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MAGNETOMETER

and

GEOLOGICAL SURVEY

of the

BABY'S OWN GROUP

AINSWORTH BASE METALS LTD.

SPENCES BRIDGE, B. C.

September, 1956. F.J. Hemsworth.

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MAGNETOMETER
and
GEOLOGICAL SURVEY
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BABY'S OWN GROUP
AINSWORTH BASE METALS LTD.

INTRODUCTION

This report outlines the procedure used in carrying out a magnetometer and geological survey of the group of claims belonging to Ainsworth Base Metals Limited near Spences Bridge. It is written in compliance with the Mineral Act relative to claiming geophysical work for assessment purposes on the group of claims outlined in red on the accompanying map.

LOCATION AND PROPERTY

The property on which the aformentioned work was carried out consists of 27 claims, 6 held by lease from the heirs of the estate of C. Elingston of Spences Bridge and 21 staked in the name of the company within the last year.

Particulars of the claims are as follows:-

Name	Record Number	Tag Number	Record Date
Baby's Own	5566	103521	May 20/47
Baby's Own No. 1 (2)	5567	103523	May 20/47
Baby's Own No. 2 (3)	5568	103524	May 20/47
Baby's Own No. 3 (4)	5569	103522	May 20/47
My Own	15284	111977	July 11/55
My Own No. 1 (2)	15285	111978	July 11/55
Bev No. 1	22318	B97739	Apr. 3/56
Bev No. 2	22319	B97738	Apr. 3/56
Bev No. 3	22320	B97741	Apr. 3/56
Bev No. 4	22321	B97740	Apr. 3/56
Bev No. 5	22322	B97743	Apr. 3/56
Bev No. 6	22323	B97742	Apr. 3/56
K No. 1	23128	B82355	Apr. 30/56
K No. 2	23129	B82354	Apr. 30/56
K No. 3	23130	B82357	Apr. 30/56
K No. 4	23131	B82356	Apr. 30/56
K No. 5	23132	B82359	Apr. 30/56
K No. 6	23133	B82358	Apr. 30/56
K No. 7	23134	B180	Apr. 30/56
K No. 8	23135	B82360	Apr. 30/56
Tom No. 1	23006	220343	Apr. 23/56
Tom No. 2	23007	220344	Apr. 23/56
Venables No. 1	23118	218291	Apr. 26/56
Venables No. 2	23119	218292	Apr. 26/56
Venables No. 3	24336	218300	July 20/56
Venables No. 4	24337	218295	July 20/56
Venables No. 5	24338	218296	July 20/56
Venables No. 6	24339	218297	July 20/56

The claims cover an area of approximately 1 square mile, lying between the Thompson River on the east and Venables Valley on the west, in the Kamloops Mining Division. The property is reached by a good gravel road about 4 miles long that branches off the No. 1 Trans-Canada Highway, 11 miles north of Spences Bridge. The geographical position is approximately latitude N50°32', longitude 121°18'W.

GENERAL DESCRIPTION OF PROPERTY

The eastern portion of this property consists of a series of benches separated by steep slopes or bluffs overlooking the Thompson River. For the most part the benches are either bare or only sparsely timbered. The slopes are generally lightly to medium timbered with fir and yellow pine while the bluffs have a slope of 60° to 70°. These bluffs give good exposures of volcanics and limestones.

The western section of the property lies in the Venables Valley, a portion of which has been farmed in the past, but now is abandoned.

A camp, consisting of 5 buildings, is being rented from a local rancher by the company. It is situated in the Venables Valley, 1½ miles from the workings.

GEOLOGY

The claims are underlain by members of the Cache Creek group. These are described in the Geological Survey of Canada report, Memoir 262, by S. Duffell and K.C. McTaggart as---"a thick assemblage of cherts, argillites, minor limestones and quartzites, andesite flows, agglomerates and tuffs, and their metamorphic derivatives".

The property is divided by a north-south trending ridge. The eastern half is underlain mainly

by greenstone and dull-grey limestone. The surface outcrops on the western half, in the Venables Valley, show a series of metamorphic rocks, limestones, and volcanics, except the most westerly claims which are overlain by heavy drift.

The geological survey further states concerning this area: "All the Cache Creek rocks in this part of the area are much broken and silicified, indicating faulting and general brecciation along the west side of the Guichon Creek batholith".

On the Ainsworth Base Metal Property approximately one-third of the area is drift covered and a good portion of the remainder is covered by light overburden. Much of the area of outcrop is on the upper heights which consist mainly of limestone cappings. However the outcrops visable at lower levels are fairly-evenly spaced and permit fairly-accurate mapping of the bedding.

MINERALIZATION

Copper mineralization was first discovered on top of bluffs overlooking the Thompson River. Skarn zones between alternate beds of limestone and volcanics had been mineralized with magnetite and chalcopyrite. A polished section of a specimen of the mineralized rock was determined to contain approximately 20% finely-

divided magnetite in a gangue cut by fine veinlets of chalcopyrite and some arsenopyrite. A thin section established epidote, chlorite and limonite in accessory amounts. These mineralogical tests plus rock samples uncovered in the process of initial trenching indicated a relation between magnetite and copper mineralization.

Because of the badly sheared nature of most of the rocks and the depth of overburden in places it was impossible to trace the mineralized zone for any great distance without opening up very deep trenches.

On the basis of these considerations it was decided to attempt to delimit the mineralization by a magnetometer survey.

MAGNETOMETER SURVEY

Preliminary

The survey was started May 1, 1956. Prior to this time a crew of 3 men with a bulldozer had been trenching on the original outcrops. It was the desire of the company to extend these workings as quickly as possible. Consequently the survey was divided into two phases. Under the first phase a survey was to be completed on the 6 claims under lease from the estate of C. Ellingston. The second phase would complete the survey on the remaining claims.

Transit Survey

A transit and stadia traverse was run to tie in all claim posts and pick up topographical features such as railroads, highways and land monuments. An old corner post from a Dominion Land Survey of Lot 500 was located and this permitted a tie in with the topographical map. This survey showed the position of the claims and permitted a more judical situating of the grid to facilitate line cutting and magnetometer survey on the irregular topography. All survey stations were calculated by coordinates and elevations were based on a bench mark associated with No. 1 Highway survey.

The magnetometer grid was laid out on a 200-foot basis. A base line was cut on what was judged the most suitable azimuth, (82 degrees), and grid lines run off at right angles. Except for 6 claims in the Venables Valley on which the magnetometer grid was laid out with Brunton compass and tape all grid lines were laid out with transit and stadia.

The stations were made of 1"x4" boards, 3' long. The top 6" was painted white. The number of each station was marked with blue keel on the painted portion of each stake. Because of the generally uneven nature of the ground it was often necessary to set at least one sub station in order to traverse the distance between adjacent stations.

MAGNETOMETER SURVEY

Instrument

The magnetometer used for this survey was a Sharp Model B-2 which has a sensitivity of approximately 2 gammas. Each scale division represented 20.3 gammas. This instrument reads the vertical component of the earths magnetic field. The auxiliary compass used for aligning the instrument with the earths magnetic field is an integral part of the instrument. This feature makes it easy for one man to operate the instrument rapidly and efficiently.

An added feature of the Sharp Model B-2 is the temperature compensating device which removes the necessity for making temperature corrections.

When the instrument arrived at the property it was out of adjustment. Adjustment was made by removing the top portion of the head and moving the adjustment nut until the hair line read on the scale under normal background conditions.

Procedure

For the major part of the magnetometer survey 2 men were used for taking readings. One man carried the instrument, set it up, and took readings. His partner recorded the readings and at the same time noted any geological features in the vicinity.

The method of taking readings was as follows:-

(a) The instrument was first leveled with the circular spirit bubble.

(b) Leveling was completed by adjusting the three thumb screws.

(c) The instrument was oriented with the earths magnetic field by use of the auxiliary compass and locked in this position. The auxiliary compass was then locked.

(d) One reading was taken with the head in this position. The head was then rotated 180° and another reading taken. These were recorded in the field note book along with the time.

In terrain which is not too rugged it is usual to record about 100 reading per day.

Corrections

(a) Diurnal Correction

All readings were corrected for diurnal, or variations from time to time during the day. Since only one instrument was available for the job a base station was set up near camp. One day was spent in taking readings every hour at this base station and a diurnal curve was drawn from these readings. Diurnal corrections for readings taken on subsequent days in the field were based on this curve.

(b) Day to Day Correction

A reading was taken at the base station each day before leaving for the field and each afternoon after field work was completed. The variation between the base reading on any particular

day and the original base reading (corrected for diurnal variations) was the day to day correction.

The diurnal and day to day corrections were added to each field reading to arrive at the corrected magnetometer reading.

Mapping Results

All readings for the 200-foot grid are shown on the 400-scale map of the claims. Differences in magnetic intensities as recorded are shown by the various colors on this map.

A similiar map is enclosed to show the geology, but in this case the different colors represent the various rock formations observed.

The results of the magnetometer survey show three areas of high readings, or anomolies, for convenience named zones A, B, and C. On these areas additional readings were taken to ascertain the extent of the anomolies. On zones A and B the readings were taken on a 50-foot grid, on zone C they were taken on a 100-foot grid. Although these more detailed readings could not be shown on the 400-scale map for want of space, the anomolies they indicated are shown.

CONCLUSIONS

On the assumption that the copper mineralization is associated with magnetite the extent of the anomolies indicates the limit of the

copper mineralization. Surface stripping completed to date on zones A and B appear to verify this assumption. On zone C some magnetic rocks have been found but no copper mineralization.

The delimiting of these areas of magnetic rocks has proved a valuable guide in preliminary exploration.

Respectfully submitted,

F.J. Hemsworth, P.Eng.

September, 1956.

315-850 West Hastings St.,
VANCOUVER 1, B.C.

#155

Statement of Expenses on the
Magnetometer Survey of the
Ainsworth Base Metals Claims,
Spences Bridge, B.C.

R. Trenaman - Instrument Man @ $400.00/Mo May 7-July 31, 1956--------	$1,148.00
J. Galas - Assistant @ $14.00/day May 1-July 31, 1956----------	1,030.00
Magnetometer Rental @ $200.00/Mo---------	600.00
F.J. Hemsworth-P. Eng. - Supervision-----	450.00
Total	$3,228.00

Certified Correct
F. J. Hemsworth

TO WORKINGS

CAMP BUILDINGS

LOWER VENABLES

EL. 2065'

EL. 2060'

TRAIL TO FIR No. 22

BEV. No. 1

BEV. No. 2

BEV. No. 3

BEV. No. 4

BEV. No. 5

E No. 1

E No. 2

E No. 3

E No. 4

E No. 5

E No. 6

E No. 7

E No. 8

MY OWN No. 1

MY OWN

Adit (see Assessment Report 6713)

ZONE 'B'

ZONE 'A'

BLUFFS

BABYS OWN No. 2

BABYS OWN No. 3

BABYS OWN No. 4

ZONE 'C'

VENABLES No. 1

VENABLES No. 2

VENABLES No. 3

VENABLES No. 4

VENABLES No. 5

VENABLES No. 6

TOM No. 1

TOM No. 2

JEM No. 4

JEM No. 6

JEM No. 8

TRUE NORTH

MAGNETIC NORTH
APPROX. 23°30' EAST

G.N. RAILROAD

THOMPSON RIVER

BABYS OWN No. 1 HIGHWAY

FRASER RIVER

CREEK

LEGEND

GAMMA CONTOURS

- 0 - 500 GAMMAS
- 500 - 1000
- 1000 - 1500
- 1500 - 2000
- 2000 - 3000
- 3000 PLUS

ROADS

CLAIM POSTS

ELEVATION ABOVE SEA LEVEL EL. 1982'

BLUFFS

CLAIM BOUNDARYS: A.B.M. ——— OTHERS - - - -

CORRECTED MAGNETOMETER READINGS 972

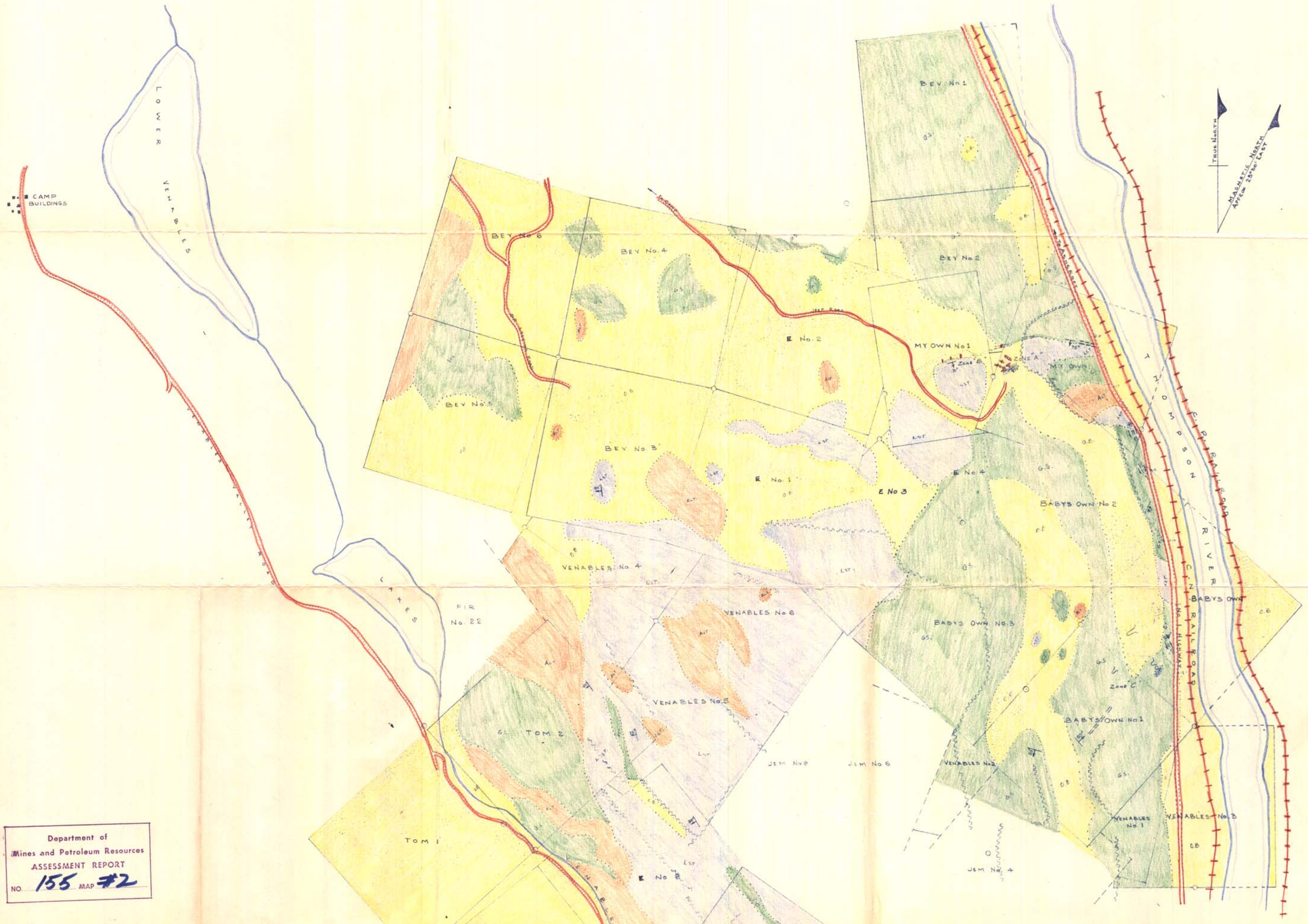
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 155 MAP #1

MAGNETOMETER SURVEY
OF
AINSWORTH BASE METALS, LTD. PROPERTY
NEAR
SPENCES BRIDGE, B.C.

SCALE 1 IN. = 400 FT.
GAMMA CONTOUR INTERVALS AS SHOWN
JUNE 1956 DRAWN BY: R. TRENAMAN.
APPROVED BY: F.J. Hemsworth

To Accompany Report by FRED J. HEMSWORTH

CLAIMS OUTLINED IN RED RECORDED FOR ASSESSMENT MAR 28/57



LEGEND

CACHE CREEK GROUP

A. Mainly altered greenstones; limy shists. siltstones. Approximately 50% light overburden.

B: Mainly unaltered greenstones, badly jointed. Approximately 50% light overburden.

C: Mainly massive limestones, sometimes with stringers of chert Approximately 50% light overburden.

Overburden, light

Heavily drift-covered area

Copper mineralization

Shear zones

Bluffs

Claim boundarys: Ainsworth Base Metals
Others

Roads

#155
MAP 2

GEOLOGICAL MAP
OF
AINSWORTH BASE METALS, LTD. PROPERTY
NEAR
SPENCES BRIDGE, B.C.

SCALE 1 IN. = 400 FT.

JULY 1956 DRAWN BY: R. TRENAMAN
APPROVED BY: F. J. Hemsworth

To Accompany Report by FRED J. HEMSWORTH