

CORRIE COPPER LTD. (N.P.L.)

CORRIE GROUP

Watson Lake M.D. 105 H-8

Long. 128° 15' West Lat. 61° 21' North

GEOLOGICAL SUMMARY REPORT

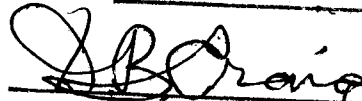
WITH AN APPRAISAL OF

GEOPHYSICAL DATA



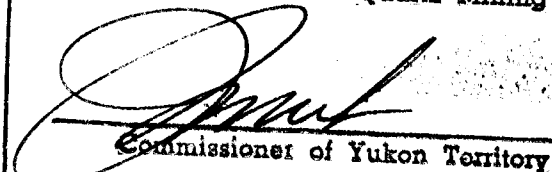
By

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$5899.06



Resident Geologist or  
Resident Mining Engineer

Considered as representation work under  
Section 53 (4) Yukon Quartz Mining Act.

  
Commissioner of Yukon Territory

V. Cukor, P.Eng.

PETER H. SEVENSMA CONSULTANTS LTD.

March 21, 1972

TABLE OF CONTENTS

	<u>Page No.</u>
1. INTRODUCTION.....	1
2. PROPERTY.....	1
3. LOCATION AND ACCESS.....	2
4. GEOLOGY AND PHOTOGEOLOGY.....	2
5. SHOWINGS.....	4
6. MAGNETOMETER SURVEY.....	8

MAPS

- Fig. 1 Claim Location Map -Scale 1" = 1320'
- Fig. 2 Ground Magnetic Survey Scale 1" = 800'
- Fig. 3 Photogeology -Scale 1" = 1320'

APPENDIX "A"

Statement of Expenditures Incurred  
in Conducting a Program of Work.

APPENDIX "B"

List of Personnel Employed.

CORRIE COPPER LTD. (N.P.L.)

CORRIE GROUP

... 1

Watson Lake M.D. 105 H-8  
Long. 126° 15' West Lat. 61° 21' North

1. INTRODUCTION

This report is based on the writer's photogeological studies and the evaluation of a magnetic survey conducted during 1971.

Photographs A12270 Nos. 161 to 163 obtained from the National Airphoto Library were utilized for coverage of the claim area. The magnetic survey conducted by Turnex Exploration Services Ltd. covered 10 line miles on lines spaced 3000 feet apart and oriented approximately at right angles to the regional strike.

Excerpts from a report by P.H. Sevensma, Ph.D., P.Eng., dated June 28, 1971, have been included under appropriate headings and I have reviewed my evaluation of the data with Dr. Sevensma. Specific recommendations are beyond the scope of this study and the reader is referred to the above mentioned report by Dr. Sevensma.

2. PROPERTY

The Corrie group of mineral claims are located in the Watson Lake Mining District about 126 miles north of the community of Watson Lake. All claims are registered in the name of Corrie Copper Ltd. (N.P.L.) in the office of the Mining Recorder in Watson Lake, Yukon Territory.

...

<u>Claim Name</u>	<u>Record Number</u>	<u>Record Date</u>
Corrie 1 - 40	Y55011 - Y55050	March 30, 1971
Corrie 41 - 88	Y55233 - Y55280	April 14, 1971
Corrie 89 - 104	Y55313 - Y55328	April 19, 1971

### 3. LOCATION AND ACCESS

The claim group is located at Lat. 61° 21' North and Long. 128° 15' West. Elevations on the property range from 2900 to 3500 feet. The Nahanni range road passes along the east boundary of the property and all weather access maintained as this road is in daily use to service the mining community of Tungsten, N.W.T.

A mining access road extends westward across a portion of the claim group from mile post 58. The claims are located in an old burn but all parts of the property are readily accessible. Outcrop is estimated to comprise less than 5% of the area of principal interest.

### 4. GEOLOGY AND PHOTOGEOLOGY

The general area is underlain by Proterozoic, Hadrynian clastic sediments, locally metamorphosed into schists and gneisses. During Mesozoic this unit was intruded by monzonites-granodiorites, forming a number of irregular plutons.

Several zinc-lead-copper showings are related to this complex within 20 miles of the Corrie Group, and clearly indicate both favourable environment and mineral potential.

Study of areal photographs showing the property area (see fig.3) revealed a number of lineaments, probably representing faults and major fractures. The strongest lineaments are trending generally N-S, some of them gently curved and "split" into a "horsetail" structure, the most prominent structural feature in the area.

Less intense, NW and NE trending crossfractures are also well pronounced. Only several E-W lineaments were noted.

The presence of numerous strong linear reflecting faults in a metamorphic succession of varying magnetic susceptibility may give rise to a complex magnetic pattern and careful detailing of magnetic features will be required.

A photogeological study has not revealed any major glacial features.

## 5. SHOWINGS

(Excerpt from Report by P.H. Sevensma, Ph.D., P.Eng.)

## 5. SHOWINGS

In the area of Mile Posts 57 and 58, there are many clusters of angular blocks, from 6" to 6' across, of massive and disseminated sulphides carrying variable amounts of chalcopyrite.

These blocks have been uncovered when road construction proceeded to bulldoze out a shallow wide trench in the general silty clay cover of the area. Occasional large lenses of sandy gravel were encountered, which were used to build a road-bed within this wide shallow trench.

From time to time, the road-trench would skim bedrock, in which case both large angular boulders and small fragments of hornfelsic schist and of limestone would be dug up, and spread over some of the clay.

The sulphide boulders are in a position similar to these rock boulders and appear to have originated in a similar manner in the underlying bedrock.

In several places, the clay can be observed to overlie directly the bedrock, and gravel lenses are found under the clay in some of the cross-valleys.

Glaciers are believed to have moved through the Hyland River Valley in a Southerly direction, but no extensive and thick glacial deposits are present in this valley, and although unstratified, the clay is likely rather of lacustrine than glacial origin, especially so as undisturbed coarse, sandy river gravels are in places found under clay cover.

There are drumlin to esker-like ridges, but in observable cases these are underlain by elongated rock-ridges spared by erosion, and not by glacial debris.

On balance, it is highly probable that the angular sulphide boulders, which vary in diameter from 6" to 6', originate in the local bedrock underlying the road.

They lie right on the NW - SE line of strike of significant zinc-lead-copper showings extending for a length of some sixteen miles in the nearby mountains to the NW, and in addition, disseminated pyrrhotite with minor chalcopyrite occurs in place about 1 mile West of Mile Post 53.

A magnetic survey conducted in 1966 along lines at right angles to the road shows an anomalous belt to come in from the North West and to strike away to the South West in the direction of this recorded showing.

The sulphide boulders occur over a length of 1 mile along the road and have been sampled by the writer in seven locations over this distance (see figure 2).

They consist both of very fine grained, dark bronze, dull, massive pyrrhotite with scattered quartz eyes and irregularly distributed small patches of fine-grained chalcopyrite, and of laminated hornfels with both pyrrhotite laminations and remobilized veinlets and pockets of medium grained pyrrhotite, again with patches of chalcopyrite.

The best chalcopyrite occurs in quartzose patches in both the massive pyrrhotite and the banded hornfels. The most massive pyrrhotite shows the least chalcopyrite.

Sample locations are plotted on the magnetic map, <sup>\*</sup> figure 2 and the following assay-results were obtained by Crest Laboratories, report no. 2635 of June 16th, 1971.

Sample No.	Weight		Cu %	Au oz/t.	Ag. oz/t.	Composite		
	lbs.	oz.				% Fe	% Zn	% Ni
165	4	4	.16	tr.	tr.)			
166	4	10	.25	tr.	tr.)			
167	6	3	.32	tr.	tr.)			
168	2	13	.31	tr.	tr.)	21.98	1.06	tr.
169	6	7	.30	tr.	tr.)			
170	8	6	.42	tr.	tr.)			
171	8	5	.36	tr.	tr.)			
Total	41	-	21.2	tr.	tr.			
Arithmetic Average			0.30	tr.	tr.			

Note: 100% Pyrrhotite = 60.4% Fe.  
At 21.98% Fe, about 1/3 of these samples consist of pyrrhotite.

Location of these samples is as follows:

Sample No.	Mileage	Side of Road	Remarks
165	MP 57 + 400'	East	20 + 00 N at base line
166	MP 58 + 200'	West	
167	MP 57 + 4,800'	East & West	
168	MP 57 + 4,000'	East	
169	MP 57 + 2,600'	East & West	
170	MP 57 + 2,200'	East	Large block in deep hole
171	MP 57 + 1,200'	East	Two large blocks (photo)

All blocks had been shattered by light dynamite blasts prior to sampling. Samples consisted of golfball to tennisball size fragments broken by the writer from the shattered blocks.

The blocks consist partly of massive pyrrhotite often about barren, and more disseminated and quartzose parts, estimated to assay up to 1% Cu. Some measure about 6' across; they all show marked magnetism.

\*Fig.1 of present report.

SUPPLEMENT TO DISCUSSION OF SHOWINGS -P. H. SEVENSMA, OCTOBER 4th, 1971.

A semi-quantitative spectographic analysis made by Can Test Ltd. and reported on July 6, 1971, file No. 1653A, on a composite of the eight samples showed the following:-

Silicon: Matrix	Zinc: ±	1.0%
Iron: Major	Manganese: ±	0.5%
Copper: ±	Bismuth:	0.2%
0.4%		

The presence of Bismuth is of interest, and if 50% of it is recoverable, it could add about \$1.00 per ton to the recoverable values in the mineralized material, on the basis of \$4.75 per lb. of this metal, the most recent available price. Metals not detected, or present in only trace amounts, include: lead, cadmium, tin and tungsten.

## 6. MAGNETOMETER SURVEY

### (a) Method and Equipment

A PMF-3 Fluxgate magnetometer manufactured by the Sharpe Instrument division of Sintrex Limited was employed for the survey. As this instrument is no longer in production detailed specifications are not readily available. The instrument is familiar however as a self-levelling, orientation independent, light-weight variation of the MF series. Measuring accuracy is well within the 50 gamma increment employed in this survey.

A base station was established near the campsite at a point where the previous survey had established a relative magnetic intensity level of 100 gammas. The instrument was adjusted to correspond to this value and was periodically rechecked during the course of each day's work. The maximum diurnal variation noted was 100 gammas and a suitable correction was applied to plotted data.

A previous magnetic survey and subsequent testing by drilling, succeeded in locating sulphide mineralization coincident with a magnetic high. (Norquest Joint Venture, 1966.) It was therefore decided to employ a series of widely spaced lines across the regional strike to locate any north-south trending magnetic anomalies. This survey is of a reconnaissance nature and follow-up work will be confined to those areas delineated by this method.

(b) Results

Results of this survey are plotted on figure 3. Several areas which warrant further evaluation are noted as follows:-

Line 3     37 + 00 to 42 + 00 W - Strong Anomaly, peak 1600  $\gamma$   
 Line 5     39 + 00 to 41 + 00 W - Moderate Anomaly, peak 650  $\gamma$   
 Line 6     27 + 00 to 31 + 00 W - Moderate Anomaly, peak 700  $\gamma$   
 Baseline 40 + 00 to 46 + 00 S - Moderate Anomaly, peak 750  $\gamma$   
 Line 1     16 + 00 to 17 + 00 W - Localized high, peak 850  $\gamma$

A broad magnetic low covering parts of lines 1 and 2 may reflect the presence of an underlying intrusive body.

(c) Conclusions and Recommendations

Results of this survey have substantially reduced the need for an airborne survey as target areas have been located. Delineation of these targets will require a follow-up survey on lines at say, 400 foot spacing.

No major revision to the program outlined in Dr. Sevensma's report of June 28, 1971, is suggested, however the airborne Mag. and E.M. survey should be deferred until after completion of a detailed survey covering the anomaly detected on line 3.

Respectfully submitted,

*V. Cukor*

V. Cukor, P. Eng.,  
 PETER H. SEVENSMA CONSULTANTS LTD.

Vancouver, B. C.  
 March 21, 1972.

CERTIFICATE

I, Vladimir Cukor of 3169 West 20th Avenue, Vancouver in the Province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am a Geological Engineer.
2. THAT I graduated at the University of Zagreb, Yugoslavia in 1963.
3. THAT I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers of the Province of British Columbia.
4. THAT I have practised my profession as a Geological Engineer for the past 9 years, both in Yugoslavia and Canada.
5. THAT I have made ground magnetic and photogeological studies and although I have not personally examined the property, that part of Dr. P.H. Sevensma's report based on his examination of June 7, 1971 is enclosed in my report.
6. THAT I have no personal interest, directly or indirectly in any of the properties or securities of Corrie Copper Ltd., nor do I expect to receive or acquire any.



V. Cukor, P. Eng.

March 21, 1972.



APPENDIX "A"

STATEMENT OF EXPENDITURES  
INCURRED IN CONDUCTING A PROGRAM OF WORK ON  
THE CORRIE GROUP OF MINERAL CLAIMS

	Period and Nature of Work	Cost
Turnerex Exploration Services Ltd., P.O. Box 94, Watson Lake, Yukon Territory.	May 18 to June 4, 1971 20 man days; trenching blasting & prospecting	\$ 1,478.00
Peter H. Sevensma Consultants Ltd., 715-850 West Hastings St., Vancouver 1, B. C.	June 1 to 30, 1971 Geological examination, sampling and report preparation.	1,581.21
Turnerex Exploration Services Ltd. P.O. Box 94, Watson Lake, Yukon Territory.	August 23 to Sept. 6, 1971 Line cutting and Magnetometer Survey	3,406.98
Peter H. Sevensma Consultants Ltd., 715-850 West Hastings St., Vancouver 1, B. C.	July 16 to Aug. 31, 1971 (intermittent) Field check on linecutting preparation of topographic base maps.	651.47
Peter H. Sevensma Consultants Ltd., 715-850 West Hastings St., Vancouver 1, B. C.	Sept. 1 to Oct. 31, 1971 Photogeological study. Study of Magnetic data.	259.48
TOTAL COST OF WORK - May 18 to October 31, 1971.		<u>\$ 7,377.06</u>

*V. Cole*

APPENDIX "B"

List of personnel employed in con-  
ducting a program of work on the

CORRIE GROUP OF MINERAL CLAIMS

<u>Personnel</u>	<u>Date of Employment and Nature of Work</u>
Peter H. Sevensma Consultants Ltd., 715-850 West Hastings Street, Vancouver 1, B. C.	(General supervision and geological guidance on an intermittent basis)
(1) P.H.Sevensma, Ph.D.,P.Eng.	June 1 to 15 (6½ days, field examination and reporting.)
(2) V. Cukor, P.Eng. c/o address above	Oct. 1971 & March 1972, (Photogeological and Geophysical Studies)
(3) H.S.Aikins, Sr. Technician c/o address above	July 2 days, Sept. 3 days (Super.Vision and checking field work)
- - -	
Turnerex Exploration Services Ltd., P.O. Box 94, Watson Lake, Yukon Territory.	
(1) * J.C.Turner, Party Chief and Magnetometer Operator	10 days in period May 18 to June 4, 1971. 16 days - Aug. 23 to Sept. 6, 1971.
(2) C.Pete, Chain and Compass Man Lower Post, B.C.	16 days - Aug. 23 to Sept. 6, 1971
(3) R.Reid, Linecutter (Lower Post)	16 days - Aug. 23 to Sept.6, 1971
(4) D.Dennis, Linecutter (Lower Post)	16 days - Aug. 23 to Sept.6, 1971
(5) R.Hatt, Cook (Watson Lake, Y.T.)	16 days - Aug. 23 to Sept. 6, 1971
c/o address given above or as noted	

\* Note: Mr. Turner was assisted for 10 days during the period May 18th to  
June 4th by a prospector whose name is not recorded at this office.

*V. Cukor*

PETER H. SEVENSMA CONSULTANTS LTD.

CONSULTING GEOLOGISTS  
EXPLORATION & MINING

P.O. BOX 758  
WHITEHORSE, Y.T.  
PHONE: 667-2906

715 - 850 WEST HASTINGS ST.  
VANCOUVER 1, B.C.  
PHONE: 682-7155

INVOICE TO: Corrie Copper Ltd.,  
810 - 850 West Hastings St.,  
Vancouver 1, B.C.

DATE: November 4, 1971.

Period: Sept. 1 to Oct. 31, 1971.

Re: Plot magnetic survey

Services:

Geologist, V. Cukor, 1 day @ \$100.00  
Drafting, 1/8 days @ \$55.00  
Senior Technician, 1 day @ \$80.00

\$100.00	
62.00	
80.00	
<u>242.00</u>	\$242.00

Expenses:

Xeroxing, 14 copies @ 20¢

2.80	
<u>2.80</u>	2.80

Miscellaneous Disbursements:

Oct. 14 - Riley's Printing #30888  
Oct. 15 - Western Reproducers #13472  
- Service charge 10%

2.98	
2.76	
.57	
<u>6.31</u>	6.31

Aug. 10 - L.D. Toll collect from Watson Lake  
- Service charge 30%

6.38	
1.91	
<u>8.29</u>	8.29

ACCOUNT RENDERED

<u>259.40</u>
---------------

TERMS: 30 DAYS — 1% PER MONTH CHARGED ON OVERDUE ACCOUNTS

# PETER H. SEVENSMA CONSULTANTS LTD.

CONSULTING GEOLOGISTS  
EXPLORATION & MINING

P.O. BOX 758  
WHITEHORSE, Y.T.  
PHONE: 667-2906

715 - 850 WEST HASTINGS ST.  
VANCOUVER 1, B.C.  
PHONE: 682-7155

INVOICE TO: Corrie Copper Limited,  
810-850 West Hastings St.,  
Vancouver 1, B.C.

DATE: September 3, 1971

Period: July 16-August 31, 1971.

Services:

P.H. Sevensma, $\frac{1}{2}$ day office	\$ 75.00
Senior Technician, H.S. Aikins, 3 days @ \$80 per day	<u>240.00</u>
	<u>\$315.00</u>

Expenses:

Aug. 1-31 Xeroxing, 21 copies @ 20¢	\$ 4.20
Aug. 9 Truck Mileage	20.25
Air fare - your share	<u>24.65</u> 49.10
 Long Distance Toll Collect from Watson Lake	 \$ 6.83
L.D. service charge 30%	<u>2.05</u> 8.88

Miscellaneous Disbursements:

Aug. 23 Riley's #26555	3.17
Service charge 10%	.32
Allwest Topo Map	250.00
Service charge 10%	<u>25.00</u> 278.49

*Paid*  
*Deposit Oct 1/71*  
*1015-478*

ACCOUNT RENDERED

\$651.47

TERMS: 30 DAYS — 1% PER MONTH CHARGED ON OVERDUE ACCOUNTS

TURNEX EXPLORATION SERVICES LIMITED

Re: Corrie Copper Ltd. (N.P.L.)

Corrie Claims 1-104

EXPENDITURES

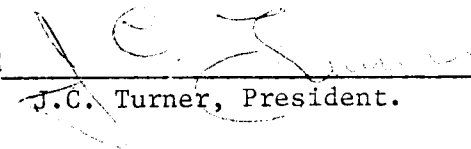
Line - Cutting - Magnetometer Survey

Aug.23 - Sept.6,1971

1. <u>Crew:</u>	Charlie Pete - Lower Post, B.C.	-	Compassman	\$400.00
	Robert Reid - Lower Post, B.C.	-	Line-cutter	400.00
	Dalton Dennis - Lower Post, B.C.	-	Line-cutter	350.00
	Ray Hatt - Watson Lake, Y.T.	-	Cook-Mag.Asst.	<u>350.00</u>
			Sub-total	\$1,500.00
2. <u>Supervisor:</u>	J.C. Turner - Watson Lake, Y.T.-Supr.& Mag.Op			800.00
3. <u>Camp Rental:</u>	16 Days @ \$10.00 per day - (Turnex)			160.00
4. <u>Groceries &amp; Hardware:</u>	- Meals			356.98
5. <u>Transportation:</u>	4x4 - 280.00			
	Car - 150.00 - (Turnex)			430.00
6. <u>Power Saw Rental:</u>	16 Days @ \$5.00 per day - (Turnex)			80.00
7. <u>Magnetometer Rental</u>	16 Days @ \$5.00 per day - (Turnex)			<u>80.00</u>
			<u>Total Expenditures</u>	<u>\$3,406.98</u>

TURNEX EXPLORATION SERVICES LIMITED.

Signed

  
J.C. Turner, President.

Aug 23/71 - On Account 2750<sup>00</sup> Cheq # 23

TODRDEX  
COST ESTIMATE PRELIMINARY EXPLORATION

CORRIE CLAIMS.

A.	AIR FARE WATSON LAKE - VANCO. RET.		154.00.
	TAXI -		10.00
B.	HOTEL	2 DAYS @ \$12.00 day.	24.00
	MEANS	3 DAYS @ 10.00 day.	30.00
C.	FIRWD SETUP - FOOD - TENTS - TOOLS ETC. POWDER-FUSIS-CAPS. -		250.00
D.	TRANSPORT	600 MILES @ 20¢ - \$120.00 + \$90 WK 90.00	210
E.	TEMPER WAGES.	\$30.00 day. - 10 DAYS.	300
F.	FEE.	50.00 day - 10 DAYS.	500
			\$1478.00

1. PROSPECT CLAIM AREA. TAG CLAIMS AS APPLICABLE.
2. RECCE GEOCHEM.
3. POT HOLE - INFERRED MINERAL ZONES. - MARK OUT.
4. PREPARE MAPS - LOCATION OF MINERAL. - SHOW SAMPLING STATIONS GEOLOGY.

May 18/71  
 Paid 17000\$ Chy #7 - May 19/71  
 Paid 5700\$ Chy #12 - June 4/71  
 14750\$ Total Paid  
 TODRDEX  
 L. P. Stone

## PETER H. SEVENSMA CONSULTANTS LTD.

PETER H. SEVENSMA, PH.D., P.ENG.  
 Consulting Geologist • Exploration and Mining  
 715 - 850 WEST HASTINGS STREET VANCOUVER 1, B.C.

P.O. BOX 758, WHITEHORSE, YUKON TERRITORY

403 - 667-2906

June 28, 1971.

Corrie Copper Ltd. (N.P.L.),  
 809 - 850 West Hastings St.,  
 Vancouver 1, B.C.

Period: June 1 - 30, 1971.

Re: Corrie Group

I N V O I C EServices:

P.H. Sevensma, Geologist, V. Cukor, $\frac{1}{2}$ day	\$40.00
Senior Technician, H.S. Aikins, $\frac{1}{2}$ day	40.00
Drafting, 2 days @ \$55.00	110.00
Clerical, 1 day @ \$45.00	45.00

Expenses:

P.H. Sevensma, Vancouver - Watson L. & return	154.00
Cabs, Vancouver & Watson L.	18.00
Meals	16.00
Gas	7.95
Truck Rental	50.00
Room Rental	20.00
Xeroxing, 101 copies @ 20¢	20.20

\$1,210.00

Miscellaneous Disbursements:

June 16 - Riley's invoice #21133	.92
June 28 - " " #22124	2.54
June 4 - Western Reproducers inv. #11509	3.12
June 21 - Crest Laboratories Lab. no. 2635	70.75
Service charge, 10%	7.73

\$286.15

85.06

ACCOUNT RENDERED

\$1,591.21

*Approved for Payment*  
*[Signature]*

*Chq #16*  
*June 30/71*

*[Signature]*

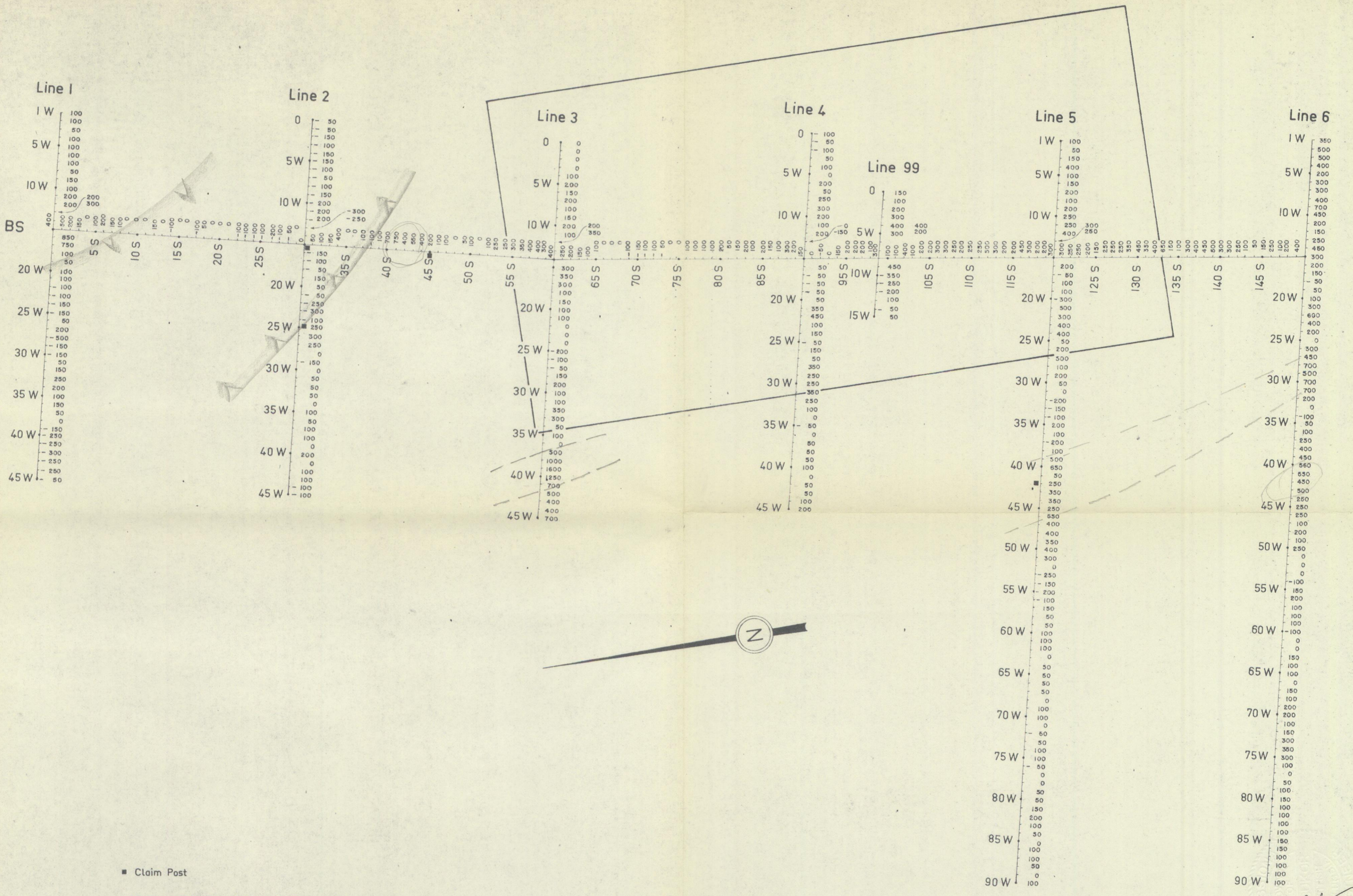


— LEGEND —

- 25 CORRIE MINERAL CLAIMS (1)
  - MAGNETIC SURVEY - NORQUEST, 1966
  - SURVEY GRID - 1971 (see Fig.2)
  - X 170 PROSPECT PIT, BLASTED ROCK, sample no
- Note (1): claims recommended for retention only

Topography: Allwest Forestry & Resources Services Ltd.

<b>CORRIE COPPER LTD. (N.P.L.)</b>	
CLAIM LOCATION PLAN	
Watson Lake M.D., Y.T.	105 H-8
P. H. Sevensma Consultants Ltd. Vancouver, B.C.	
Dwg. No.:	Fig: 1
<b>MARCH 1972</b>	Scale: 0  1320'



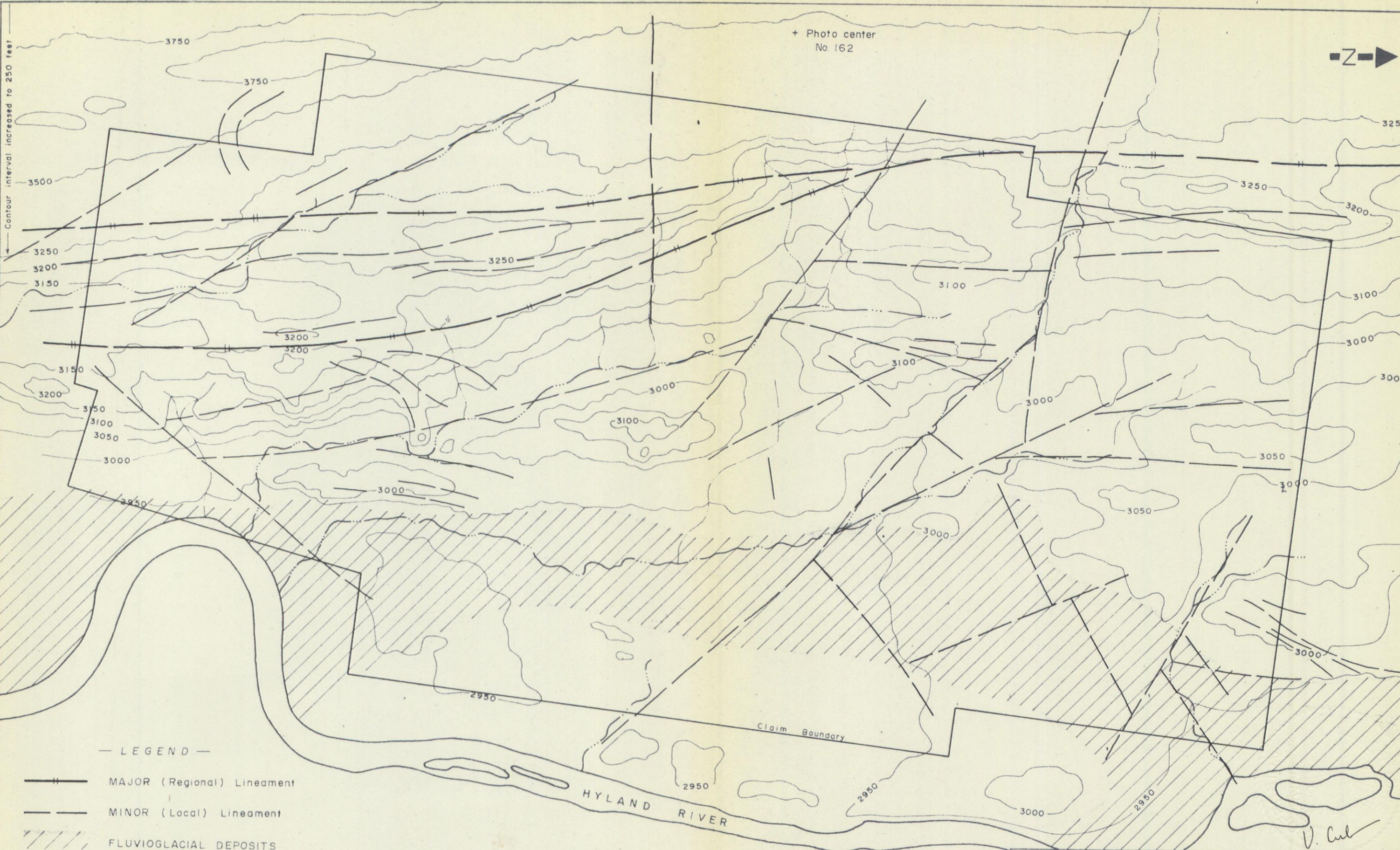
■ Claim Post

— Outline of the Ground Magnetic Survey Map.  
 Report by Peter H. Sevensma, June 1971

INSTRUMENT SHARPE PMF-3  
 SURVEY CONDUCTED BY C. TURNER

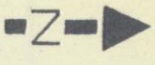
<b>CORRIE COPPER</b>		
<b>CORRIE GROUP</b>		<b>Ground Magnetic Survey</b>
Watson Lake M.D., Y.T.		105-H-8
Peter H. Sevensma Consultants Ltd. Vancouver, B.C.		
Figure: 2	October 1971.	Scale: 0 800'

*V. Cul*



Contour interval increased to 250 feet

+ Photo center  
No. 162



— LEGEND —

- ||— MAJOR (Regional) Lineament
- — — MINOR (Local) Lineament
- //// FLUVIOGLACIAL DEPOSITS

<b>CORRIE COPPER LTD.</b>		
PHOTOGEOLOGY		
Watson Lake M.D., Y.T.	105 H+8	
P. H. Sevensma Consultants Ltd. Vancouver, B.C.		
Dwg. No.	Fig: 3	Scale: 0 1320'
MARCH 1972		