

# 1736

Report on Geochemical and Geological Surveys  
on the Haw and Wit Groups for  
Continental Cinch Mines Ltd.

HAW

Hx 1-27, 29, 31-41, 42-45, 60, 62, 100  
Wit 1-22  
Vin 2  
Plug 47-48  
CIA 21-28

92L/12E, W


Situated between Kains and Nahwitti Lakes  
on northern Vancouver Island, B.C.

127° 45' west longitude  
50° 42' north latitude

Submitted by: R. H. D. Philp, P.Eng.

Owner: Continental Cinch Mines Ltd. (N.P.L.)

Work carried out by Agilis Exploration  
Services Ltd during the period  
March 25-June 30, 1968



REPORT ON

GEOCHEMICAL AND GEOLOGICAL SURVEYS

ON THE HAW AND WIT GROUPS,

NANAIMO MINING DIVISION

OF

CONTINENTAL CINCH MINES LTD.

AGILIS EXPLORATION SERVICES LTD.

JUNE 12, 1968

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### Maps

### Scale

Surface Plan - West Half	1 inch = 400 feet
Geochemical Survey - West Half	1 inch = 400 feet
Geochemical Contour Map - West Half	1 inch = 400 feet
Surface Plan - East Half	1 inch = 400 feet
Geochemical Survey - East Half	1 inch = 400 feet
Geochemical Contour Map - East Half	1 inch = 400 feet
Zinc Showing - Geological Plan	1 inch = 100 feet
Zinc Showing - Geochemical Survey	1 inch = 100 feet
West Anomaly - Geological Plan	1 inch = 200 feet
West Anomaly - Detailed Geochemical Survey	1 inch = 200 feet

REPORT ON  
GEOCHEMICAL AND GEOLOGICAL SURVEYS  
ON THE HAW AND WIT GROUPS,  
NANAIMO MINING DIVISION  
OF  
CONTINENTAL CINCH MINES LTD.

INTRODUCTION:

The original Haw and Wit Groups of Continental Cinch Mines Ltd. consisted of 61 contiguous mineral claims situated 15 miles west of Port Hardy on northern Vancouver Island. A total of 18 claims have been added to the group prior to and during the recent work.

An exploration program consisting of stripping, claims survey, soil sampling, and geological mapping was carried out during the period March 25 - May 22, 1968. Detailed geochemical and geological surveys were conducted in one anomalous area, and are planned for other areas located during the reconnaissance work.

This report summarizes the results of the exploration program carried out to date and recommends a program for additional exploration.

LOCATION AND ACCESS:

The Haw and Wit Groups lie between Kains and Nahwitti Lakes 15 miles west of Port Hardy on northern Vancouver Island.

Access from Port Hardy is by the Port Hardy - Holberg road which passes through the southern boundary of the claims. Port Hardy, 220 miles northwest of Vancouver, British Columbia is reached by regular commercial airline service.

PHYSIOGRAPHY:

Relief in the area is low with elevations generally below 2500 feet above sea-level. Most of the area is heavily timbered and moderately thick underbrush, mainly salal, is generally present. Moss covered swampy areas are also frequent.

CLAIMS:

The following 79 claims are included in the Haw and Wit Groups.

Original Group:

Haw 1 - 27, 29, 31 - 41  
Wit 1 - 22.

Additional Claims:

Haw 100  
Haw 42 - 45, 60, 62  
Vin 2  
Plug 47 - 48  
CIA 21 - 28

GEOLOGY:

Mapping by government sources has not been published for the area of the claims. However they are underlain by volcanic and sedimentary units believed to belong to the Karmutsen Formation of Triassic Age, with limestone, possibly of the Quatsino Formation, occurring in the southwest corner of the claims.

Volcanics of the Karmutsen Formation consist

mainly of dark green to black andesitic and basaltic flows, commonly amygdaloidal. Light green andesites, tuffaceous, and fragmental units are also present to a lesser extent. A narrow band of grey crystalline limestone, believed to lie within the Karmutsen Formation extends northwestward from the west end of Kains Lake. A further limestone band believed to belong to the Quatsino Formation occupies the southwest corner of the claim group and extends west through Nahwitti Lake.

Attitudes are difficult to determine for the individual flows which in general strike  $N45^{\circ} - 75^{\circ}W$  with gentle dips to the southwest.

A major east-west fault has been suggested along the southern boundary of the claims, passing through Kains and Nahwitti Lakes. Within the claims area several steeply dipping east-west faults are indicated by drainage, especially in the eastern portion of the group. Other prominent directions of faulting and shearing in the area in which detailed mapping was carried out west of Kains Lake are north to northeast.

Copper mineralization has been noted at several points within the claims and trenching has been carried out in two areas. At the first, located at 27W, 3S, bornite and chalcopyrite occur in a narrow, strongly altered zone striking northwest and dipping  $50^{\circ}NE$ . Considerable calcite, epidote and quartz occur along fractures and filling amygdules. Scattered copper mineralization occurs for approximately 30 feet to the east. 195 HAW 15

In the second area at 15W, 3N bornite, chalcopyrite, and malachite occur in strongly sheared basic volcanics. The main directions of shearing are  $E-W/50^{\circ}N$  and  $N20^{\circ}E/60^{\circ}W$ , with the best mineralization along the former direction. Mineralization occurs over a width of up to 13 feet with the zone exposed in the north bank of an easterly flowing creek and capped by barren volcanics. 196 HAW 14

Zinc with minor copper is exposed near 16E, 11N in several old trenches spread along approximately 100 feet in an east-west direction, and again in a creek bank 280 feet to the southeast. The mineralization occurs as irregular stringers and pods in silici- 162 HAW 14

fied limestone. Pyrite and minor chalcopyrite occur in strongly altered volcanics to the north of this in an east-west fault zone.

#### FIELD WORK:

Accommodation for the field crew was provided by a house in Coal Harbour, a distance of approximately 24 miles by road from the property. The crew varied from 2 to 4 men.

An east-west base-line was established near the center of the claim group extending a distance of 3.5 miles, with stations marked every 100 feet. Cross-lines were run by chain and compass at 400 foot intervals from 40 + 00E to 160 + 00W, and extend to the north and south limits of the property. Lines were marked by flagging and stations marked at sample locations at 200 foot intervals. Cross-lines were tied together by chain and compass at their ends.

For this reconnaissance survey a total of 18,600 feet of base-line was established and sampling carried out along 239,900 feet of cross-lines.

In addition, detailed sampling was carried out in one area where a base-line was established and samples collected at 100 foot intervals on lines 200 feet apart. A base-line 2000 feet long was laid out and sampling carried out at 100 foot intervals on 16,000 feet of cross-lines.

All claim posts plus those of adjoining properties were located and tied into the grid. In addition, all outcrop and major topographic features encountered during the sampling were noted and plotted on a base map.

#### SAMPLING:

Samples were taken at 200 foot intervals on lines 400 feet apart during the reconnaissance survey and at 100 foot intervals on lines 200 feet apart in

the area of detailed sampling.

An auger was used to collect the samples which, wherever possible, were taken from the soil horizon immediately underlying the humous layer. Sample depth was generally 10 - 20 inches, although as much as 36 inches in swampy areas. The soil taken most frequently consisted of a medium to dark brown sandy clay. At all sample locations notes were made describing the soil, sample depth, vegetation, and topography.

#### GEOCHEMICAL TESTING:

Sample analysis was carried out by Chemex Labs Ltd. of North Vancouver with all samples tested for total copper using the atomic absorption method, and selected samples in one area also tested for total zinc using the same method.

Values are reported in parts per million (ppm) and have been plotted at a scale of 1 inch = 400 feet and contoured at intervals of 20 ppm.

#### SURVEY RESULTS:

Several anomalous conditions were found in both the eastern and western portions of the property with little variation above background in the central portion. Background is taken as 20 - 25 parts per million, being slightly lower in the central portion.

##### Eastern Half:

In the eastern half of the claims 5 separate copper anomalous areas with values 3 times background or greater are indicated by the reconnaissance survey. In addition, several isolated high values occur. Zinc anomalies are coincident with the two strongest copper anomalies.

The strongest copper anomaly in this area occurs on lines 12E - 16E and measures approximately 1000 by 300 feet with a peak value of 950 ppm copper.



A zinc anomaly of 100 ppm or greater is roughly coincident with it.

A second, weaker but larger anomaly occurs on lines 8E - 12E, 300 feet south of the first. The anomaly measures approximately 900 feet long by 300 - 700 feet wide with a peak value of 200 ppm copper. A zinc anomaly with a peak value of 1050 ppm roughly corresponds with this and extends beyond it to the southeast. A detailed survey was completed in the above areas and outlined the strongest portions of both the copper and zinc anomalies, increasing the peak value in the southern anomaly to 1475 ppm zinc.

An area moderately anomalous for both copper and zinc is indicated on lines 20 and 24E near the shore of Kains Lake.

Two other copper anomalous areas appear in the southeastern portion of the claims. The first occurs near 12S on lines 12W and 8W. The second, at the south edge of the property, appears on lines 12W and 16W. Here, the peak value is 403 ppm copper, while the anomalous area extends onto the adjoining property and has not been outlined.

Western Half:

Several anomalous areas exist in the southwestern portion of the property. A broad, generally anomalous area exists from lines 132W to 156W from approximately 16S to 34S. Within this general area 3 anomalies with values 3 times background or greater exist. The largest measures approximately 1300 feet long by 200 - 500 feet wide, with a peak value of 220 ppm copper. A second to the southwest, measures 1400 feet long by an average of 300 feet wide with a peak value of 750 ppm copper. The third occurs on one line, with a peak value of 107 ppm copper.

One other anomaly occurs southeast of this general area, near the south end of lines 108 - 116W in an irregular area measuring 1100 feet long by up to 500 feet wide. The full extent of this anomaly has not been outlined, as it extends southeasterly on to an adjoining property.

DISCUSSION OF RESULTS:

Eastern Half:

The two main anomalies in this area on which detailed surveys have been conducted occur within limestone or near limestone-volcanic contacts. The northern one follows an apparent east-west fault and copper mineralization has been noted at points along this.

The second one occurs near a volcanic-limestone contact a short distance northwest of previously trenched zinc mineralization. The anomaly may be due to similar but stronger mineralization, or possibly in part, to glacially deposited material from the known zinc occurrences.

No outcrop occurs within the anomalous area indicated near Kains Lake although limestone is found nearby and probably underlies the area.

Volcanics outcrop within the small anomaly near 12W, 12S, and the high reading is probably due to minor scattered copper, common within the Karmutsen volcanics.

The anomaly near the south end of lines 12W and 16W lies within a low, somewhat swampy area which might account in part for the higher values.

Western Half:

The broad anomalous area extending from 132W to 156W is partly underlain by volcanics and partly by limestone. Some outcrop is found, although most of the area is overburden covered. Detailed surveys are necessary to more closely outline the anomalies and determine the geological conditions.

Volcanics outcrop near the anomaly indicated at the south end of lines 108 - 116W and similar rocks probably underlie the anomalous area.

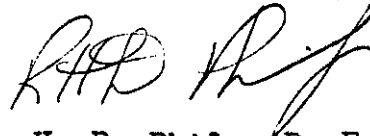
RECOMMENDATIONS:

Detailed geochemical and geological surveys

should be conducted in the anomalous areas, particularly that occurring between 132W and 156W in the western portion of the property. A magnetometer survey should also be conducted here as concentrations of magnetite are commonly found along limestone-volcanic contacts in the region, often in association with copper-zinc-lead mineralization.

The two main anomalies in the eastern portion of the claims should be tested by drilling with an X-Ray drill. Upon completion of the detailed surveys in the western portion these anomalies should also be tested in a similar manner.

Respectfully Submitted,

A handwritten signature in dark ink, appearing to read 'RHP' followed by a stylized flourish.

R. H. D. Philp, P. Eng.

ADDENDUM TO REPORT ON  
GEOCHEMICAL AND GEOLOGICAL SURVEYS  
ON THE HAW AND WIT GROUPS,  
NANAIMO MINING DIVISION  
DATED JUNE 12, 1968

INTRODUCTION:

The following addendum describes the results of the later work, conducted since the report of June 12, 1968 was completed. Since that time detailed geochemical and geological surveys were conducted in the western anomalous areas located during the reconnaissance surveys.

GEOCHEMICAL SURVEY:

Sampling was carried out within the area bounded by 128 + 00W - 160 + 00W and 11 + 00S - 38 + 00S. Samples were collected at 100 foot intervals on north-south cross-lines spaced 200 feet apart over a total of approximately 9 line-miles.

Sampling and testing procedures were similar to those for the earlier surveys.

Results of Survey:

Background in the area of the detailed soil sampling is approximately 25 ppm copper, and areas of 3 times background or greater are considered anomalous.

Eight such areas exist, with the principal ones grouped in the southwest corner of the detailed area.

Three anomalies occur in one area, measuring 1000 by 900 feet, between lines 148W and 158W. The peak value here is 750 ppm copper. Zinc anomalies of 100 ppm or greater are coincident with these, having a peak value of 5000 ppm zinc.

Approximately 200 feet east of the first group, an east-west trending anomaly occurs, measuring 700 by 200 feet, with a peak value of 184 ppm copper. A zinc anomaly is also coincident with this and extends beyond to the north.

An area anomalous for copper only lies 300 feet north of the first group, measures 700 by 300 feet, and has a peak value of 195 ppm copper.

Along the eastern edge of the detailed area, on lines 128W - 132W, 22S - 25S, a copper anomaly measures 500 by 200 feet and may extend to the east. The peak value is 465 ppm copper. This anomaly may be due in part to swampy conditions.

Two smaller copper anomalies occur in the northern portion of the gridded area, together with several isolated highs, the maximum value being 1100 ppm copper.

#### GEOLOGY:

Much of the northern half of the mapped area consists of swamp, devoid of outcrop. Where outcrop does exist it consists of volcanics, considered part of the Karmutsen Formation. These are comprised mainly of medium to dark green andesites and tuffaceous andesites. Amygdaloidal varieties are common.

These volcanics are overlain by limestone believed to belong to the Quatsino Formation in the extreme southwestern portion of the group. This is generally a grey-brown, crystalline rock.

Bedding attitudes are difficult to distinguish although the units generally strike northwesterly with moderate dips to the southwest. Local steep dips to the northeast have been noted in the central portion of the mapped area.

Main jointing directions are westerly with moderate to steep dips both north and south, northwest, dipping moderately northeast and southwest, and north to northeast, dipping steeply to either the west or east.

Minor chalcopyrite and bornite have been noted at several points in the volcanics, both in the northern portion and near the limestone contact.

The areas anomalous for both zinc and copper generally lie near the limestone-volcanic contact while those anomalous for copper only lie within the volcanics.

CONCLUSIONS AND RECOMMENDATIONS:

Soil sampling has outlined several copper and zinc anomalies warranting further investigation. Several of these occur along a favorable limestone-volcanic contact in the southwestern corner of the property.

A magnetometer survey should be conducted in the anomalous areas in an attempt to further localize drill targets, followed by diamond drilling.

Respectfully Submitted,



R. H. D. Philp, P. Eng.

AGILIS EXPLORATION SERVICES LTD.

DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.

To Wit:

In the Matter of the geochemical and geological surveys over the Haw and Wit Groups, Nanaimo Mining Division.

I, Ronald Philp

of 812 Blundell Road, Richmond, B. C.

in the Province of British Columbia, do solemnly declare that the following personnel were employed and costs incurred in conducting the above surveys during the period March 25 - June 30, 1968.

Personnel:

A. Philp - office - report, supervision 6½ days @ \$100.00 =	\$650.00	
- field - supervision 5½ days @ \$100.00 =	550.00	
M. Cowan - geologist - 3 days @ \$50.00 =	150.00	
F. Holcapek - geologist - 21 days @ \$47.71 =	1001.91	
D. Reinke - soil dampler - 21 days @ \$30.00 =	630.00	
H. Coburn - helper - 4 days @ \$22.50 =	90.00	
D. Weymer - helper - 4 days @ \$22.50 =	90.00	
J. Ray - helper - 36 days @ \$25.00 =	900.00	
P. Sampson - helper - 46 ¾ days @ \$25.00 =	1165.62	
R. McBean - soil sampler - 30 ¾ days @ \$28.75 =	884.06	
H. Harding - soil sampler - 23 ¾ days @ \$25.00 =	592.20	
K. Kikegawa - draughting, assembling data - 110 hrs. @ \$4.50/hour =	495.00	
		<u>\$7168.79</u>

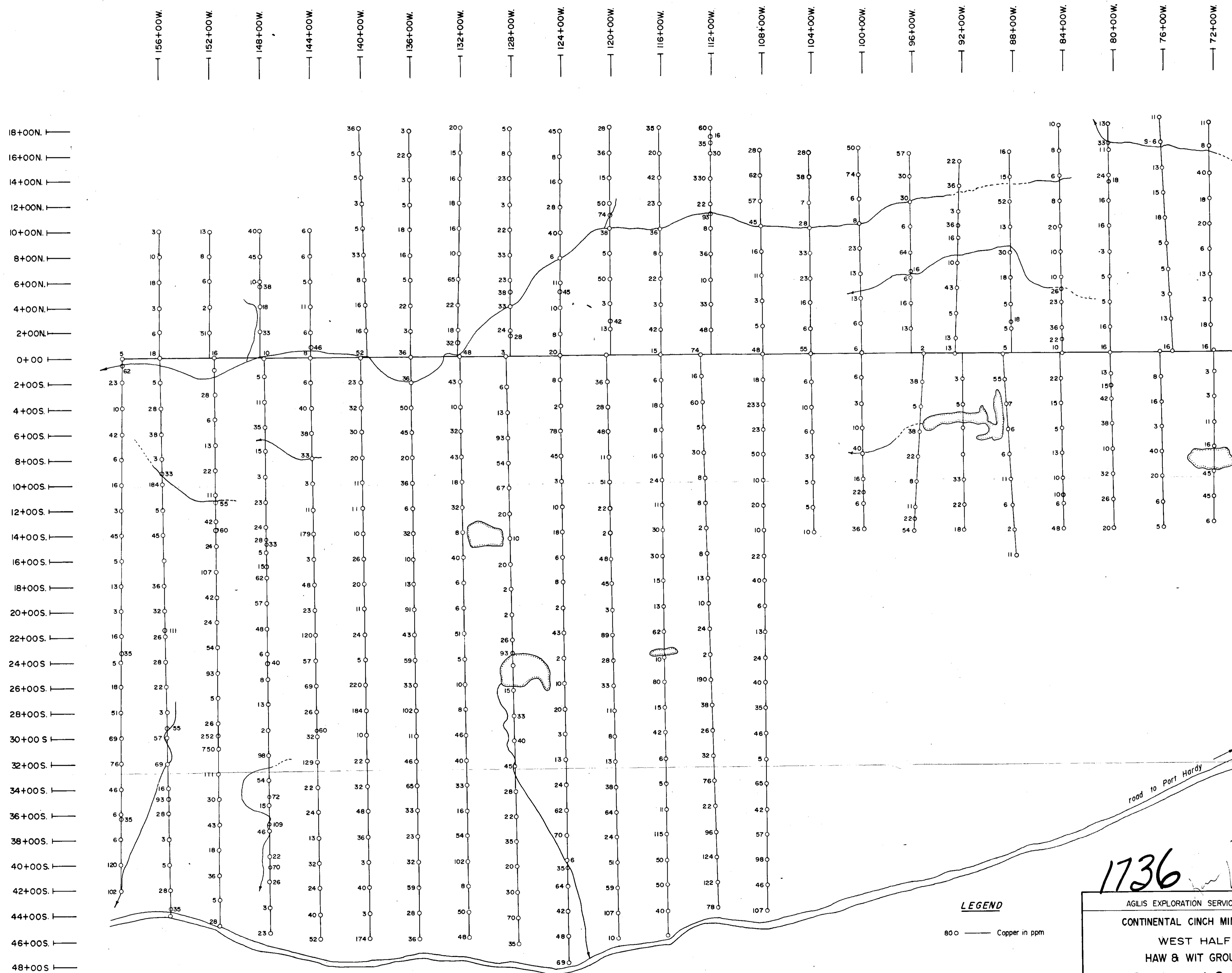
Disbursements:

Living costs (meals, accommodation, fuel, supplies approximately \$7.75/man day)	\$1519.42	
Geochemical testing	2588.52	
Travel - Vancouver to and from project	432.63	
Local (truck) transportation	816.96	
Miscellaneous expenses (assays, telephone, freight)	212.20	
		<u>\$5569.73</u>
<b>Total costs</b>		<u><u>\$12,738.52</u></u>

and I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the *City*  
of *Vancouver*, in the  
Province of British Columbia, this *24*  
day of *January* 1969, A.D.

*Jill Turner*  
A Commissioner for taking Affidavits for British Columbia or  
A Notary Public in and for the Province of British Columbia.  
Sub-Mining Recorder



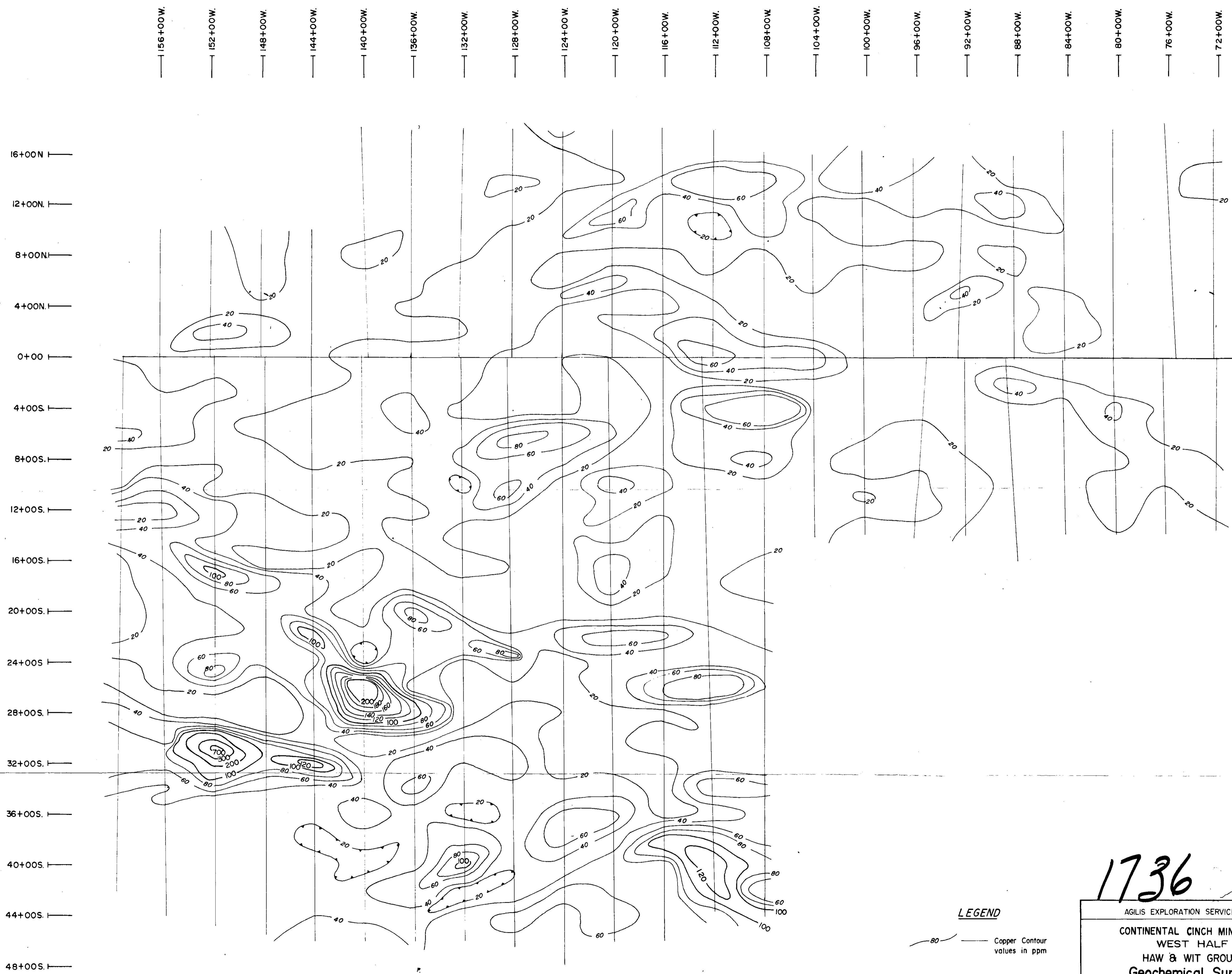
1736

**LEGEND**

800 — Copper in ppm

AGLIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD.	
WEST HALF	
HAW & WIT GROUP	
Geochemical Survey ①	
DRAWN BY: K. K.	SCALE: 1" = 400'
CHECKED BY: R. P.	DATE: June, 1968



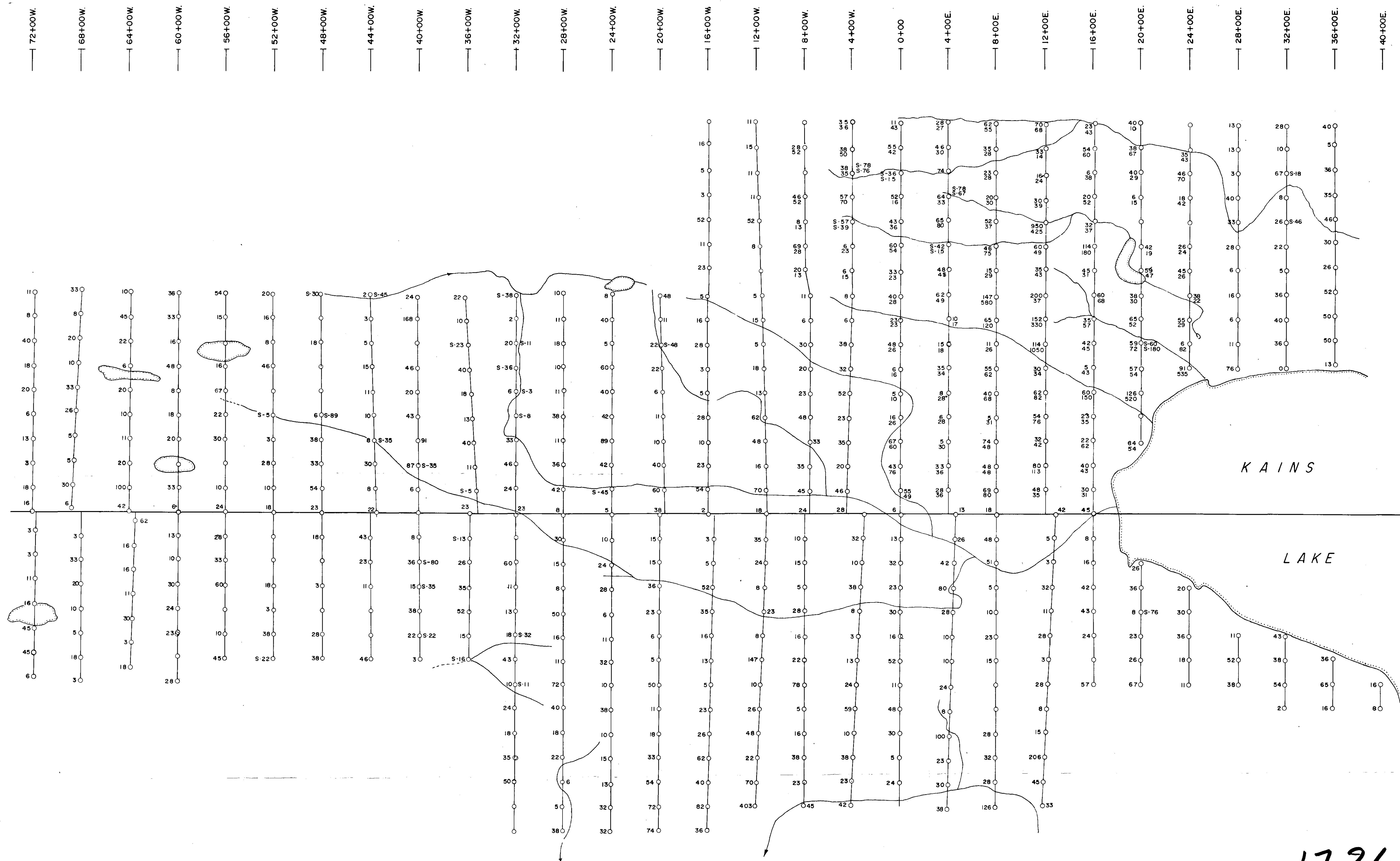


**LEGEND**

— 80 — Copper Contour values in ppm

1736

AGILIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD. WEST HALF HAW & WIT GROUP Geochemical Survey Contour Map	
DRAWN BY: K. K.	SCALE: 1" = 400'
CHECKED BY: R. P.	DATE: June, 1968

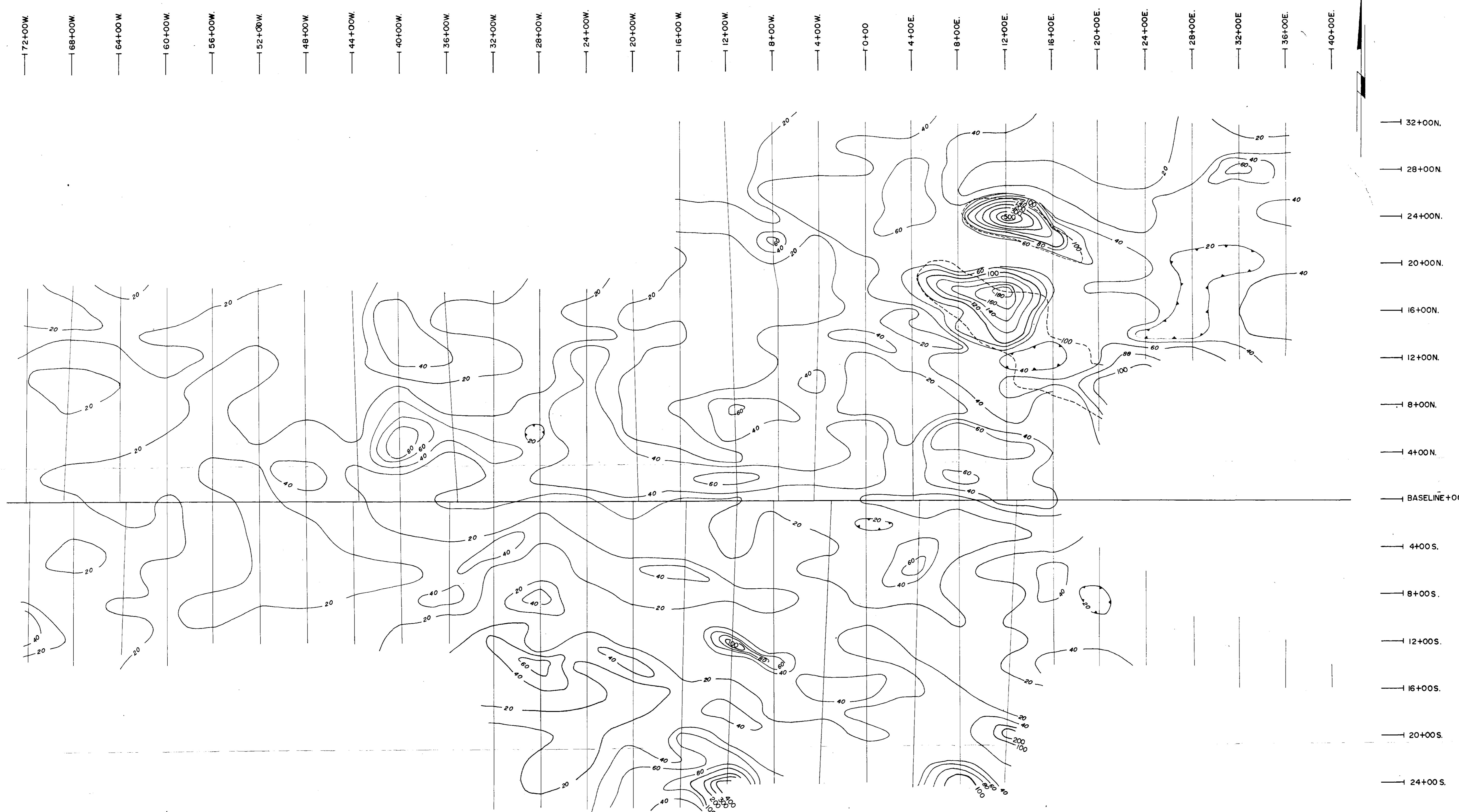


- 32+00N
- 30+00N
- 28+00N
- 26+00N
- 24+00N
- 22+00N
- 20+00N
- 18+00N
- 16+00N
- 14+00N
- 12+00N
- 10+00N
- 8+00N
- 6+00N
- 4+00N
- 2+00N
- BASELINE+00
- 2+00S
- 4+00S
- 6+00S
- 8+00S
- 10+00S
- 12+00S
- 14+00S
- 16+00S
- 18+00S
- 20+00S
- 22+00S
- 24+00S
- 26+00S

**LEGEND**  
 400 — Cu(ppm) ○  
 80 — Zn(ppm)

1736 *R.P.*

AGLIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD.	
EAST HALF	
HAW & WIT GROUP	
Geochemical Survey	
DRAWN BY: K. K.	SCALE: 1" = 400'
CHECKED BY: R. P.	DATE: June, 1968



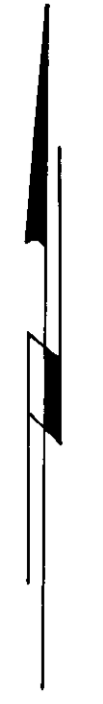
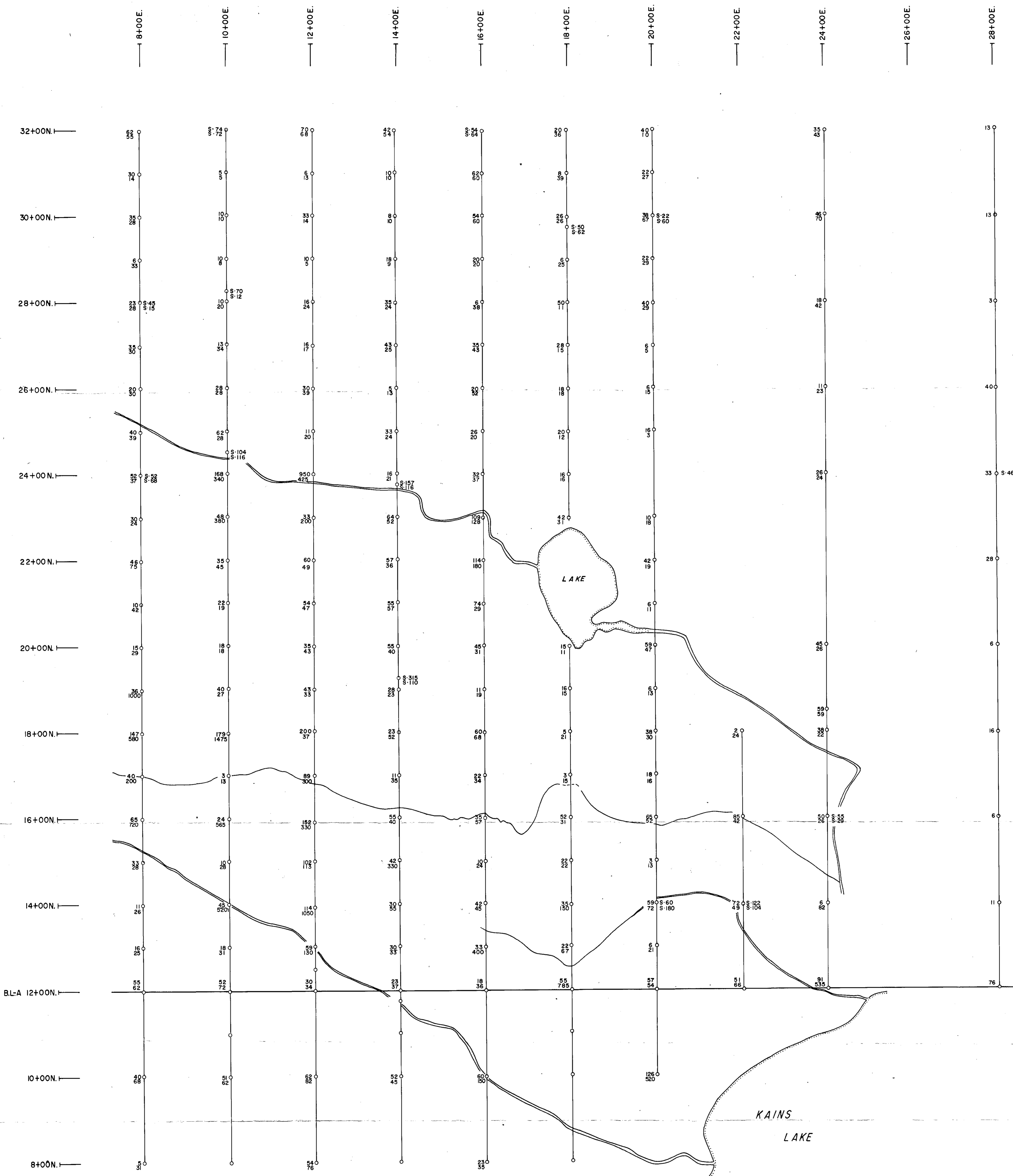
**LEGEND**

— 20 — Copper Contour values in ppm

- - - 100 - - - Zinc Anomalous AREA

1736

AGLIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD.	
EAST HALF	
HAW & WIT GROUP	
<b>Geochemical Survey</b>	
<b>Contour Map</b> (4)	
DRAWN BY: K. K.	SCALE: 1" = 400'
CHECKED BY: R. P.	DATE: June, 1968

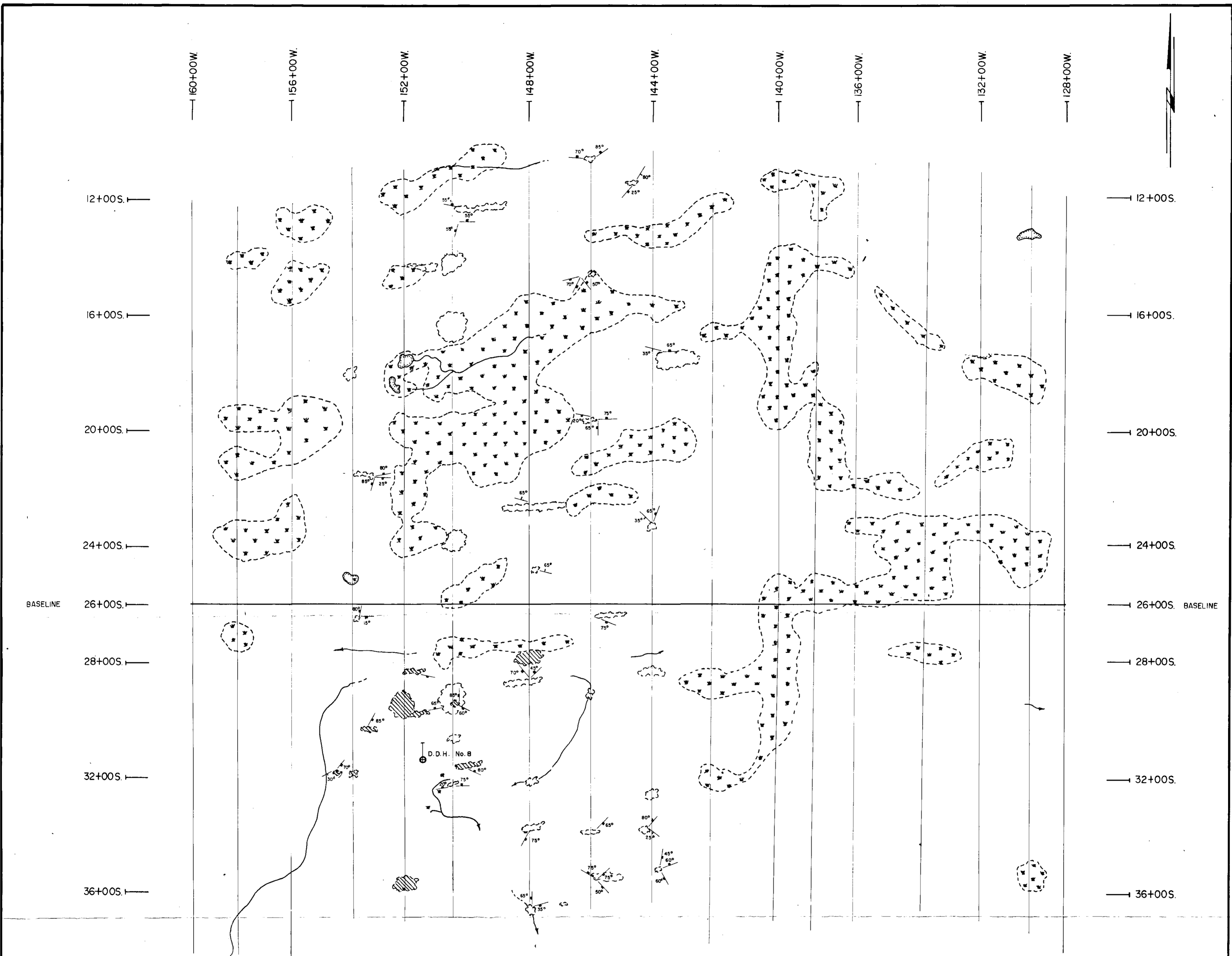


**LEGEND**

59 ——— Cu (ppm)  
47 ——— Zn (ppm)

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AGILIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD.	
HAW & WIT GROUP	
ZINC SHOWING	
Geochemical Survey	
DRAWN BY: K. K.	SCALE: 1" = 100'
CHECKED BY: R. P.	DATE: June 1968



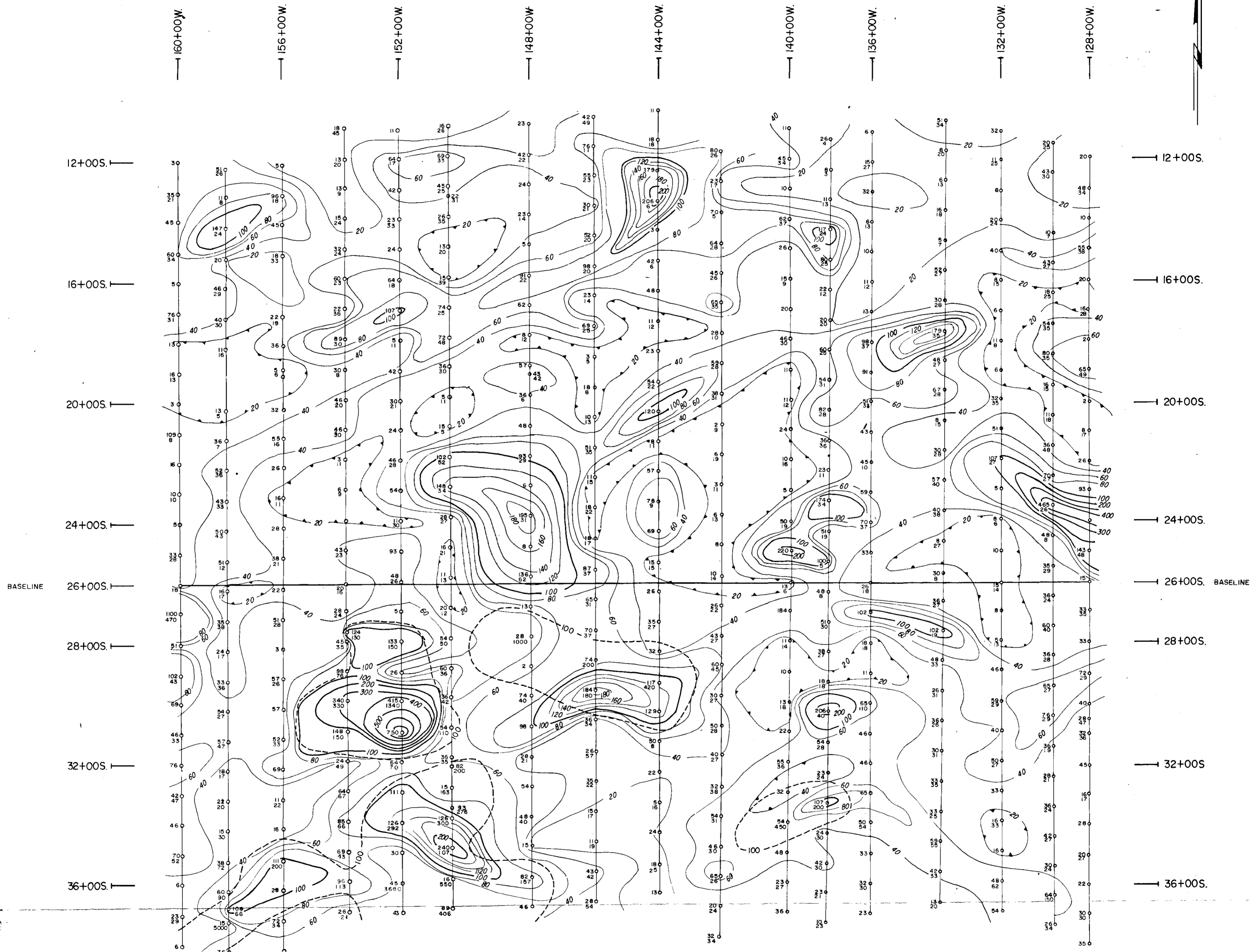
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**LEGEND.**

- ✕ — Swamp
- ▨ — Limestone
- ⋯ — Volcanics
- 30° / — Strike & Dip
- 80° — Jointing

AGILIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD.	
WEST ANOMALY	
HAW & WIT GROUP	
<b>Geological Plan</b>	
DRAWN BY: K. K.	SCALE: 1" = 200'
CHECKED BY: R. P.	DATE: July, 1968

Mapping by: D. Wilson & R. MacBean



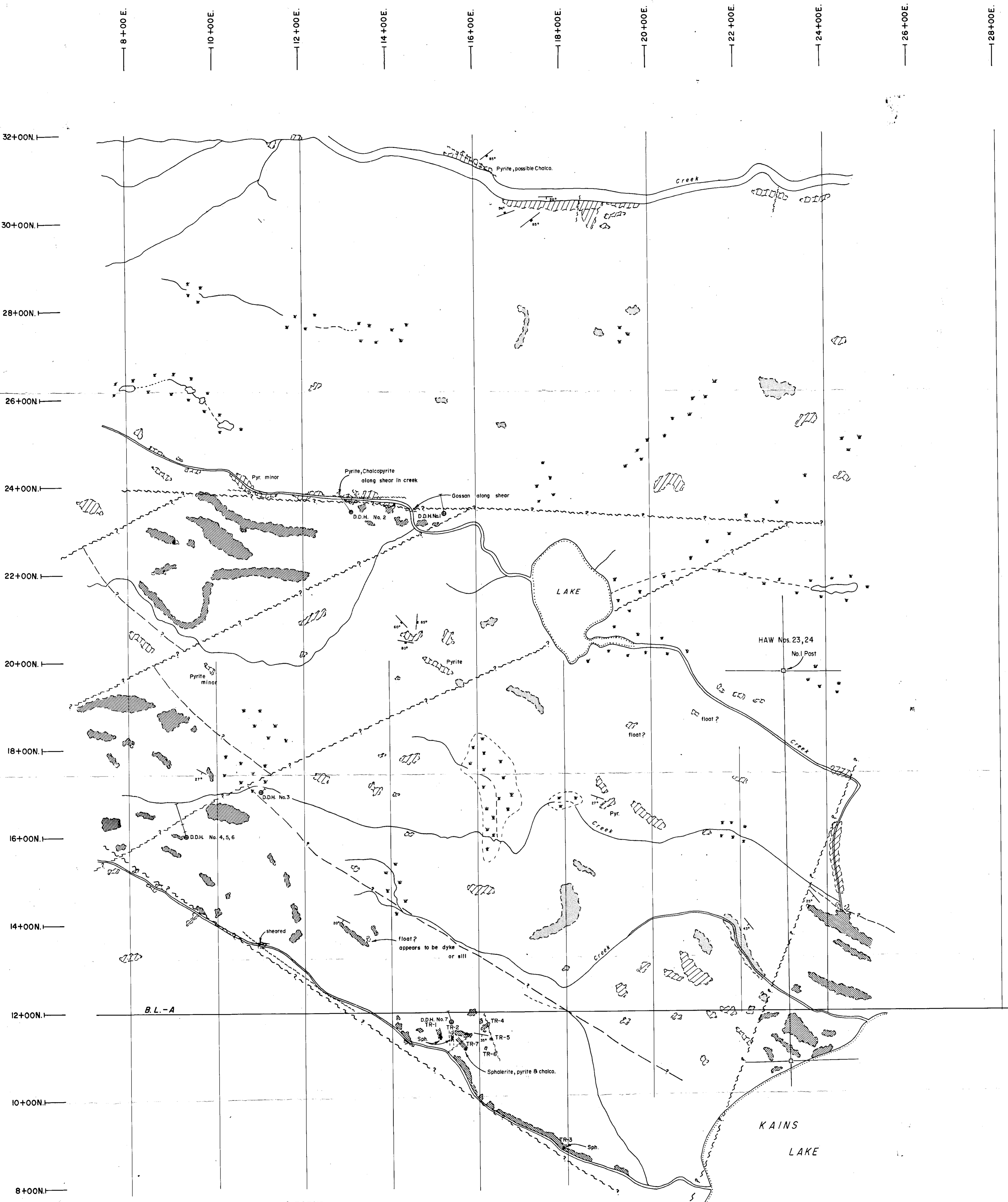
**LEGEND**

54°  
37° Cu, Zn values in (ppm)

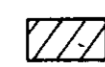


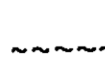
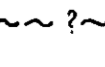
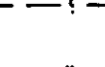


---100--- Zinc Anomalous Area

**1336**

AGILIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD.	
WEST ANOMALY	
HAW & WIT GROUP	
Detailed Geochemical Survey	
DRAWN BY: K. K.	SCALE: 1" = 200'
CHECKED BY: R. P.	DATE: July, 1968



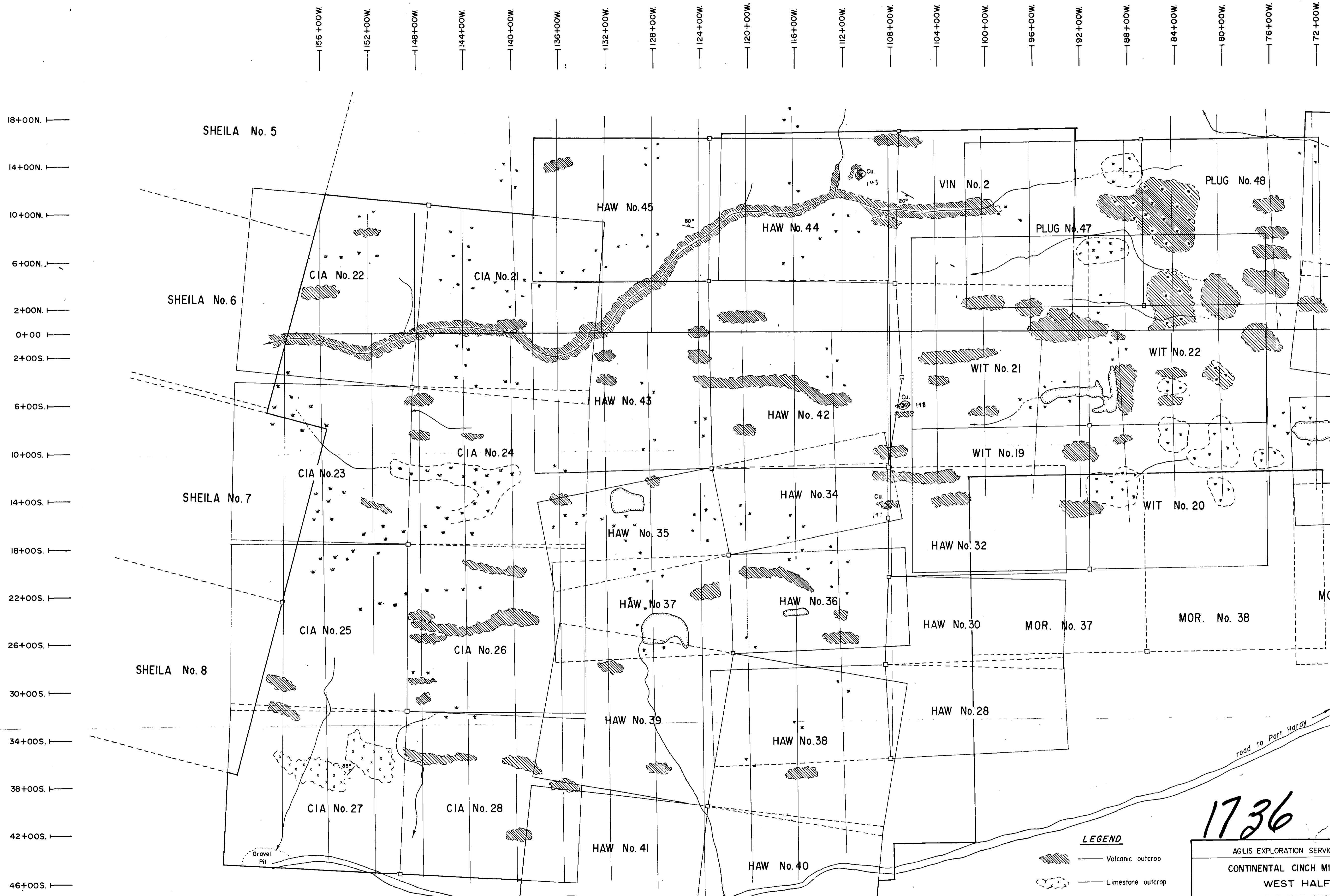
**LEGEND**

-  ANDESITE, dark green, dense to well crystalline often porphyritic (Pyroxenite), including purplish variety
-  ANDESITE, amgd., Epidote, Quartz filling in places strongly weathered
-  LIMESTONE, dark blue to light grey, crystalline
-  Fault shear observed
-  Fault shear inferred
-  Contacts assumed
-  Swamp
-  TR-1 Trench

MAPPED BY: F. HOLCAPEK

1736 *[Handwritten signature]*

AGILIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD.	
HAW & WIT GROUP	
ZINC SHOWING	
Geological Plan <span style="float: right;">③</span>	
DRAWN BY: K. K.	SCALE: 1" = 100'
CHECKED BY: R. P.	DATE: June 1968



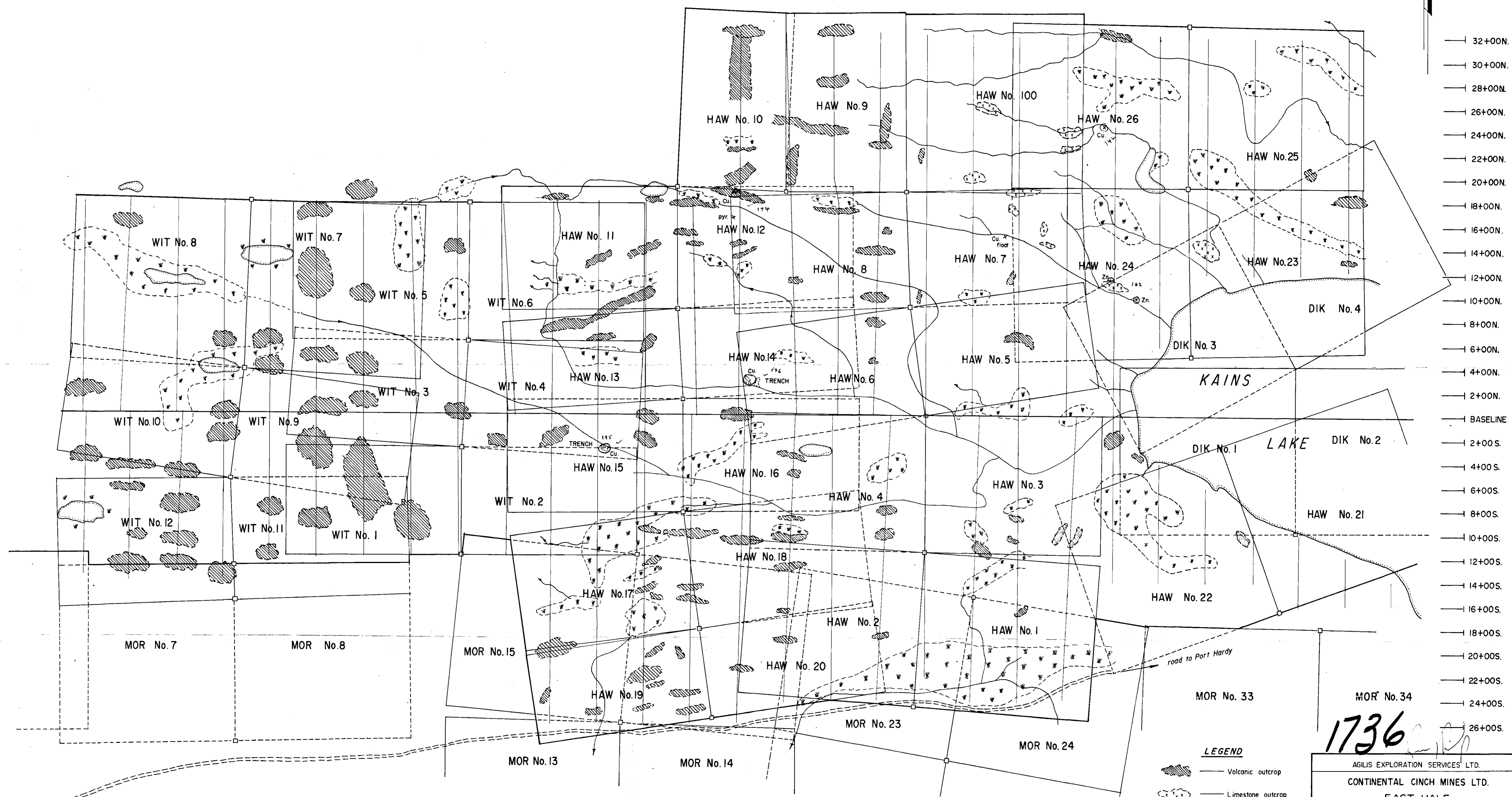
**LEGEND**  
 [Hatched pattern] Volcanic outcrop  
 [Dotted pattern] Limestone outcrop  
 [Star symbol] Swamp

1736

AGILIS EXPLORATION SERVICES LTD.	
CONTINENTAL CINCH MINES LTD.	
WEST HALF	
HAW & WIT GROUP	
Surface Plan	
DRAWN BY: K. K.	SCALE: 1" = 400'
CHECKED BY: R. P.	DATE: June, 1968



72+00W. 68+00W. 64+00W. 60+00W. 56+00W. 52+00W. 48+00W. 44+00W. 40+00W. 36+00W. 32+00W. 28+00W. 24+00W. 20+00W. 16+00W. 12+00W. 8+00W. 4+00W. 0+00. 4+00E. 8+00E. 12+00E. 16+00E. 20+00E. 24+00E. 28+00E. 32+00E. 36+00E. 40+00E.



32+00N.  
30+00N.  
28+00N.  
26+00N.  
24+00N.  
22+00N.  
20+00N.  
18+00N.  
16+00N.  
14+00N.  
12+00N.  
10+00N.  
8+00N.  
6+00N.  
4+00N.  
2+00N.  
BASELINE  
2+00S.  
4+00S.  
6+00S.  
8+00S.  
10+00S.  
12+00S.  
14+00S.  
16+00S.  
18+00S.  
20+00S.  
22+00S.  
24+00S.  
26+00S.

**LEGEND**  
 Volcanic outcrop  
 Limestone outcrop  
 Swamp

1736

AGILIS EXPLORATION SERVICES LTD.  
 CONTINENTAL CINCH MINES LTD.  
 EAST HALF  
 HAW & WIT GROUP  
 Surface Plan

DRAWN BY: K. K. SCALE: 1" = 400'  
 CHECKED BY: R. P. DATE: June, 1968