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CASA GRANDE ENERGY & MINES LTD.

106 - 709 DUNSMUIR STREET

VANCOUVER, BRITISH COLUMBIA

ASSESSMENT REPORT
on a
VLF-EM and MAGNETOMETER SURVEY
on the
REEF MINERAL CLAIM
KAMLOOPS MINING DIVISION
NTS 92-I/16

Lat. 50°54'N. Long. 120°18'W.

by

R.J. ENGLUND, B.Sc.

STRATO GEOLOGICAL ENGINEERING LTD.

103 - 709 DUNSMUIR STREET

VANCOUVER, BRITISH COLUMBIA

March 28, 1982

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,569

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STRATO GEOLOGICAL ENGINEERING LTD.
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VLF - EM and MAGNETIC SURVEY

REEF CLAIM, KAMLOOPS M.D, B.C.

SUMMARY

A recently completed VLF electromagnetic and magnetic survey over the central REEF claim area has indicated a number of conductive zones which are attributed to intrusive-sedimentary contacts and/or shear or dyke structures. Mineralized quartz veins associated with sericitic and graphite schist are known in the north-central claim area and so make the outlined conductive zones primary target areas for follow-up exploration.

A geochemical soil sampling program and geological mapping are recommended to establish the economic nature of the conductive zones for further exploration work.

Respectfully submitted,

Strato Geological Engineering Ltd.

Ralph J. Englund, B.Sc.

Geophysicist.

March 28, 1982.

INTRODUCTION

Persuant to a request from the Directors of Casa Grande Energy & Mines Ltd., VLF electromagnetic and magnetic surveys were conducted over a portion of the Reef mineral claim during February 1982.

The intent of the geophysical work was to outline any geological structure and/or conductive zones which might be related to possible gold vein structures known to occur near the northern claim boundary.

The results of 7.8 kilometers of geophysical survey work are presented in this report.

LOCATION, ACCESS, TOPOGRAPHY

The Reef mineral claim comprises 16 units situated about 15 kilometers due north of Kamloops, B.C. Access is easily available by motor car along the west side of the North Thompson River to Jamieson Creek. The Jamieson Creek road bisects the property in a northwest-southeast direction with the southeast claim corner being about 500 meters west of the main road.

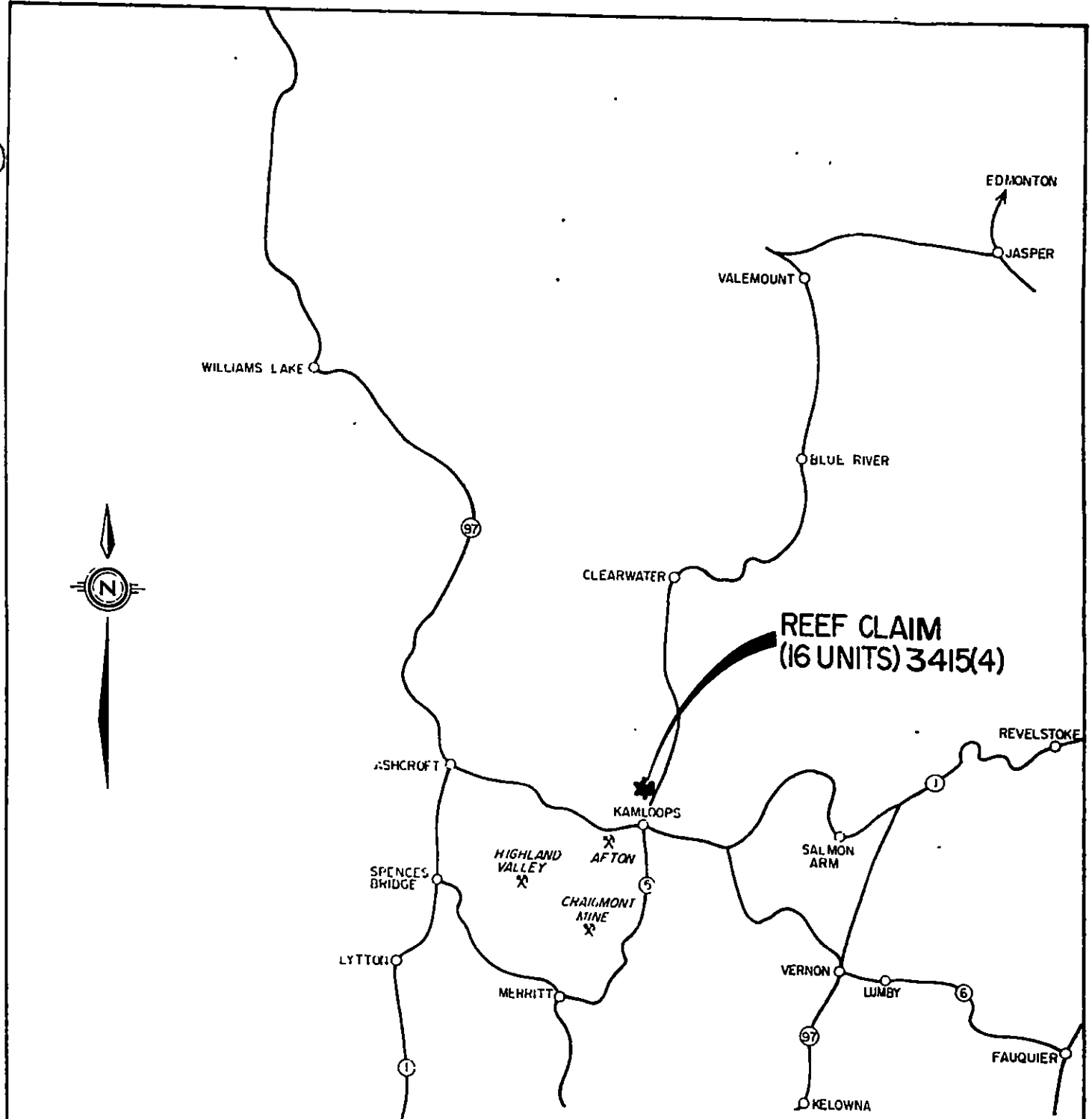

FIGURE NO. 1

CASA GRANDE ENERGY & MINES LTD.
REEF MINERAL CLAIM
KAMLOOPS M.D. 92-I-16W
LOCATION MAP
TO ACCOMPANY A REPORT BY R.J. ENGLUND
STRATO GEOLOGICAL ENGINEERING

KILOMETRES
0 10 20 30 40 50 100

Topography is relatively steep, sloping both northeast and southwest into the Jamieson Creek valley, with elevation varying between 425 and 750 meters above sea level.

CLAIMS

The Reef mineral claim is located in the Kamloops Mining Division, astride Jamieson Creek, some 15 kilometers due north of Kamloops, B.C. The claim is recorded as follows:

Name	Units	Record No.	Expiry Date
Reef	16	3415(4)	April 21, 1982

The claim is shown on the B.C. Department of Mines and Petroleum Resources Mineral Claim Map M92-I/16W.

The Reef claim may not contain a full 16 units as it appears to border the Homestake and Molly Gibson crown grants in the north (units 1S, 2 and 3E) and the Lam 1 mineral claim in the south (unit 4S, 3E) as shown in Figure 2.

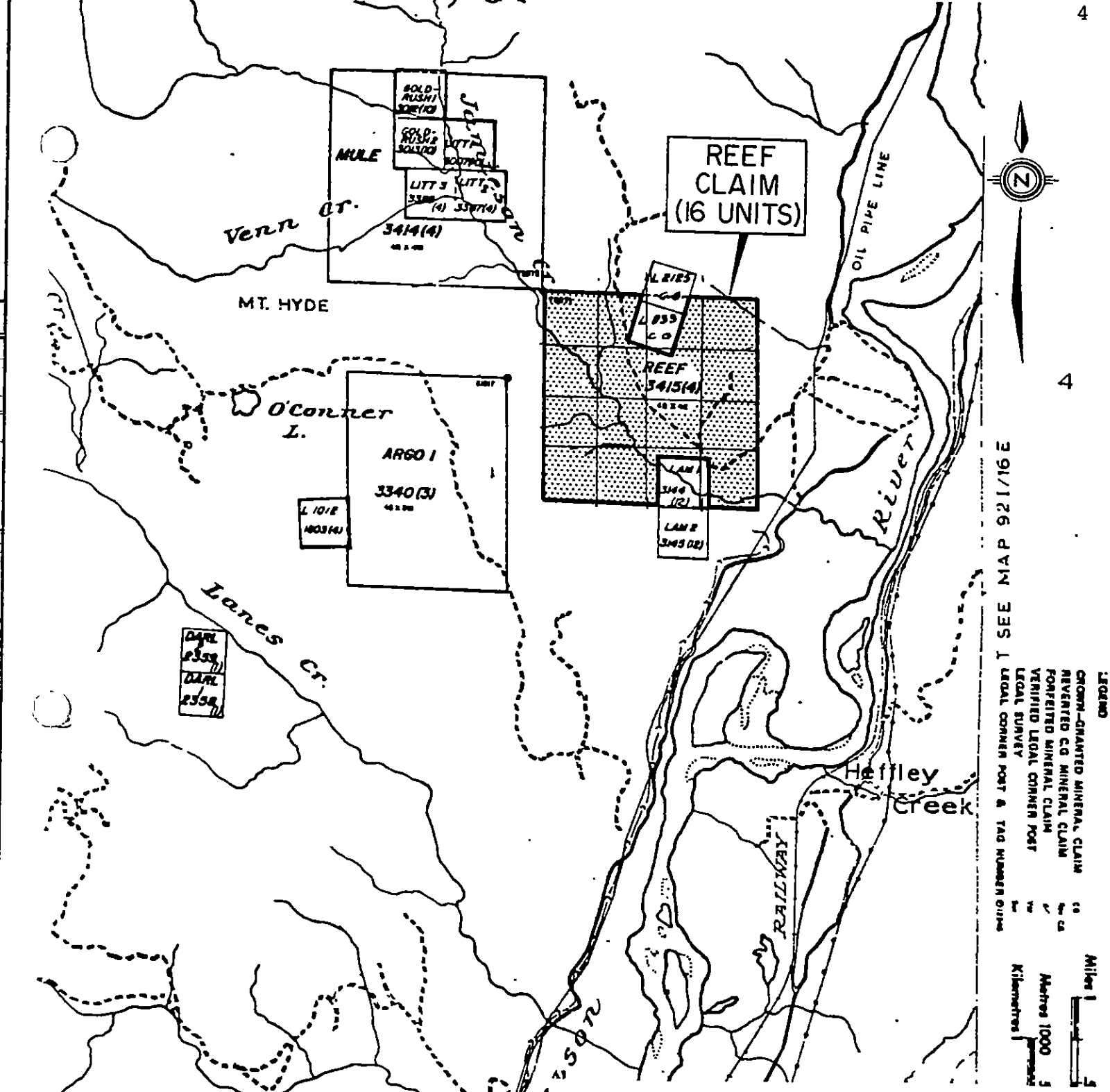

FIGURE NO. 2

CASA GRANDE ENERGY & MINES LTD.
REEF MINERAL CLAIM
KAMLOOPS M.D. 92-I-16W
CLAIM MAP
TO ACCOMPANY A REPORT BY R. J. ENGLUND
STRATO GEOLOGICAL ENGINEERING

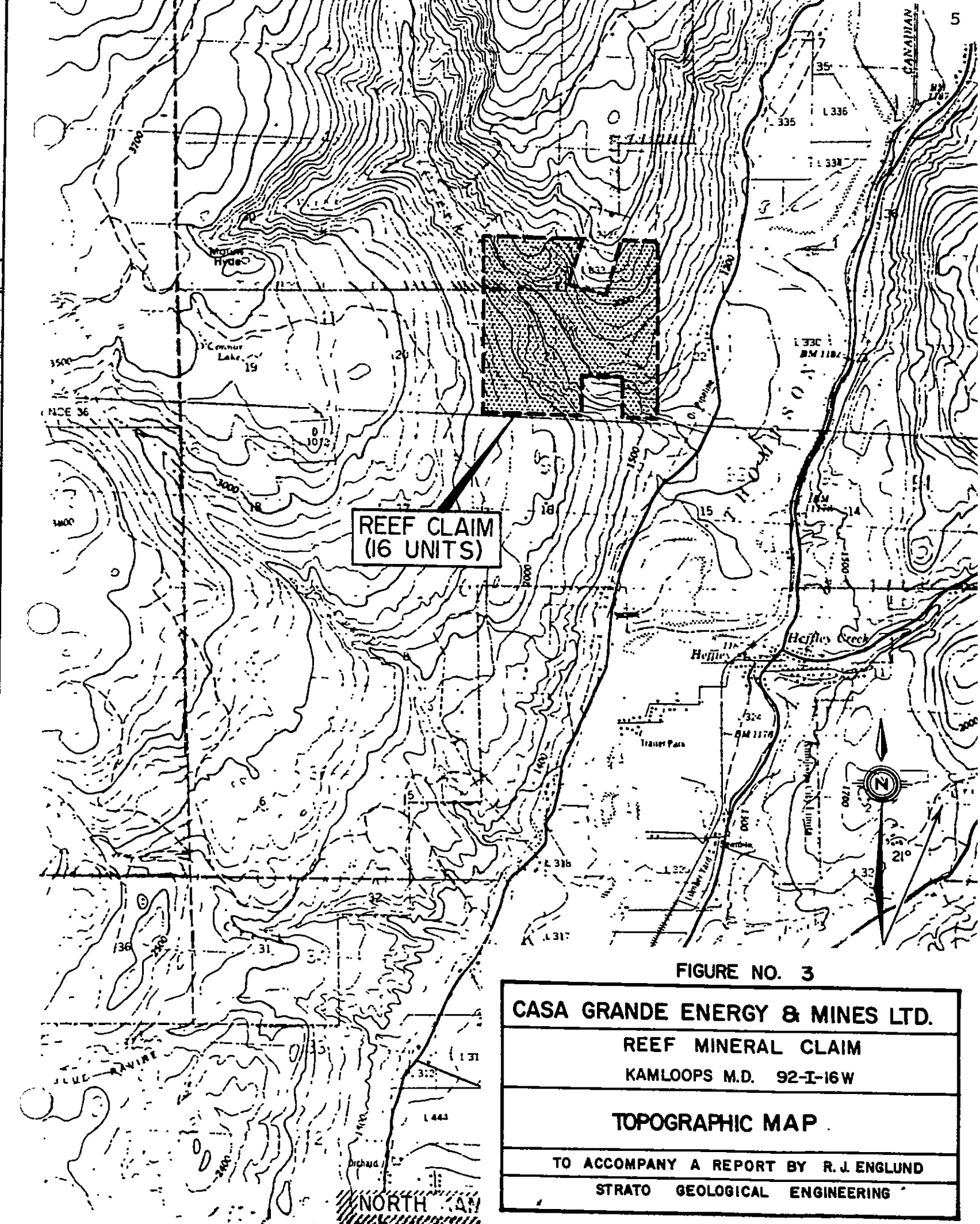

FIGURE NO. 3

CASA GRANDE ENERGY & MINES LTD.
REEF MINERAL CLAIM
KAMLOOPS M.D. 92-I-16W
TOPOGRAPHIC MAP
TO ACCOMPANY A REPORT BY R. J. ENGLUND
STRATO GEOLOGICAL ENGINEERING

GENERAL GEOLOGY

The claim area is shown to be underlain by both the Cache Creek Group sediments and the Coast Intrusions of Jurassic age [G.S.C. Map 886A(Nicola)].

During his property investigation in June 1981, D.W. Tully, P.Eng., noted small masses of pink granites of the Coast Intrusions and dykes. The argillaceous sediments have been sheared and dragfolded and converted to graphitic and sericitic schist.

Structurally the lineation trends slightly east of north over the claim area and old workings in the northern claim areas have numerous quartz vein structures striking north to N30°W with steep west to southwesterly dips.

INSTRUMENTATION & SURVEY PROCEDURE

A detail VLF electromagnetic and magnetometer survey was carried out over an 8 kilometer grid in the east-central claim area, southeast of the Homestake and Molly Gibson crown grants.

East-west survey lines were compassed and flagged at 50 meter line separation and 20 meter station intervals from a north-south baseline. The grid was tied to the

east claim boundary and line post 3S, 4E.

The VLF survey was conducted with a Sabre Electronics, Model 27, receiver. The transmitter station used was NPG, Jim Creek, Wash. at a frequency of 24.8 KHz. and a radiated power of 250 kilowatts. Both dip angle and horizontal field strength measurements were recorded; dip angle measurements were filtered using the Fraser Filter Method to permit presentation of data in contour map form, Figure 4. The method is well known and is fully described in the literature.

The magnetic survey was conducted with a Sabre Electronic, Model M100, Fluxgate Magnetometer measuring the vertical component of the total magnetic field. All survey data was tied to an established base station and lines were "looped" at frequent intervals to allow for correction of durinal variations in accordance with standard practice. The methods are well known and fully described in the literature.

Due to "moderate to active" magnetic conditions during the survey period, a three point weighted average filter was applied to the data. The results are presented in profile plot plan form as Figure 6. The magnetic datum is 55000 gammas.

DISCUSSION OF RESULTS

The VLF results indicate a number of northerly trending conductors within the survey area. The relative variation of background dip angle and field strength measurements, Figure 5, suggest a variation of rock conductivity within the survey area. The magnetic results, Figure 6, do not provide a clear distinction between rock units and do not correlate well with VLF-EM results.

Three major conductive zones and several minor zones are indicated on Figures 4 and 5.

A major conductor, of up to 400 meters in length, strikes northerly along the baseline. The relative background values here indicate a more conductive rock unit west of the baseline area and the conductor here is attributed to a contact between the more conductive Cache Creek sediments on the west and a possible narrow Coastal Intrusion granitic unit on the east. A second near parallel conductive zone, trending near north-south from Line 3+50N to Line 6+50N at about 1+00E may be attributable, in part, to the intrusive-sedimentary contact on the east. This contact is not, however, clearly established from the survey results.

The Fraser Filtered data, Figure 4, indicates an extensive conductive zone (Line 1+50E to Line 7+00N, 2+50E) trending northerly across the survey area and likely extending south of Line 1+50N at 1+50E. The Profile Plot Plan, Figure 5, indicates the probability of a series of parallel conductive zones here, especially in the northern extent of this zone. This conductor is attributed to a possible shear zone or dyke along or near the postulated geological contact.

Several conductors, of limited but significant strike length, are located within the east-central survey grid area and may be attributed to a series of near parallel shears and/or dykes.

Several weaker conductive zones, west of the postulated rock contact indicate a north-northwesterly trend and little strike length. These conductive zones warrant further investigation since they lie within a possible sedimentary unit and may be due to fractures and/or fault zones along the structural trend.

CONCLUSIONS

The geophysical survey results have outlined several significant conductive zones which may be attributed to geological contacts, dykes and/or shear zones. A narrow, northerly trending granitic unit is postulated as intruding the sedimentary rocks in the north central survey area, the western boundary lying just west of the baseline.

All outlined conductive zones are considered important within this environment. Mineralized quartz veins are known to be associated with sericitic and graphitic schist just north of the survey area. Follow-up geological mapping and geochemical sampling will be required before comments regarding the economic nature of the defined targets can be ascertained.

RECOMMENDATIONS

Geological mapping and a geochemical soil sampling program is recommended over the survey grid area. The relationship between geophysical and geochemical results should then provide a satisfactory basis for outlining targets of good mineral potential.

The VLF-EM survey should be expanded in all directions to determine the extent of the indicated zones and to locate other zones of interest. A perimeter survey is also required to establish the claim area, particularly with respect to the Molly Gibson and Lam 1 claims.

Respectfully submitted,
Strato Geological Engineering Ltd.

Ralph J. Englund, B.Sc.
Geophysicist.

March 28, 1982.

REFERENCES

(1) Report on the REEF Mineral Claim (16 units), Record No. 3415 (4), Jamieson Creek - Heffley Area, Kamloops Mining Division, for Casa Grande Energy and Mines Ltd., by Donald W. Tully, P.Eng., dated June 30, 1981.

(2) Geological Survey of Canada, Memoir 249, by W.E. Cockfield.

(3) Geological Survey of Canada, Map 886A, Nicola, Kamloops and Yale Districts, 1947.

TIME-COST DISTRIBUTION

The geophysical surveys were conducted over the REEF Claim by Strato Geological Engineering Ltd. during the periods February 7th to 12th, 1982. A listing of personnel and distribution of costs are as follows:

Personnel

S. Nowak, B.Com.	Project Supervisor and Geological Operator.
J. Gibson	Field Assistant and Geophysical Operator.

Cost Distribution

Labour	$ 1,950.00
Room & Board, Field supplies, etc.	421.39
Transportation (2 vehicles)	1,384.82
Filing Fees	588.00
Drafting & Miscellaneous	865.72
Report	2,000.00
Total	$ 7,209.93

Strato Geological Engineering Ltd.

CERTIFICATE OF QUALIFICATIONS

I, Ralph J. Englund, do hereby certify that:

(1) I am a practising geophysicist with offices at 103 - 709 Dunsmuir Street, Vancouver, B.C., Canada, V6C 1N9.

(2) I am a graduate of U.B.C. where I obtained my B.Sc., (Physics) in 1971.

(3) I am a member in good standing of the following professional organization:

(a) B.C. GEOPHYSICAL SOCIETY.

(4) I have been engaged in the study, teaching, and practice of exploration geophysics continuously for 9 years. I have worked as a geophysical consultant on numerous projects in Western North America since 1972.

(5) The Geophysical field work and the interpretation of the results in this report were done under my direct supervision.

Dated in Vancouver, B.C., this 28th day of March, 1982.

Ralph J. Englund, B.Sc.,
Geophysicist.

3+00 W
2+00 W
1+00 W
0+00 B/L
1+00 E
2+00 E
3+00 E
4+00 E

7+00 N
6+00 N
5+00 N
4+00 N
3+00 N
2+00 N
1+00 N

LOGGING ROAD

L.P. (3S,4E)

N

NOTES: 1. VLF RECEIVER - SABRE ELECTRONICS, MODEL NO. 27

2. VLF TRANSMITTER - NPG, JIM CREEK, WASH., FREQUENCY 24.8 KHz, POWER 250 Kwatts

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0 10 20 40 60 80 100
SCALE IN METERS

CASA GRANDE ENERGY & MINES LTD.

VANCOUVER B.C.

REEF MINERAL CLAIM

KAMLOOPS M.D. NTS 92-I-16

VLF ELECTROMAGNETIC SURVEY

FRASER FILTER CONTOUR MAP

TO ACCOMPANY A REPORT BY R. J. ENGLUND

FIGURE NO 4 | DATED MARCH, 1982

STRATOS GEOLOGICAL ENGINEERING LTD.

3+00 W
2+00 W
1+00 W
0+00 B/L
1+00 E
2+00 E
3+00 E
4+00 E

7+00 N
6+00 N
5+00 N
4+00 N
3+00 N
2+00 N
1+00 N

LOGGING ROAD

L.P (3S,4E)

N

60 0
50 -5
40 -10
30 -15
20 -20
FIELD STRENGTH
DIP ANGLE
x FIELD STRENGTH
• DIP ANGLE

NOTES: 1. VLF RECEIVER - SABRE ELECTRONICS, MODEL NO. 27
2. VLF TRANSMITTER – NPG, JIM CREEK, WASH., FREQUENCY 24.8 KHz ; POWER 250 Kwatts

CONDUCTOR

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 10,569

0 10 20 40 60 80 100
SCALE IN METERS

CASA GRANDE ENERGY & MINES LTD
VANCOUVER B.C.

REEF MINERAL CLAIM
KAMLOOPS M.D. NTS 92-I-16

VLF ELECTROMAGNETIC SURVEY
PROFILE PLOT PLAN

TO ACCOMPANY A REPORT BY R.J. ENGLUND
FIGURE NO 5 DATED : MARCH, 1982
STRATOS GEOLOGICAL ENGINEERING LTD.

3+00 W
2+00 W
1+00 W
0+00 B/L
1+00 E
2+00 E
3+00 E
4+00 E

7+00 N
6+00 N
5+00 N
4+00 N
3+00 N
2+00 N
1+00 N

LOGGING ROAD

L.P. (3S,4E)

N

GAMMAS
900
700
500
300
100

NOTE : MAGNETIC BASE = 55,000 gammas

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 10569

0 10 20 40 60 80 100
SCALE IN METERS

CASA GRANDE ENERGY & MINES LTD
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REEF MINERAL CLAIM

KAMLOOPS M.D. NTS 92-I-16

MAGNETIC PROFILE

PLOT PLAN

TO ACCOMPANY A REPORT BY R.J. ENGLUND

FIGURE NO 6 DATED MARCH, 1982

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