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### ARIS SUMMARY SHEET

istrict Geol	ogist, Kamloops	Off Co	onfidential:	90.12.22					
ASSESSMENT REI	PORT 19825 MINING DIVISION: Si	milkame	een						
ROPERTY: LOCATION:	Gold Mount LAT 49 33 00 LONG 120 52 00 JTM 10 5490567 654311 NTS 092H10W								
CAMP:	012 Nicola Belt								
LAIM(S): Grasshopper 1-2 OPERATOR(S): Twin Eagle Res. AUTHOR(S): Hunter, A.E. EPORT YEAR: 1989, 53 Pages COMMODITIES SEARCHED FOR: Gold,Platinum,Palladium,Rhodium EYWORDS: Nicola Group,Metavolcanics,Metasediments Tulameen Ultramafic Complex									
DONE: Geophysical, Geochemical EMGR 5.5 km;VLF Map(s) - 3; Scale(s) - 1:2000 MAGG 5.5 km Map(s) - 1; Scale(s) - 1:2000 SAMP 371 sample(s) ;AU,PT,PD,RH,CR Map(s) - 2; Scale(s) - 1:2000 RELATED									
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### TIME-COST DISTRIBUTION

Twin Eagle Resources Corp., 100-450 West Georgia Street, Vancouver, B. C. V6B 1Z3

Work Program:	Geophysical Surveys and Geochemical sampling of drill core.
Property:	The Gold Mount Claim Group consists of the Gold Mount, Gail Gold, Weldonna, Bonanza Gold, Ace, Gold Creek, Bonanza Queen-Nevada, Grasshopper 1, Grasshopper 2 and Au Fraction Claims located in the Similkameen M.D., British Dolumbia.
Period:	February 1st-November 6, 1989.

Personnel:

Frank DiSpirito - P. Eng.	Senior Supervisor
J.J. Mc Dougall - P. Eng.	Engineer
A.Hunter	Geophysicist
G.Smith	Field Assistant
Richard Lonsdale	Field Manager
Dawn Miller	Draftsman

Cost Distribution:	
Labour	\$5,110.00
Room and Board	910.00
Transportation	805.00
Assaying	5,091.00
FieldSupplies	140.00
Drafting and Typsetting	250.00
Report	1,500.00
TOTAL	<u>\$ 13.806.00</u>
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Signed \_\_\_\_\_

H. Kes

Strato Geological Engineering Ltd.

### SUMMARY

Pursuant to a request by the directors of Twin Eagle Resources Inc. an exploration work program was completed on the Gold Mount Claim Group, which include the Gold Mount, Gail Gold, Weldonna, Bonanza Gold, Ace, Gold Creek, Bonanza Queen - Nevada, Grasshopper 1, Grasshopper 2 and Au Fraction claims. The writer reviewed the available literature pertaining to the area and visited the property between October 30 to November 5, 1989.

The Gold Mount claim group is located in the Similkameen Mining Division (92H/10W) about 25 kilometers northwest of Princeton, B.C. Access to the property is available by 4 wheel drive vehicle.

The area has been explored intermittently since about 1900. A number of sulphide-gold-silver occurrences have been developed in the general area. Underground development was carried out on the Gail Gold claim at the small Rabbitt Mine during 1938-1941. Some 1,000 ounces of gold were reportedly extracted.

The property is underlain by Nicola metavolcanics and sediments, intrusive phases of the Eagle granodiorite and the Tulameen ultrabasic complex.

Previous exploration programs between 1983 and March 1986 have outlined a number of geochemical and geophysical anomalies. In addition, over 1500 meters of diamond drilling has been done in order to define a mineralized vein which cuts across the old Rabbitt Mine on the Gail Gold claim. The vein has been defined over a strike length of 100 meters, open to the southwest, and a dip length of 35 meters. Gold assays of up to 0.8 oz./ton over 1.0 meter, true width, were found in three holes. The presence of native gold, however, has given inconsistent assay results.

During the summer and fall of 1986, Newmont Exploration carried out an intensive program on the western portion of the Grasshopper claims and their adjoining MUR Claim. A magnetometer and lithogeochemical survey were completed on the Grasshopper claims. Areas of favourable platinum and chromite mineralization, within the intrusives of the Tulameen Ultramafic Complex, were noted.



During the fall of 1988 Longreach Resources Ltd. carried out 5029 feet of percussion drilling and 229 feet of x-ray packsack drilling on targets identified by Newmont. These zones of chromite and platinum mineralization were extended. Over six miles of road building and repair was also done.

The current program located several electromagnetic conductors south of and continuous with those found on surveys conducted by Strato Geological Engineering Ltd. in 1983, 1984 and 1986. A small number of rock samples were analyzed and not found to be anomalous, however a greater sample density is necessary for statistical analysis.

Recommendations for futher work should include a detailed review of the work conducted by Newmont and Longreach Resources Ltd. This should start with a review of the available literature. After assessing the chromite/patinum potential of the property a decision can be made regarding the direction of future field work. Further field work should also work can be done on the geophysical conductors and native gold bearing quartz veins found in the Nicola Volcanics. Particular attention should be paid to the quartz vein structure, open to the southwest, in the vicinity of the Rabbitt Mine.

Respectfully submitted Strato Geological Engineering Ltd.

A.E. Hunter Geophysicist December 22, 1989



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### 1.0 INTRODUCTION

### 1.1 Purpose

This report was prepared pursuant to a request from the directors of Twin Eagle Resources Inc., Vancouver, British Columbia.

The purpose of this report is to convey the results of assessment work done within the boundaries of the Gold Mount, Gail Gold, Weldonna, Bonanza Gold, Ace, Gold Creek, Bonanza Queen - Nevada, Grasshopper 1, Grasshopper 2 and the Au Fraction claims.

The writer visited the properties between October 30 and November 5, 1989. A total of 5.45km of total field magnetic and VLF-EM surveys were conducted on the property.

This report is based upon field work and a review of available literature and data. The geology of the area was examined. The writer acknowledges the help of Mr. Geoff Smith.

1.2 Location, Access, Topography.

The Twin Eagle Resources Inc. property is located in the Similkameen Mining Division (92H/10W). It is situated 25 kilometers northwest of the town of Princeton, B.C. (figure 1).

The claim group is located on the northwest and south facing slopes of Grasshopper Mountain on the north side of the Tulameen River. The claim group is centered at approximately 49 degrees 33' 00" north latitude and 120 degrees 54' 00" west longitude.

Access to the property is from Princeton, B.C. via the Tulameen Lawless Creek Road or the Tulameen River Road, a road distance of approximately 65 and 33 kilometers respectively. Alternative access is possible from Coquihalla Lake, north of Hope, via the Britton Creek Road for a road distance of about 35 kilometers.





The property ranges in elevation from about 850 to 1400 meters above sea level (figure 2). The south slope of Lawless Creek is steep and difficult to access.

Stands of marketable timber cover the claim group and logging has occured.

### 1.3 Claims Status

The Gold Mount Claim Group is comprised of the following claims:

Claim Name	Units	Record No.	Expiry Date
Gold Mount	12	340(5)	May 8, 1997
Gail Gold	4	341(5)	May 8, 1997
Weldonna	1	344(5)	May 8, 1997
Bonanza Gold	1	573(5)	May 11,1997
Bonanza Queen - Nevada	a 1	511(2)	Feburary 12,1997
Ace	1	1381(3)	March 16,1997
Gold Creek	1	1382(3)	March 16,1997
Grasshopper 1	10	1803(1)	January 10, 1992
Grasshopper 2	10	1804(1)	January 10, 1992
Au Fraction	1	1947(6)	June 15, 1997

This report will be filed with the Ministry of Energy Mines and Petroleum Resources in support of assessment work filed on the above claims.

Claims posts or claim boundaries were not examined during the property visit. The claims are contiguous and are shown on British Columbia mineral claim map M-92H/10W (figure 3).







### 2.0 HISTORY - PREVIOUS EXPLORATION

Mining development has occurred in the property area on the former Bonanza Queen and Nevada crown grants, the Rabbitt Mine, the Old Glory and the Sunrise Group. Quartz veins with a general northerly strike and steep dip occur in association within Nicola Group volcanic rocks. The veins composed of glassy quartz and brecciated wall rocks vary in width up to 2 meters. The veins carry free gold, chalcopyrite, pyrite, galena and sphalerite.

An important gold mineralized structure, occurring on the present claim group, is the former Rabbitt Mine which is situated within the Gail Gold Claim (figure 4). It was located in 1938 by the Rabbitt brothers. About 1,000 ounces of gold were recovered between 1938 and 1940. The reported average grade was 0.68 oz. gold/ton and 0.38 oz. silver/ton.

During October and November, 1983 Monica Resources Ltd. completed a program of surface prospecting, geochemical soil sampling, geophysical surveying and 146 meters of diamond drilling in three holes in the immediate area of the Rabbitt Mine. Significant gold assays from chip samples of quartz veins and from one diamond drill intersection were reported (Tully, Dec. 12, 1983). In 1984, Monica Resources completed prospecting, mapping and soil sampling as well as blasting and trenching to extend the Rabbitt Mine vein to the southwest (Wares, August, 1984).

During October and November, 1985 Monica Resources completed a reconnaissance program of geological sampling over the Grasshopper 1 and Grasshopper 2 claims (Pawliuk, December, 1985).

During January, 1986 a horizontal loop electromagnetic survey was performed over the Gail Gold claim. In addition, between January and March, 1986 Monica Resources completed approximately 1500 meters of diamond drilling in the immediate area of the former Rabbitt Mine (Uher and DiSpirito, March 20, 1986). The results of the 1986 drilling revealed a mineralized quartz vein, open to the southwest, over a strike length of 100 meters and a dip length of 35 meters. Gold assays of up to 0.8 oz/ton over 1.0 meter, true width, were found in three holes. The presence of native gold, however, has given inconsistent assay results..



During the summer and fall of 1986 Newmont Exploration of Canada (Bohme, 1987) conducted an extensive lithogeochemical and magnetometer survey over the 12 western-most claim units of the Grasshopper 1 & 2 claims. 32 kilometers of grid were laid out on a bearing of N 70 E. The grid covered the intrusive rocks of the Tulameen Ultramafic Complex. The work defined two areas of chromite and one area of platinum mineralization. Platinum values of up to 2915 ppb and chromite values of up to 17.5% were defined over areas of from 4 to 36 meters squared. These were found within a 250 by 150 meter zone contained in the dunite core of the intrusive rocks.

Longreach Resources Ltd. conducted a drilling program based on Newmonts work during September and December of 1988. A total of 5029 feet of 3 1/2" diameter percussion drilling was completed by drilling 32 holes over both the upper and lower zones. Another 229 feet of x-ray size diamond drilling was done with a portable packsack drill in inaccessible areas. Assay result of up to 35 percent chromite and 2500 ppb platinum were obtained.



### 3.0 GEOLOGY

### 3.1 Regional geology

The lawless Creek area is underlain by volcanic and subordinate sedimentary rocks of the Nicola Group (figure 4), ultramafic to felsic rocks of the Tulameen Ultramafic Complex (formerly Lodestone Intrusions), intrusive phases of the Coast Intrusions (Eagle granodiorite), and intrusive phases of the Otter Intrusion (Red granite) (Rice, 1960).

The majority of the Nicola rocks in the area have not been closely identified and have been termed greenstones. Possibly andesitic in composition, they include lavas, flow breccias, pyroclastics, greywacke, and mixed phyroclastics and greywacke. Interbedded with the greenstones are bands of dacite, rhyolite, fine grained dark sediments, sedimentary schists, limestone and minor conglomerate.

The Tulameen Ultramafic Complex is an "Alaskan or Uralian type" zoned ultramafic-gabbro complex which was emplaced in the rocks of the Nicola group during a late Triassic deformation period that folded the rocks about a north to northwest trending axes. The complex displays an imperfect concentric zonal structure with its core consisting of dunite and minor peridotite. Its peripheral phase consists of olivine clinopyroxenite, hornblende clinopyroxinite, syenogabbro and syenodiorite. Pyroxenite, clinopyroxenite, and hornblendite are subordinate units. Dunite forms about one-tenth of the total area of the complex. It is not a layered intrusion of the Merensky or Stillwater type. Chromite and platinum are randomly distributed within the dunite core. The Tulameen complex is conformable with regional structural trend. It forms an elongate body with a steep westerly dip and a southeast plunge (Findlay, 1963). This suggests that the feeder zone is to be found toward the north (upper) end of the complex, possibly near Grasshopper Mountain.

The Eagle granodiorite underlies a large area on the west slopes of Grasshopper Mountain. The principal minerals are quartz, feldspar and biotite.

A stock of red granite intrudes Nicola rocks in a hill east of Lawless Creek and south of Pioneer Creek.





### 3.2 Property Geology

The geology underlying the Gold Mount Claim Group has been compiled from drill core data in the general vicinity of the Rabbitt Mine. The following is a summary from the drill core data.

The rocks comprise volcanoclastic, volcanic and sedimentary rocks. To the west and south of the Rabbitt Mine adit, drill core has shown the presence of a heterolithic volcanic breccia to be dominant. All of the volcanic units have been altered to a greenschist facies, with hydrothermal alteration being superimposed on the above units near the quartz vein systems.

Structural disturbance is evident in the area of the Rabbitt Mine. Drilling revealed mineralization is comprised of free gold, chalcopyrite, minor pyrite, sphalerite and galena in quartz veins.

A geologic examination of the grid area (see figure 5), revealed metavolcanics and metasediments of the Nicola group with a north to northwesterly trend and steep westerly dip. Minor amounts of ultramafics were noticed on the southwest corner of the grid.

On the western portions of the Grasshopper claims detailed work by Newmont (Bohme, 1987) revealed an "Alaskan or Uralian type" zoned ultramafic -gabbro complex within the Tulameen Ultramafic Complex. The principal rock types in this area, in order of abundance, are dunite, hornblende clinopyroxenite, synogabbro, olivine clinopyroxenite, serpentinite, feldspar porphyry (felsic) dykes and Nicola metavolcanics. The contacts between the various ultramafic rocks were usually gradational and intermixed. The contacts between the felsic and intrusive rocks are sharp (St. Louis, 1986). The contact between the dunite core and outlying ultramafic rocks is also sharp.



### 4.0 RESULTS OF THE 1989 EXPLORATION PROGRAMS.

The assessment work consisted of 5.45km of total field magnetic and VLF-EM survey conducted over an area measuring 0.9 by 0.3km. The measurements were taken at 12.5 meters on lines spaced at 50 meters. The instruments employed were a (Scintrex MP-2) total field magnetometer and a Sabre Electronics Model 27, VLF-EM. The VLF-EM employed the Seattle and Luolualie, Hawaii transmitting stations. Figures 5, 6, 7 and 8 detail the geology, VLF-EM (plot-plan form), VLF-EM (Fraser Filter form), and the total magnetic field survey respectively. The results of previous EM surveys are also included.

The work revealed two dominate northwest trending VLF-EM conductors on the east side of the grid. Both of these conductors are on strike with conductors identified by previous surveys to the north. At 8 + 00 S and 2 + 50 W a magnetic anomaly in excess of 1000 gammas above background is associated with one of these conductors. Several smaller northwesterly trending conductors are also present on the grid. These anomalies follow the geologic trend in the Nicola Group. An area of extreme magnetic lows and highs, located in the southwest corner of the grid, is coincident with the presence of ultramafic rocks, such as pyroxenite, of the Tulameen Ultramafic Complex.



### 5.0 CONCLUSIONS AND RECOMMENDATIONS.

The strike length of several conductors was extended. Lithogeochemical sampling revealed no anomalous values but a much greater sample density is necessary in order to complete statical analysis.

Future work should consist of evaluating the chromite and platinum potential of the claim group. The work done by Newmont Exploration and Longreach Resources Ltd., deserves detailed study. In conjunction with field work in the ultramafic area geophysical grid work can be extended over the Nicola Volcanics. All conductors located should be sampled. Particular attention should be paid to the area 100 meters southwest of the Rabbit mine where the mineralized structure is reported to be open.

Respectfully submitted Strato Geological Engineering Ltd.

A. E. Hunter Geophysicist December 22, 1989



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### 7.0 CERTIFICATES

I, Al E. HUNTER, of Vancouver, British Columbia, Canada do hereby certify the following:

- 1. I have completed the courses of the Bachelor of Applied Science program in Geological Engineering (Option 11) from the University of British Columbia, Vancouver, British Columbia, and will receive a degree upon completion of thesis.
- 2. Since leaving University I have practiced my profession in western and northern Canada for approximately 7 years.
- 3. This report is based on a personal field examination of the property and on private and publically held data pertaining to the said property.
- 4. I have no direct, indirect or contingent interest, nor do I expect to receive such interest, in the securities or properties of Twin Eagle Resources Inc.

DATED at Surrey, British Columbia this 22nd day of December, 1989.

A.E. HUNTER Geophysicist



# APPENDIX I: Assay Certificate.

ACME ANALYTICAL LABORATORIES LTD.

### 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE(604)253-3158 FAX(604)253-1716

RECEIVED NOV.

### GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HN03-H20 AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: ROCK AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: NOV 17 1989 DATE REPORT MAILED: NUV 24 / 5 SIGNED BY ....D. TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS Strato Geological Ltd. PROJECT 807 File # 89-4795 Page 1

SAMPLEN	HO PPM	CU PPN	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe X	As PPM	U PPM	AU PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca X	PX	La PPM	Cr PPM	Mg X	Ba PPM	ti X	8 PPM	Al X	Na X	K X	W PPM	Au* PPB
C 106501	3	29	3	10	.1	11	4	147	1.11	2	5	ND	1	4	10.1	2	2	2	.05	.019	2	10	.01	6	.01	3	. 12	.01	.02	1	1
C 106502	3	23	3	7	.1	10	1	78	.51	2	5	ND	1	2	1	2	2	1	.07	.004	ž	9	.01	5	.01	6	.05	.01	.01	1	2
C 106503	4	7	3	3	.1	13	1	56	.50	2	5	ND	1	2	201	2	2	2	.01	.003	2	12	.02	2	.01	2	.06	.01	.01	1	12
C 106504	2	128	2	94	.1	8	14	452	5.32	3	5	ND	2	45	1	2	2	111	1.09	.261	8	5	2.00	107	.13	ž	2.94	.02	.12	1	1
C 106505	1	44	2	25	.1	116	24	164	3.17	2	5	ND	1	28	1	2	5	26	.54	.066	3	115	1.20	121	.16	3	1.23	.01	.14	1	3
C 106506	5	14	5	36	.1	11	4	167	1.67	z	5	ND	4	7	1	2	2	7	.21	.033	16	8	.12	97	.01	3	.52	.03	.10	1	1
STD C/AU-R	18	62	38	132	7.1	68	31	959	3.92	44	19	8	36	48	19	16	17	58	.51	.095	37	57	.96	173	.06	35	2.04	.06	.14	13	505

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### Strato Geological Ltd. PROJECT 807 FILE # 89-4795

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# **APPENDIX II:**

# Geophysical Instrumentation.

### SABRE MODEL 27 VLF-EM RECEIVER

### **SPECIFICATIONS**

Source of Primary Field - VLF radio stations (12 to 24 KHz).

Number of Stations - 4, selected by switch; Cutler, Main on 17.8 KHz and Seattle, Washington on 24.8 KHz are standard, leaving 2 other stations that can be selected by the user. Currently these are Hawaii at 23.4 KHz and Annapolis, MD at 21.4 KHz.

### Types of Measurements

1. Dip angle in degrees, read on a meter-type inclinomter with range of + or - 60 degrees and an accuracy of + or - 1/2 degrees.

2. Field strength, read on a meter and a precision digital dial with an accuracy exceeding 1%.

3. Out of phase component, read on the field strength meter as a residual reading when measuring the dip angle.

### **Dimensions and Weight**

Approx. 9 1/2" x 2 1/2" x 8 1/2" (24.2cm x 6.3cm x 21.6cm).

5 lbs (2.37 kg)

### Batteries

8 alkaline penlite cells (AA cells). The instrument will run continuously on one set of batteries for over 200 hours; so that in normal on-off use, the batteries will last all season. The battery condition under load is shown by pushing a button and reading voltage on the field strength meter.

Note: The instrument is not waterproof and must be protected by placing in a plastic bag for use under wet survey conditions.

# SCINTREX MODEL MP-2, PRECESSION MAGNETOMETER

Resolution:	1 gamma.
Total Field Accuracy:	$\pm$ 1 gamma over full operating range.
Range:	20,000 to 100,000 gammas in 25 overlapping steps.
Informal Measuring Program:	A reading appears 1.5 seconds after depression of the Operate
	Switch and remains displayed for a total of 3.7 seconds per single
	reading. Recycling feature permits automatic repetitive readings at 3.7 second intervals.
External Trigger:	External trigger imput permits use of sampling intervals longer then 3.7 seconds.
Display:	5 digit LED (light omitting, diode) readout displaying total magnetic field in gammas or normalized battery voltage.
Data Output:	Multiplied precession frequency and gate time outputs for base station recording using interfacting optionally available from Scintrex.
Gradient Tolerance:	Up to 5000 gammas/meter.
Power Source:	8 alkaline "D" cells provide up to 25,000 readings at 25 degrees under reasonable signal/noise conditions (less at lower temperatures). Premium carbon-zinc cells provide about 40% of this number.

# APPENDIX I: Assay Certificate.

ACME ANAL ICAL LABORATORIES LTD.

10.4

852 E. HASTINGS ST. VA DUVER B.C. V6A 1R6

### 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 MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL., AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: ROCK AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

Strato Geological Ltd. PROJECT 807 File # 89-4795 Page 1

SAMPLE#	Mo PPM	PPM	Pb	Zn PPM	Ag	Ni PPM	Co PPM	Mn PPM	Fe X	As PPM	PPM	AU	Th	Sr PPM	Cd PPM	Sb PPM	Bi PPM	PPM	Ca X	P X	La PPM	Cr PPM	Mg	Ba PPM	Ti X	B PPM	Al X	Na X	**	PPM	Au* PPB
C 106501	3	29	3	10	.1	11	4	147	1.11	2	5	ND	1	4	1	2	2	2	.05	.019	2	10	.01	6	.01	3	.12	.01	.02	1	1
C 106502	3	23	3	7	.1	10	1	78	.51	2	5	ND	1	2	1	2	2	1	.07	.004	2	9	.01	5	.01	6	.05	.01	.01	1	2
C 106503	4	7	3	3	.1	13	1	56	.50	2	5	ND	1	2	1	2	2	2	.01	.003	2	12	.02	2	.01	2	.06	.01	.01	1	12
C 106504	2	128	2	94	.1	8	14	452	5.32	3	5	ND	2	45	1	2	2	111	1.09	.261	8	5	2.00	107	.13	2	2.94	.02	.12	1	1
C 106505	1	44	2	25	.1	116	24	164	3.17	2	5	ND	1	28	1	2	2	26	.54	.066	3	115	1.20	121	.16	3	1.23	.01	.14	1	3
C 106506	5	14	5	36	.1	11	4	167	1.67	2	5	ND	4	7	1	2	2	7	.21	.033	16	8	.12	97	.01	3	.52	.03	.10	1	1
STD C/AU-R	18	62	38	132	7.1	68	51	959	3.92	- 44	19	8	36	48	19	16	17	58	.51	.095	37	57	.96	173	.06	35	2.04	.06	.14	13	505

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# **APPENDIX II: Geophysical Instrumentation.**

### SABRE MODEL 27 VLF-EM RECEIVER

### **SPECIFICATIONS**

Source of Primary Field - VLF radio stations (12 to 24 KHz).

Number of Stations - 4, selected by switch; Cutler, Main on 17.8 KHz and Seattle, Washington on 24.8 KHz are standard, leaving 2 other stations that can be selected by the user. Currently these are Hawaii at 23.4 KHz and Annapolis, MD at 21.4 KHz.

### Types of Measurements

1. Dip angle in degrees, read on a meter-type inclinomter with range of + or - 60 degrees and an accuracy of + or - 1/2 degrees.

2. Field strength, read on a meter and a precision digital dial with an accuracy exceeding 1%.

3. Out of phase component, read on the field strength meter as a residual reading when measuring the dip angle.

### **Dimensions and Weight**

Approx. 9 1/2" x 2 1/2" x 8 1/2" (24.2cm x 6.3cm x 21.6cm).

5 lbs (2.37 kg)

### **Batteries**

8 alkaline penlite cells (AA cells). The instrument will run continuously on one set of batteries for over 200 hours; so that in normal on-off use, the batteries will last all season. The battery condition under load is shown by pushing a button and reading voltage on the field strength meter.

Note: The instrument is not waterproof and must be protected by placing in a plastic bag for use under wet survey conditions.

# SCINTREX MODEL MP-2, PRECESSION MAGNETOMETER

Resolution:	1 gamma.
Total Field Accuracy:	<u>+ 1 gamma over full operating range.</u>
Range:	20,000 to 100,000 gammas in 25 overlapping steps.
Informal Measuring Program:	A reading appears 1.5 seconds after depression of the Operate
	Switch and remains displayed for a total of 3.7 seconds per single
	reading. Recycling feature permits automatic repetitive readings at 3.7 second intervals.
External Trigger:	External trigger imput permits use of sampling intervals longer then 3.7 seconds.
Display:	5 digit LED (light omitting, diode) readout displaying total
•	magnetic field in gammas or normalized battery voltage.
Data Output:	Multiplied precession frequency and gate time outputs for base
	station recording using interfacting optionally available from Scintrex.
Gradient Tolerance:	Up to 5000 gammas/meter.
Power Source:	8 alkaline "D" cells provide up to 25,000 readings at 25 degrees
·	under reasonable signal/noise conditions (less at lower temperatures).
	Premium carbon-zinc cells provide about 40% of this number.

### REPORT ON DECEMBER 1988 PERCUSSION DRILLING GRASSHOPPER MTN. PLATINUM LONGREACH RESOURCES LTD. BY J.J. McDOUGALL, P.ENG. MAY 1, 1989

### INTRODUCTION AND SUMMARY

During early December, 1988, the writer helped supervise a short percussion drill program at Grasshopper Mountain, B.C. The exercise included exploratory testing of target areas opened up by 5 km of new access road established earlier in the southwest portion of the host dunitic body. Many of the 18 holes involved were laid out to test widespread overburdened lineal targets believed important as reflecting fault structures of apparent importance in localizing chromite-platinum concentrations within the generally platiniferous dunitic host rocks (Map 21). Earlier 1988 drilling and sampling programs have been discussed in various short reports on file.

The new westerly road, constructed in the Fall after drill target areas were marked, connected with the earlier road constructed from the north. Unfortunately, drilling was delayed until mud and snow prevented vehicle access but a D6 Cat was employed to tow the drill to the approximate proposed locations. Heavy snow (up to 3 ft.) prevented planned bulk sampling of platinum-bearing chromitite zones exposed by the new road. Drilling proceeded rapidly as the drillers were instructed not to battle bad ground conditions and a number of the holes were stopped short, surprisingly mostly by water courses related to the fault zones.

Eighteen holes, mostly angle, were completely for a total of 2,050 feet. Depths ranged from 30 to 250 feet. Sampling of the rock flour cuttings was done at 5 foot intervals and all samples were assayed for gold, platinum, palladium and rhodium. Those with platinum values exceeding 100 ppb were analyzed for chromite ( $Cr_2O_3$ ).

Drill logs as enclosed were made under 'trying' field conditions by drill helpers and should be treated accordingly. Several additional men would normally be required to more thoroughly sample and log wet drill cuttings during winter conditions.

### CONCLUSIONS

December percussion drilling (Map 21) suggests observations and conclusions as follows:

- Some success appears to have been attained in Suggesting the correlation of mineralization and large scale fault structures at Grasshopper. However, until the location of the December drill holes can be surveyed and proper maps and sections be prepared, this relation can not be proven.
- 2) Dunitic host rock continues to show highly anomalous platinum values towards the west side of the complex as had earlier work towards the center.
- 3) The best December intersection of 5 feet at 0.18 oz. platinum also contains a relatively anomalous 12 ppb rhodium (Rhodium was not routinely assayed for during earlier programs).
- 4) Chromite values of 76 samples exceeding 100 ppb platinum ranged from 0.18% to 0.60%. The highest platinum assay of 0.18 oz/t showed only 0.5% chromite. The 76 samples (cut) averaged 200 ppb platinum and 0.40% Cr<sub>2</sub>O<sub>3</sub>, or 500 ppb (0.015 g) platinum for each 1% of Cr<sub>2</sub>O<sub>3</sub>.
- 5) Although platinum values associated with surface-exposed chromite on Chromite Ridge are usually low, normal chromitiferous dupite (<u>+</u> 0.5% Cr) underlying the ridge contains the same order of platinum as does the rest of the complex.
- 6) Graphic plotting of all surface and drill hole assays exceeding 100 ppb platinum reveals that ratios of Pt to Cr in surface samples are far more scattered or dispersed, possibly due to some surface oxidation. A slight

possibility exists that heavier chromite may not have been totally recovered during percussion drilling relative to the lighter dunite - serpentinite.

- 7) At least two of the suspected fault zones (Drill Holes #23 and #26) contain anomalous gold values.
- 8) Water courses, of importance when considering required water for diamond drilling beyond May, are present below some of the sharp valleys present, even high on the mountain.
- 9) Compilation of stratigraphy and mineralization at Grasshopper remains essentially impossible (and frustrating) due to the fine grind (flour size) of sample returned by percussion drilling. However, except for possible loss of some 'nuggets', recoveries (except in water courses) are good enough to allow reasonably accurate estimates of the average platinum and chromite distribution over large areas, as discernable in the drill logs.
- Regarding Pt/chromite ratios, calculations using 240 widespread Newmont surface samples on Grasshopper Mountain, in groups of 30, showed averages of 0.004, 0.019, 0.005, 0.013, 0.007, 0.005, 0.020, and 0.014 oz. Pt for each 1% Cr<sub>2</sub>O<sub>3</sub> present for an overall average of 0.011 oz/%. October drilling by Longreach (11 samples) showed a 0.002 oz/% ratio while December drilling (76 samples) calculated out at 0.015 oz/% Cr<sub>2</sub>O<sub>3</sub> (acutal chromite adjusting for FeO present would lower the ratio slightly).

### RECOMMENDATIONS

 A few of the dozen of the more interesting platinum zones intersected by the percussion drill should be properly retested using short hole NQ diamond drilling. Included are targets partially tested by Holes 21, 25, 29, 30, 34, etc. as well as those holes which, following proper survey, are expected to be shown not to have reached designated targets such as #20, 26, etc. Geological features then evident can be used to evaluate and predict required continuity, etc. A minimal 1,500 feet of such drilling would be required to retest all intersections although less than 1,000 feet might provide a fairly accurate appraisal.

Additional drilling  $(\pm 1,500$  feet) is required to test both structural and other targets abandoned by the percussion drill or not attempted due to winter conditions.

2) Mineralized rock exposures made by the several km of new road should be bulk sampled. Of highest priority is the several hundred feet of interesting greenish dunitic rock exposed 150 to 300 feet northwest and west of Drill Hole #PH 4. Several small specimens showing weakly disseminated chromite and/or magnetite assayed in the 0.10 oz. Pt range and this zone, due largely to exposures now evident, appears - as shown on Map 21 - to be the most continuous on Grasshopper Mountain. Due to heavy snow, more than 1 km of new (south) road has not been seen, let alone sampled, by Longreach Resources personnel, nor has the eastern portion of the property where Harlow discovered a pyritic zone in early 1988 and below which gold and platinum is anomalous in the soils. Prospecting of these areas is still required.

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### COST ESTIMATE

As the magnitude of additional exploratory work proposed for Grasshopper is well beyond the scope of this report, only the basic (Stage I) recommendations included are considered:

### Stage I

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1)	Diamond Drilling - 3,000 feet NQ If holes are relatively short (max. 300 ft.) and designed to better test mineralized targets already indicated by percussion drilling, an all inclusive cost of	ſ		
	\$60 per foot is predicted	Ś	180,000	max.
2)	<ul> <li>Bulk Sampling</li> <li>a) 100 twenty pound samples collecting - 10 man days at \$200/day (all inclusive)</li> <li>b) Assays at \$20 each</li> <li>c) Mineralogical Examinations and Tests</li> </ul>		2,000 2,000 1,000	
3)	Overhead Supervision, Reports, Property Maintenance, Prospecting, Surveying, etc.	_	15,000	
	Sub-total Contingency	-	200,000 25,000	
	Total Stage I	\$	225,000	

### Note:

If initial diamond drilling confirms percussion drill results, further testing of some of the remaining holes should be proposed in favour of increased bulk sampling and prospecting expenditures.

### Timing

May to November, drilling more efficient during late May when water is available, although upper water is available (based on water courses discovered during late 1988 drilling) which could provide a year-round supply if properly regulated, etc. Backhoe-constructed ponding is required to assure this.

### Permit Requirements

As cancellation of the "bonded" 1988 Environmental Permits has apparently not been applied for by Longreach, a 1989 drill program permit might be amended to the existing one. Allow one month for processing.

### Stage II

No allowances is made for Stage II work and such would not necessarily be dependent on positive Stage I results except for the possibility being discussed of a short(?) exploratory adit in the vicinity of Hole #32 at the western edge of the steep cliff face. Also being discussed are long, semi-random exploratory holes designed to test under the precipituous southern cliff face. If drilled, BQ size would be adequate and far less expensive than NQ proposed for more meaningful sampling of known mineralized zones.

Costs of BQ drilling - all inclusive - would be about \$45 or \$50 per foot in this area given reasonable access to water.

linge ll PEng

James J. McDougall, P.Eng. May 5, 1989



SAMPLE#	Au	Pt	Pd	Rh
	PPB	PPB	PPB	PPB
H22-88 10-15	8	71	2	2
H22-88 15-20	3	74	2	2
H22-88 20-25	2	50	2	2
H22-88 25-30	1	77	2	2
H22-88 30-35	1	24	2	2
H22-88 35-40	1	5	2	2
H22-88 40-45	4	49	2	2
H22-88 45-50	1	111	4	3
H23-88 4-10	3	15	2	2
H23-88 10-15	75	6	7	2
H23-88 15-20	5	61	2	2
H23-88 20-25	6	46	3	2
H23-88 25-30	4	19	2	2
H23-88 30-35	22	11	2	2
H23-88 35-40	13	17	2	2
H23-88 40-45 H23-88 45-50 H23-88 50-55 H23-88 55-60 H23-88 60-65	8 3 11 19 22	34 90 10 15 19	2 2 4 6	2 2 2 2 2
H23-88 65-70	27	234	6	3
H23-88 70-75	20	77	3	2
H23-88 75-80	22	549	8	3
H23-88 80-85	7	35	2	2
H23-88 85-90	8	31	6	2
H23-88 90-95	9	33	2	2
H23-88 95-100	12	16	2	2
H23-88 100-105	8	20	2	2
H23-88 105-110	12	13	2	2
H23-88 110-115	7	18	5	2
H23-88 115-120 H23-88 120-125 H23-88 125-130 H23-88 130-135 H23-88 135-140	11 4 1 2 3	25 21 15 12 19	2 2 2 5	2 2 2 2 2
H23-88 140-145	3	28	2	2
H23-88 145-150	5	35	4	2

SAMPLE	¥	Au PPB	Pt PPB	Pđ PPB	Rh PPB
H24-88 H24-88 H24-88 H24-88 H24-88	10-15 15-20 20-25 25-30 30-35	3 17 6 1 3	60 14 2 17 9	2 7 7 3 2	2 2 2 2 2
H24-88 H24-88 H24-88 H24-88 H24-88	35-40 40-45 45-50 50-55 55-60	2 4 1 3	3 9 4 12 81	2 2 3 5 3	2 2 2 2 2
H24-88 H24-88 H24-88 H24-88 H24-88 H24-88	60-65 65-70 70-75 75-80 80-85	2 3 3 1 1	17 9 7 4 8	2 5 4 2 3	2 2 2 2 2
H24-88 H24-88 H24-88 H25-88 H25-88	85-90 90-95 95-100 5-10 10-15	1 3 1 9 6	25 43 38 5 5	2 8 9 8 5	2 2 2 2 2
H25-88 H25-88 H25-88 H25-88 H25-88	15-20 20-25 25-30 30-35 35-40	10 1 2 1 3	2 10 1 76 206	4 2 5 6	2 2 2 2 2
H25-88 H25-88 H25-88 H25-88 H25-88	40-45 45-50 50-55 55-60 60-65	6 7 4 5 3	152 87 85 77 55	3 4 3 3 2	2 2 2 2 2 2
H25-88 H25-88 H26-88 H26-88 H26-88	65-70 70-75 5-10 10-15 15-20	1 3 7 7 4	549 294 61 59 63	5 2 6 7	2 4 2 2 2
H26-88	20-25	340	85	7	2

SAMPLE#	Au PPB	Pt PPB	Pd PPB	Rh PPB
H26-88 25-30 H26-88 30-35 H26-88 35-40 H26-88 40-45 H26-88 45-50	11 8 5 20 7	18 5 45 103 23	4 2 3 3	2 2 2 2 2
H26-88 50-55 H26-88 55-60 H26-88 60-65 H26-88 65-70 H26-88 70-75	16 5 6 10 14	26 39 112 47 98	4 2 2 5	2 2 2 3
H26-88 75-80 H26-88 80-85 H26-88 85-90 H26-88 90-95 H26-88 95-100	11 24 1 21 44	107 105 71 81 62	7 3 9 6 2	3 2 3 2
H26-88 100-105 H28-88 5-10 H28-88 10-15 H28-88 15-20 H28-88 20-25	40 22 9 7 1	93 103 124 109 119	2 9 10 7	2 6 4 2
H28-88 25-30 H28-88 30-35 H28-88 35-40 H28-88 40-45 H28-88 45-50	2 6 12 4 10	99 82 90 91 65	3 4 12 2 4	2 4 2 2 4
H29-88 17-20 H29-88 20-25 H29-88 25-30 H29-88 30-35 H29-88 35-40	1 2 1 2 1	381 211 66 77 177	8 6 8 2 3	5 4 3 2 3
H29-88 40-45 H29-88 45-50 H29-88 50-55 H29-88 55-60 H29-88 60-65	1 1 3 1 1	219 79 169 8 70	15 8 2 6	5 2 4 2 3
H29-88 65-70	2	373	2	5

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SAMPLE	ŧ	Au PPB	Pt PPB	Pd PPB	Rh PPB
H29-88 H29-88 H29-88 H29-88 H29-88 H29-88	70-75 75-80 80-85 85-90 90-95	9 10 2 5 3	29 92 57 41 142	2 2 3 6 2	2 2 2 2 2
H29-88 H29-88 H29-88 H29-88 H29-88 H29-88	95-100 100-105 105-110 110-115 115-120	5 3 1 2 1	28 51 74 123 116	2 2 3 2 6	2 2 2 2 2
H29-88 H29-38 H29-88 H29-88 H29-88	120-125 125-130 130-135 135-140 140-145	2 3 4 3 2	80 145 463 45 53	4 3 11 2 2	2 2 4 2 2
H29-88 H29-88 H29-88 H29-88 H29-88	145-150 150-155 155-160 160-165 165-170	2 3 2 3 2	110 161 229 158 224	3 3 4 4	2 2 2 3
H29-88 H29-88 H29-88 H29-88 H29-88 H29-88	170-175 175-130 180-185 185-190 190-195	1 3 1 2	307 237 128 234 70	7 5 11 4 4	3 2 2 3 2
H29-88 H30-88 H30-88 H30-88 H30-88	195-200 3-10 10-15 15-20 20-25	1 2 3 3	271 22 84 246 14	5 3 9 7	2 2 2 2 2
H30-88 H30-88 H30-88 H30-88 H30-88	25-30 30-35 35-40 40-45 45-50	2 3 1 3 1	46 7 1 4 1	7 13 2 3 4	2 2 2 2 2
H30-88	50-55	4	10	7	2

DATE RECEIVED: APR 12 1989 ACME ANALYTICAL LABORATORIES 352 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 on NE 253-3158 DATA LINE 251-1011 DATE REPORT MAILED:

### ANALYSIS GEOCHEM PRECIOUS METALS

10 GRAM SAMPLE FIRE ASSAY AND ANALYSIS BY ICP/GRAPHITE FURNACE. - SAMPLE TYPE: CUTTING SIGNED BY. .: J. D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

LONGREACH RESOURCES LTD. PROJECT GRASS HOPPER FILE # 89-0787 Page 1

SAMPLE#		Au PPB	Pt PPB	Pd PPB	Rh PPB
H20-88 H20-88 H20-88 H20-88 H20-88 H20-88	5-20 20-30 30-40 40-50 50-60	4 1 3 3 1	39 53 27 52 60	4 4 11 6	2 3 2 2 2
H20-88 H20-88 H20-88 H20-88 H20-88 H21-88	50-70 70-80 30-90 90-100 20-25	1 4 1 5	55 49 32 39 466	2 7 3 9 11	2 2 2 2 2
H21-88 H21-88 H21-88 H21-88 H21-88	25-30 30-35 35-40 40-45 45-50	35 6 4 2 3	90 157 66 123 147	5 2 2 9	2 2 2 2 2
H21-88 H21-88 H21-88 H21-88 H21-88 H21-88	50-55 55-60 A 55-60 60-65 65-70	9 1 3 4 4	111 11 14 19 10	2 2 5 4 2	3 2 2 2 2
H21-88 H21-88 H21-88 H21-88 H21-88 H21-88	70-75 75-80 80-85 85-90 90-95	2 2 3 1 6	17 38 46 39 20	2 2 5 2 4	<b>3</b> 2 2 2 2 2
H21-88 H21-88 H21-88 H21-88 H21-88 H21-88	100-105 105-110 110-115 115-120 120-125	1 4 5 2 5	21 99 67 54 73	2 10 6 5 2	4 2 4 3 2
H21-88 H21-88 H21-88 H21-88 H21-88	125-130 130-135 135-140 140-145 145-150	10 7 7 16 12	43 52 55 62 106	8 6 11 3	2 2 2 2 2
H22-88	2-10	9	146	4	3

SAMPLE#	Au	Pt	Pd	Rh
	PPB	PPB	PPB	PPB
H30-88 55-60	2	5	2	2
H30-88 60-65	75	308	2	2
H30-88 65-70	1	59	2	2
H30-88 70-75	7	48	2	2
H30-88 75-80	1	2	2	2
H30-88 80-85 H30-88 85-90 H30-88 90-95 H30-88 95-100 H30-88 100-105	1 1 3 3 1	19 4 15 27	2 2 2 4	2 2 2 2 2
H30-88 105-110 H30-88 110-115 H30-88 115-120 H30-88 120-125 H30-88 125-130	1 1 1 1	59 25 20 5 1	2 2 2 2 2	2 2 2 2 2
H30-88 130-135 H30-88 135-140 H30-88 140-145 H30-88 145-150 H30-88 150-155	5 1 2 1	5 9 20 13 19	2 2 3 3 2	2 2 2 2 2
H30-88 155-160 H30-88 160-165 H30-88 165-170 H30-88 170-175 H30-88 175-180	1 2 3 2	10 19 31 15 19	2 2 4 4 2	2 2 2 2 2 2
H30-88 180-185	5	12	2	2
H30-88 185-190	1	12	2	2
H30-88 190-195	2	1	2	2
H30-88 195-200	4	48	2	2
H30-88 200-205	3	62	2	2
H30-88 205-210	1	165	5	2
H30-88 210-215	3	36	4	2
H30-88 215-220	1	11	2	2
H30-88 220-225	1	33	2	2
H30-88 225-230	2	46	2	2
H30-88 230-235	4	74	3	2
H30-88 235-240	1	62	2	2

SAMPLE#		Au PPB	Pt PPB	Pd PPB	Rh PPB
H31-88 H31-88 H31-88 H31-88 H31-88	3-10 10-15 15-20 20-25 25-30	3 2 2 1 1	35 20 29 23 48	2 3 3 2 2	2 2 2 2 2
H32-88 H32-88 H32-88 H32-88 H32-88 H32-88	0-10 10-15 15-20 20-25 25-30	1 3 2 1 3	19 11 12 19 54	2 2 3 2 2	2 2 2 3
H32-88 H32-88 H32-88 H32-88 H32-88 H32-88	30-35 35-40 40-45 45-50 50-55	4 1 7 4 1	78 86 105 60 31	3 7 5 2 5	2 2 2 2 2
H32-88 H32-88 H32-88 H32-88 H32-88	55-60 60-65 55-70 70-75 75-80	3 1 4 5 4	75 53 81 74 45	6 3 8 7 7	2 2 2 2 2
H32-88 H32-88 H32-88 H33-88 H33-88	80-85 35-90 90-95 0-10 10-15	3 1 1 4 3	58 45 95 40 74	14 2 5 12	2 2 2 2 2
H33-88 H33-88 H33-88 H33-88 H33-88	15-20 20-25 25-30 30-35 35-40	1 1 4 1 1	59 58 79 81 101	2 2 9 2 2	2 2 2 2 2
H33-88 H33-88 H33-88 H33-88 H33-88	40-45 45-50 50-55 55-60 60-65	2 1 2 6 1	68 55 79 79 104	9 6 2 2	2 2 2 2 2

SAMPLE#	Au PPB	Pt PPB	Pd PPB	Rh PPB
H33-88 65-70 H33-88 70-75 H33-88 75-80 H33-88 80-85 H33-88 85-90	1 1 2 1	118 430 141 153 174	3 2 8 6 3	2 3 4 3 5
H33-88 90-95 H33-88 95-100 H33-88 100-105 H33-88 105-110 H33-88 110-115	4 1 4 1 4	131 116 61 208 19	8 3 2 6 3	3 2 3 4 2
H33-88 115-120 H33-88 120-125 H33-88 125-130 H33-88 130-135 H33-88 135-140	1 1 4 2	13 12 29 56 27	2 2 5 2 6	2 2 2 2 2
H33-88 140-145 H33-88 145-150 H33-88 150-155 H33-88 155-160 H33-88 160-165	2 1 1 1	43 10 8 9 22	6 2 4 6	2 2 2 2 2
H33-88 165-170 H33-88 170-175 H33-88 175-180 H33-88 180-185 H33-88 185-190	1 2 1 2 1	18 15 22 13 15	4 3 6 4 4	2 2 2 2 2
H33-88 190-195 H33-88 195-200 H33-88 200-205 H33-88 205-210 H33-88 210-215	1 4 1 1	23 23 25 35 79	2 6 2 5 6	2 2 2 2 2
H33-88 215-220 H33-88 220-225 H33-88 225-230 H33-88 230-235 H33-88 235-240	3 2 1 1	100 85 112 83 110	6 3 5 2 5	2 2 2 3
H33-88 240-245 H33-88 245-250	1 2	77 119	2 5	2 2

SAMPLE	ŧ	Au PPB	Pt PPB	Pd PPB	Rh PPB
H34-88	0-10	1	236	2	2
H34-88	10-15	31	125	2	4
H34-88	15-20	1	106	5	2
H34-88	20-25	1	119	2	2
H34-88	25-30	1	40	2	2
H34-88 H34-88 H34-88 H34-88 H34-88	30-35 35-40 40-45 45-50 50-55	1 1 3 2	111 75 281 90 <b>4</b> 9	2 7 8 4 2	3 2 6 2 2
H34-88 H34-88 H34-88 H34-88 H34-88	55-60 60-65 65-70 70-75 75-80	3 1 1 1 4	50 140 32 63 17	3 5 2 2 2 2	2 2 2 2 2 2
H34-88	80-85	4	105	3	2
H34-88	85-90	2	40	6	2
H34-88	90-95	1	355	2	2
H34-88	95-100	1	36	6	2
H34-88	100-105	1	57	3	2
H34-88	105-110	1	39	7	2
H34-88	110-115	3	33	2	2
H34-88	115-120	1	39	2	2
H34-88	120-125	1	24	2	2
H34-88	125-130	5	45	2	2
H34-88	130-135	2	36	6	2
H34-88	135-140	2	44	15	2
H34-88	140-145	1	41	2	2
H34-88	145-150	2	47	6	2
H34-88	150-155	1	55	3	2
H34-88	155-160	3	70	2	2
H34-88	160-165	2	109	8	2
H34-88	165-170	2	36	2	2
H34-88	170-175	1	80	4	2
H34-88	175-180	2	60	3	2
H34-88	180-185	19	6240	27	16

• .

SAMPL	JE #	Au PPB	Pt PPB	Pd PPB	Rh PPB
H34-8 H34-8 H34-8 H34-8 H34-8	88 185-190 88 190-195 88 195-200 88 200-205 88 205-210	3 3 2 1 1	10 28 1 5 11	2 3 2 2 2	2 2 2 2 2
H34-8 H35-8 H35-8 H35-8 H35-8	88 210-215 88 0-10 88 10-15 88 15-20 88 20-25	2 1 3 2 2	21 2 3 1 4	3 2 4 2 2	2 2 2 2 2
H35-8 H35-8 H35-8 H35-8 H35-8	38       25-30         58       30-35         38       35-40         38       40-45         38       45-50	1 1 1 2	11 2 28 611 130	2 2 3 3 2	2 2 14 3
H35-8 H35-8 H35-8 H36-8 H36-8	88 50-55 88 55-60 88 60-65 88 0-10 88 10-15	2 1 1 2	11 9 15 5 297	2 2 2 2 2	2 2 2 4
H36-8 H36-8 H36-8 H36-8 H36-8	38       15-20         38       20-25         38       25-30         38       30-35         38       35-40	1 1 1 1	287 11 8 68 11	2 2 2 2 2	2 2 2 2 2
H36-8 H36-8 H36-8 H36-8 H36-8	88 40-45 88 45-50 88 50-55 88 55-60 88 60-65	1 1 7 2	10 8 15 4 5	2 2 6 3	2 2 2 2 2
H36-8 H36-8 H36-8 H37-8 H37-8	88 65-70 88 70-75 88 75-80 88 15-20 88 20-25	2 1 1 1 1	1 2 1 31 11	2 2 3 7 2	2 2 2 2 2
н37-8	38 25-30	1	39	4	2

. .

SAMPLE#	Au	Pt	Pd	Rh
	PPB	PPB	PPB	PPB
H37-88 30-35	1	7	2	2
H37-88 35-40	1	15	2	2

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED: MAY 2 1989 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 DATE REPORT MAILED: MAY 2 1989

### WHOLE ROCK ICP ANALYSIS

A .1000 GRAN SAMPLE IS FUSED WITH .60 GRAN OF LIBO2 AND IS DISSOLVED IN 50 MLS 5% HNO3.

- SAMPLE TYPE: Pulp

SIGNED BY ..... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

LONGREACH RESOURCES LTD. PROJECT GRASS HOPPER FILE # 89-0787R Page 1

SAMPLE	#	Cr %
H21-88	20-25	.27
H21-88	30-35	.14
H21-88	40-45	.19
H21-88	45-50	.26
H21-88	50-55	.29
H21-88	145-150	.23
H22-88	2-10	.26
H22-88	45-50	.22
H23-88	65-70	.28
H23-88	75-80	.30
H25-88 H25-88 H25-88 H25-88 H25-88 H26-88	35-40 40-45 65-70 70-75 40-45	.41 .46 .26 .27 .25
H26-88	60-65	.20
H26-88	75-80	.21
H26-88	80-85	.21
H28-88	5-10	.26
H28-88	10-15	.31
H28-88	15-20	.23
H28-88	25-30	.29
H29-88	17-20	.14
H29-88	20-25	.18
H29-88	35-40	.21
H29-88	40-45	.23
H29-88	50-55	.15
H29-88	65-70	.24
H29-88	90-95	.25
H29-88	110-115	.31
H29-88 H29-88 H29-88 H29-88 H29-88 H29-88	115-120 125-130 130-135 145-150 150-155	.27 .28 .37 .34 .31
H29-88	155-160	.32
H29-88	160-165	.31

\_

SAMPLE	#	Cr %
H29-88 H29-88 H29-88 H29-88 H29-88 H29-88	165-170 170-175 175-180 180-185 185-190	.37 .38 .37 .36 .30
H29-88 H30-88 H30-88 H30-88 H30-88 H32-88	195-200 15-20 60-65 205-210 45-50	.37 .21 .49 .32 .26
H33-88 H33-88 H33-88 H33-88 H33-88	35-40 60-65 65-70 70-75 75-80	.35 .33 .31 .33 .46
H33-88 H33-88 H33-88 H33-88 H33-88	80-85 85-90 90-95 95-100 105-110	.34 .45 .40 .31 .31
H33-88 H33-88 H33-88 H33-88 H33-88 H34-88	215-220 225-230 235-240 245-250 0-10	.33 .26 .42 .38 .34
H34-88 H34-88 H34-88 H34-88 H34-88 H34-88	10-15 15-20 20-25 30-35 40-45	.39 .31 .34 .32 .44
H34-88 H34-88 H34-88 H34-88 H34-88	60-65 80-85 90-95 160-165 180-185	.18 .29 .31 .27 .38

SAMPLE	Ŧ	Cr %
H35-88	40-45	.44
H35-88	45-50	.35
H36-88	10-15	.31
H36-88	15-20	.42

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	FIGURE 6
TWIN EAGLE RESOURCE	CES INC.
GOLD MOUNT CLAIM G SIMILKAMEEN M.D NTS 92	ROUP 211-10W
VLF-EM SURVE PLOT PLAN MA	Y P
To accompany a report by: A.E. Hunter, Geop.	
Drawn By	



![](_page_58_Figure_0.jpeg)

![](_page_59_Figure_0.jpeg)

![](_page_60_Figure_0.jpeg)

Lodestone Intrusion: Ultrabsic rx's, pyroxenite

Nicola Group: Metavolcanics, greenschist series

Nicola Group: Metasediments

	Cu ppm	Pb ppm	Zn	Ag	Au ppb*	
at grab sample on roadcut	29	3	10	.1	I	
ne oxidization from vein	23	3	7	.1	2	
e Quartz vein trending 340" r 10m by roadcut	7	3	3	.1	12	
stone with pyrite and	128	2	94	.1	1	
eous volcanic with pyrite rhotite	44	2	25	.1	3	
e volcanic in test pit ation	14	5	36	,1	1	
iltrabasic rx, pyroxenite	16	2	30	Τ.	11	

LEGEN	ND
4	Adit
and a	Foliation
B	Rock Sample
•	Claim Post
⊽, △	Pyrite, Calcopyrite
× , /	Quartz float, vein
X	Trenches
0	Outcrop
	Road
	Creek
	Geological contact
	VLF-EM conductors
	Low Resistivity zone: HLEM-SE 88, 1
	Conductor: HLEM-SE 88, 1986

# GEOLOGICAL BRANCH ASSESSMENT REPORT

SCALE 1: 2000

150 METRES

FIGURE 5

# TWIN EAGLE RESOURCES INC. GOLD MOUNT CLAIM GROUP SIMILKAMEEN M.D. - NTS 92H/10W

PROPERTY GEOLOGY MAP To accompany a report by:

Drawn By AEH/GT A.E. Hunter, Geop. December, 1989

![](_page_61_Figure_0.jpeg)