA	 	
SUN-2	207	0.01	< 0.003	 	
SUN-4	207	0.12	<0.003	 	

VC 4/E

Registered Assayer, Province of British Columbia

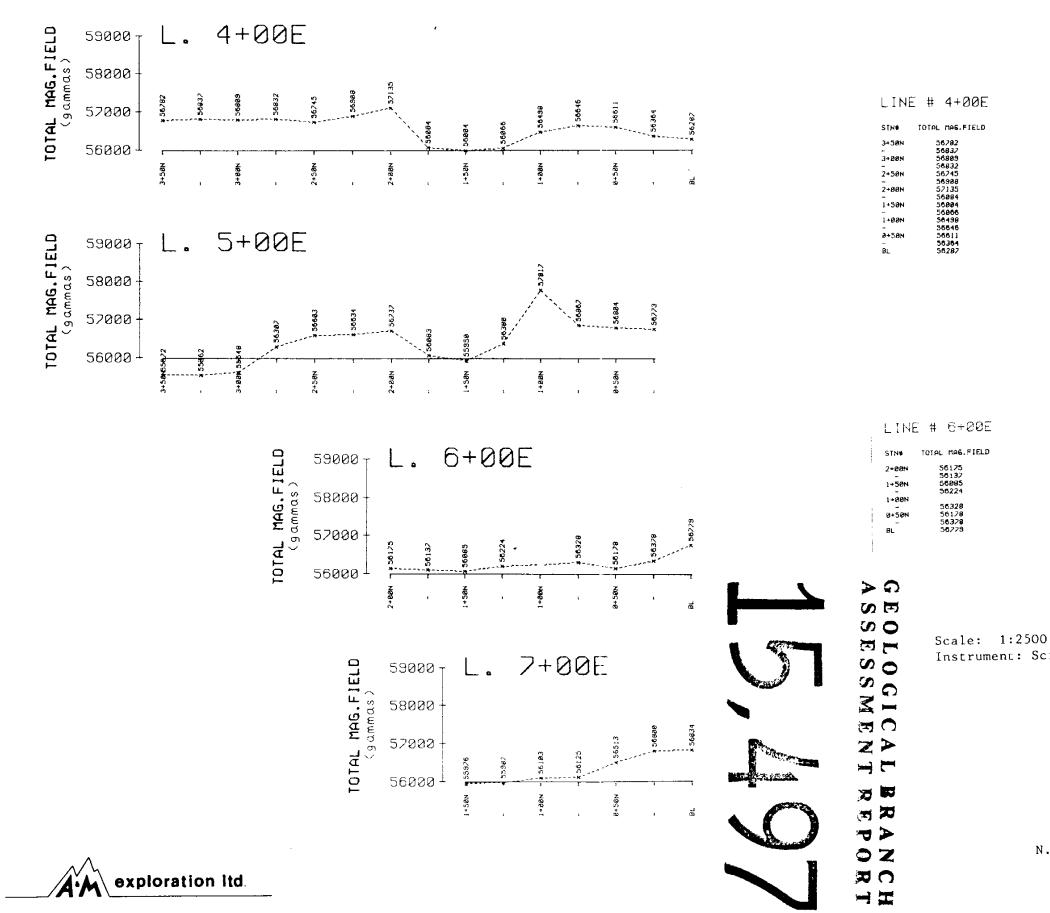
C	_	hen	PENDIX IV. NEX La Geochemists			212 Brooksbank A North Vancouver E Canada V7J Phone: (604) 984-0 Telex: 043-52
TG : MITTERER, PUDY 590 EAST 17TH	AVE.	CER	RTIFICATE OF	ASSAY	CATE	: A8617285-00 : I8617285 : 1-SEP-86
VANCOUVER+ B+C V5V 184 Sample	Prep A	g 02/T	AU OZIT Rush Fa		P.C. #	: NONE
description Au-1	236 236	0-01	0.004	-		.
-						



$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
	1 30 T × 188 L 7+00E
LINE 6+00E	6 15 Q 25
STN# DJP(deg) FS% F.FILTER 2400N -8 64 8 3 56 -7 1+50N -3 54 -4 1 52 -2 1400N -1 48 -1	6 15 25 → 2 52 → 2
- 1 45 -3 0+50N 0 42 -4 - 1 58 0 BL 2 45 0	
LINE 7+00E	
SIN# DJP(deg) FS% F.FILTÉR	
1+50N -8 64 8 1 63 -8 1+00N -1 78 -2 - 0 73 -1 0+50N 8 74 9 - 9 72 0 BL 8 72 8	Scale: 1:2500 Instrument: Sabre Model 27 VLF-EM Receiver
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

,

Figure 2



LINE # 5+00E

STN#	TOTAL MAG. FIELD
3+50N	55572
-	55562
3+89N	35648
-	58382
2+52N	56603
~	36634
2+86N	56732
-	56983
1+58N	55359
-	36380
1+98N	57817
-	56862
0+50N	56884
-	56723

E LINE # 7+00E .D SIN# TOTAL MAG.FIELD 1+50N 55376 1+00N 56103 0+50N 56513 0+5

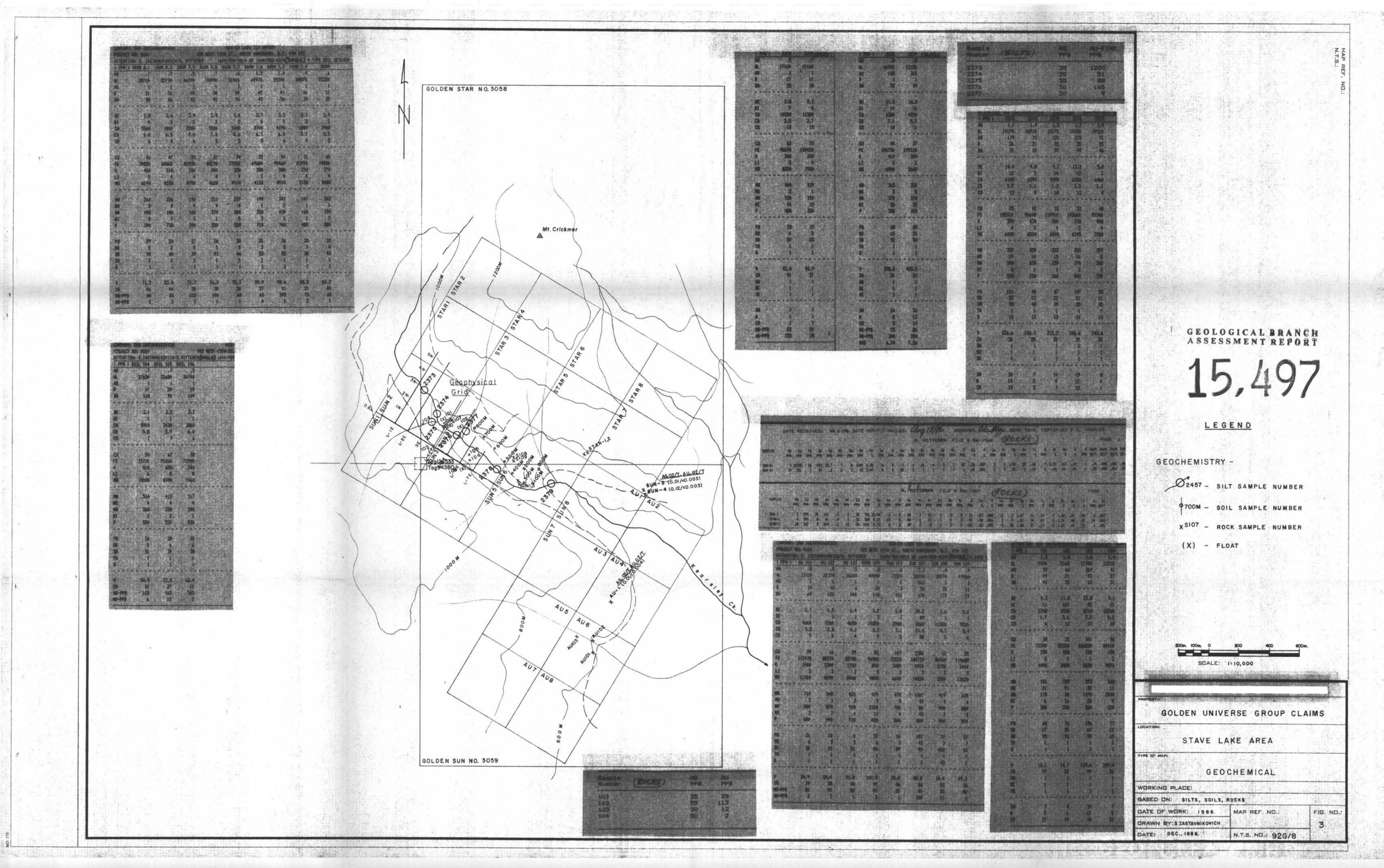
Scale: 1:2500 Instrument: Scintrex MP-2 Magnetometer

Kearsley Creek Property

MAGNETIC SURVEY

N.T.S. 92 G 8

Oct. 12,86



EOCHEM	ST	RY -		
Ø2457	-	SILT	SAMPLE	NUMBER
9700M	-	SOIL	SAMPLE	NUMBER
× \$107	-	ROCK	SAMPLE	NUMBER
(x)	-	FLOA	r. 1916	