KERR ADDISON MINES LTD.

KENT PROJECT

YUKON TERRITORY

GRAVITY SURVEY

AGER, BERRETTA & ELLIS INC.

1982

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of $ 4,800 —

R Watson

for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

TABLE CONTENTS

LIST OF FIGURES

KENT PROJECT

At the request of Kerr Addison Mines Ltd., Ager, Berretta & Ellis Inc. have completed gravity surveys over parts of seven grids on the Kent Project, Yukon Territories (Figure 1). The object of the surveys was to determine the possibility of any excess mass which might be associated with massive sulphides.

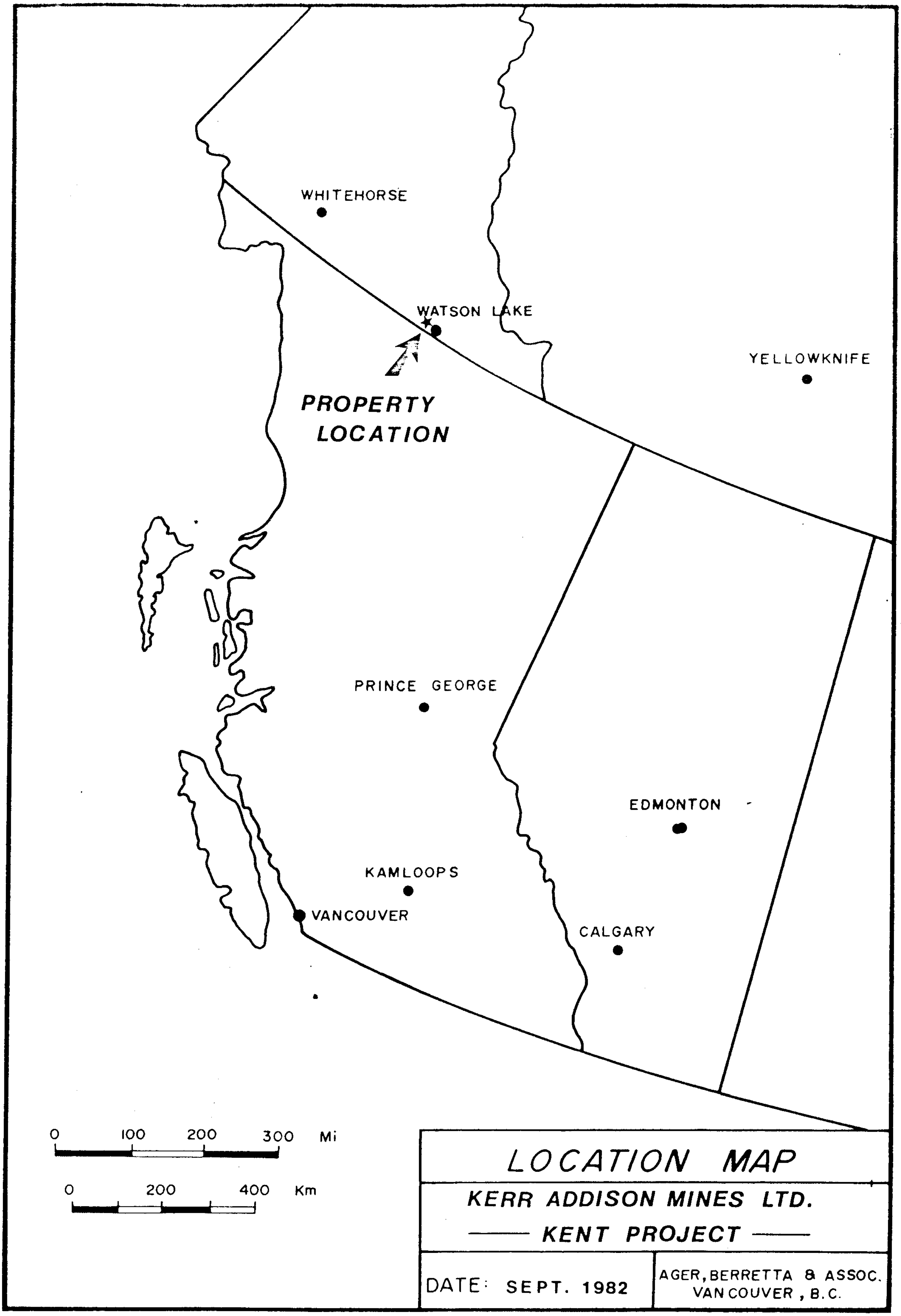
SURVEY PROCEDURES AND EQUIPMENT

The survey area is approximately 15 kilometres north of Watson Lake along the Campbell Highway (Figure 2). Crews stayed in Watson Lake and commuted to and from the property daily. Field work was conducted between August 3 and 13 and again September 5 and 6.

Elevations were obtained through the use of optical levels and an electronic level developed in-house by the consultant. Standard levelling and survey closure methods were used. Station elevations were calculated to within a relative accuracy of ±0.10 feet. Elevation datum was estimated from contour maps of the area.

Gravity observations were made using a LaCoste & Romberg Model G gravity meter (serial no. 199) with a reading accuracy of ±0.01 milligals. Instrument and diurnal drift were accounted for by tying into a base station established off the north corner of four posts 30 metres east of the Watson Lake Hotel. All data was tied to the national grid network stations at Watson Lake Airport.

Preliminary data reduction was completed and Simple Bouguer profiles were produced on site using portable field computers. Gravity profiles (Figures 3 through 8) and gravity contour maps (Figure 9 through 13) are included herein.



LOCATION MAP

KERR ADDISON MINES LTD.

— KENT PROJECT —

DATE: SEPT. 1982	AGER, BERRETTA & ASSOC. VANCOUVER, B.C.

FIGURE 1

GRID DATA

Grid Name	Lines Surveyed	Station Limits
A	83N	16W - 26W
I	10N	0 - 15W
I	2S	12W - 24W
I	12W	2S - 10N
J	37N	66W - 79W
K	21N	43W - 57W
K	26N	43W - 57W
K	50W	21N - 26N
L	10S	94W - 106W
L	15S	84W - 107W
L	20S	98W - 108W
M	70N	27E - 3W
M	77N	32E - 16E
M	16E	70N - 77N
Pepper	61S	74W - 82W
"	65S	72W - 99W
"	69S	78W - 99W
"	82W	60S - 69S

DATA REDUCTION

Each grid has been treated as an individual survey area. For each grid, gravity-elevation correlation analysis have been carried out in order to determine the most applicable elevation correction factor. The final profiles and contour maps are plotted using the densities so determined. In addition, each anomalous profile has been computer plotted at densities ranging from approximately 2.0 grams per cc to over 3.0 grams per cc. In this manner, it is possible to eliminate anomalies related to topography.

INTERPRETATION

The proximity of the Liard and Frances Rivers and the existence of large areas of alluvial material suggest the possibilities of variable bedrock topography and buried channels as sources of gravity anomalies. The grids are discussed individually below:

'A' (Line 83N), (Figure 3)

A 4.5 milligal gradient. Suggests a steep fault or buried cliff. Response is similar to 'L' grid described below. Stratigraphically interesting but economically not a massive sulphide target.

'I' (Lines 10N, 2S, 12W), (Figure 4)

Lines 10N and 2S contain no significant features. An anomaly in the order of 0.5 milligals is centered at 2N on 12W. There is no indication of this response on either 10N or 2S suggesting that the source trends approximately at right angles to line 12W. The fact that the local stratigraphy trends at right angles to the apparent anomaly supports the hypothesis that the anomaly source is variations in depth of overburden.

'J' (37 N), (Figure 3)

The gradual gradient in this line contains no significant features.

√ 'K' (21N, 26N, 50W), (Figure 5)

Lines 21 and 26 contain westerly rising gradients similar to 37 north. A residual anomaly of approximately 0.7 milligals centered at 46W on 26 north remains independent of the elevation correction factor applied. This feature is representative of bedrock topography or a relatively small excess mass at depth. A second feature centered at 56W on line 21N can be eliminated by variation of the elevation correction factor. This suggests that the anomaly is topography related. There are no other gravity features of significance in this grid.

'L' (10S, 15S, 20S), (Figure 6)

The extremely abrupt and steep gradient on line 15S is a textbook sample of a steeply dipping, fault where the upthrust side is very near surface. Computer modelling indicates that the source of this response could be a near vertical dipping fault of approximately 100 metres displacement where the in-fill is of material near 1.0 gram per cc less than the bedrock. This feature is also evident on lines 10S and 20S. Secondary troughs centered at 99W and 97W on lines 10S and 15S respectively suggest the possibility of a deeply buried river basin with channel center at these locations. This anomaly is not of direct interest in the search for massive sulphides.

'M' (70N, 77N, 16E), (Figure 7)

Lines 70N and 77N yield anomalies that can be viewed as either gravity highs or gravity lows. The most likely source of the low in line 70N is a buried channel. The low centered at 18E on 77 north would then be due to widening of the same buried channel. Alternatively, the gravity highs at 5E and 26E on 77N could be due to excess mass of economic significance and cannot be discounted immediately. These anomalies warrant further investigation as specified below.

Pepper (61S, 65S, 69S, 82W), (Figure 8)

Significant gravity anomalies are evident on lines 61S and 65S. A narrow response on 61S broadens on 65S but does not extend as far as 69S. The topography here is relatively flat and extends into swamp to the north. The anomaly source is most likely either a subsurface topographic feature or excess mass which could be of economic interest. This is the highest priority target resulting from the survey and warrants further work as recommended below. Computer modelling indicates that a reasonable sized source for this one milligal response would be a massive sulphide body of density approximately 4.0 grams per cc having a cross sectional area of 6,000 square metres. No length estimate has been made as the anomaly is open to the north.

RECOMMENDATIONS

Significant geological factors in the survey area are the proximity of major rivers, the vast amounts of alluvial overburden and the evidence of extensive glaciation. These factors suggest variations in depth of overburden as the most likely source of gravity anomalies. Follow-up exploration should therefore be aimed at determining whether or not the gravity anomalies defined are due to bedrock topography. Seismic surveys can accomplish this objective but resistivity may be more cost effective. A resistivity survey could determine the bedrock profile and outline any significant mineralized zone. Individual grid recommendations follow:

'A' Grid

No further work.

'I' Grid

½ mg bump

The anomaly on 12W is a low priority target. A resistivity line here will determine whether or not this anomaly is of further interest.

'J' Grid

No further work.

'K' Grid

.7 mgs.

A resistivity line is recommended along line 26 north. If this work confirms that the source is not bedrock topography then the gravity work should be extended north. Any further encouraging gravity response to the north would result in a higher priority drill target. This is a medium priority target.

'L' Grid

No further work.

'M' Grid

Resistivity or seismic work is recommended to determine whether or not the sources of the anomalies are bedrock topography. If results are favourable, further gravity and drilling are recommended. These are high priority targets.

Pepper Grid

Resistivity or seismic work is recommended along 61S. A favourable result will yield a high priority drill target on line 61. Further gravity work to the north should then be used to define the extent of the anomaly. Work in the swamp section of this grid should be completed while the area is frozen over. This is a high priority target.

CONCLUSION

Gravity surveys have been conducted over seven grid areas. Three significant anomalies have been outlined and follow-up work has been recommended. If the next stage of exploration yields favourable results, a drilling program will be recommended.

CERTIFICATE OF QUALIFICATIONS

I, Gordon L. Ellis, do hereby certify that:

1. I am a practising geophysicist with offices at #606-595 Howe Street, Vancouver, B. C., Canada V6C 2T5.

2. I have received the following University degrees:

   (a) 1972 B.Sc. (Gecphysics), University of British Columbia.

   (b) 1974 M.B.A. (Finance), University of British Columbia.

3. I am a member in good standing of the following professional organizations:

   (a) The Society of Exploration Geophysicists
   (b) Association of Professional Economists of British Columbia.
   (c) Canadian Institute of Mining and Metallurgy
   (d) British Columbia Geophysical Society

4. Since 1969 I have been engaged in exploration and mining geophysics over numerous projects in North America, Australia and the Far East.

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

Gordon L. Ellis, B.Sc., M.B.A.
Geophysicist

APPENDIX I

GRAVITY FUNDAMENTALS

There are a number of steps required in order to obtain meaningful, relative gravity values from raw field data. The final values are referred to as Complete Bouguer Gravity and are derived from the following components:

g_o = observed gravity = field observations corrected for drift and adjusted to primary base station gravity datum.

g_{fa} = free air effect = correction for the relative distance of the gravity station from the mass of the earch (point source mass). This calculation assumes a normal free air and corrects for relative differences in distance from the elevation datum.

g_{bs} = Bouguer slab effect = correction for the relative differences in thickness of rock material between gravity stations and the elevation datum. This calculation requires that a mean density for rock types between the lowest and highest grid elevations be established. All stations are then corrected for the gravity effect caused by this assumed slab of the derived density above the elevation datum.

g_l = latitude effect = correction for change of observed gravity with change in latitude - due primarily to the difference in the earth's radius between the poles and equator.

g_t = terrain effect = correction for variations caused by local terrain. The vertical component of the gravitational effect exerted by nearby hills, or not exerted by valleys or gullies, will affect the net reading obtained at any one station. The overall effect on a given line profile or grid area will be a function of the station spacing relative to the frequency of the terrain correction.

Accurate and appropriate application of the above corrections yields Complete Bouguer Gravity values which are, in theory, free from all effects except those caused by relative changes in density within rock units below the survey area.

$$G_{cb} = g_o - (g_{fa} + g_{bs} + g_l + g_t) = \text{Complete Bouguer Gravity.}$$

Changes in relative gravity values which may result in "anomalies" are a function of:

- the difference in densities between rock units;

- the sizes of rock units relative to each other and relative to the grid spacing or "target" size;

- the distance from the area of density contrast to the observation points.

For example: Steeply dipping, near surface massive sulphide deposits or coal seams will give sharp featured gravity anomalies, the former greater than background, the latter less than background. Density contrasts at depth, such as slopes or changes in basement stratigraphy, will result in very low frequency changes, often referred to as gradients.

APPENDIX II

Elevation Factor Density:	Individually calculated for each grid
:	See print-outs
Elevation Datum:	Estimated from contour maps
Gravity Datum:	National network station 9807-53
:	Watson Lake Airport
:	981699.90 (our value 47.04)
:	for national network values add 981652.86 to all Obs.G. values in attached listing.
Meter:	LaCoste & Romberg No. 199: Constant 1.05931
Grid Spacing:	50 metres
Line Spacing variable:	400-500 metres
Total Stations read:	516
Survey periods:	August 1982 September 1982

PERSONNEL

Martin Johnson,	M.Sc., Geophysicist, Project Manager
Gordon McOrmond,	Operator
Norbert Bernoth,	B.Sc., Geophysicist, Operator
Gordon Ellis,	Analysis/Interpretation

LINE 10

STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
10S 10600	686.74	2253.10	57.50	.08	0.00	192.66
10S 10550	684.74	2246.51	57.73	.05	0.00	192.47
10S 10500	686.78	2253.23	57.14	.03	0.00	192.26
10S 10450	687.05	2254.11	56.95	.00	0.00	192.09
10S 10400	686.88	2253.55	56.90	-.02	0.00	191.99
10S 10350	687.66	2256.11	56.65	-.05	0.00	191.86
10S 10300	686.90	2253.62	56.75	-.07	0.00	191.79
10S 10250	685.37	2248.60	57.01	-.10	0.00	191.72
10S 10200	684.67	2246.28	57.03	-.12	0.00	191.58
10S 10150	682.75	2239.98	57.27	-.15	0.00	191.42
10S 10100	682.99	2240.77	57.01	-.17	0.00	191.18
10S 10050	683.11	2241.19	56.91	-.20	0.00	191.08
10S 10000	684.65	2246.24	56.44	-.22	0.00	190.89
10S 9950	686.29	2251.61	56.09	-.25	0.00	190.83
10S 9900	688.75	2259.68	55.54	-.27	0.00	190.75
10S 9850	691.84	2269.80	54.71	-.30	0.00	190.49
10S 9800	697.47	2288.28	53.30	-.32	0.00	190.17
10S 9750	704.69	2311.96	51.93	-.35	0.00	190.19
10S 9700	710.46	2330.90	50.82	-.37	0.00	190.20
10S 9650	714.62	2344.57	50.06	-.40	0.00	190.23
10S 9600	719.49	2360.54	49.15	-.42	0.00	190.25
10S 9550	725.44	2380.04	48.15	-.45	0.00	190.39
10S 9500	731.25	2399.10	47.34	-.47	0.00	190.71
10S 9450	736.39	2415.99	46.67	-.50	0.00	191.02
10S 9400	738.62	2423.28	46.67	-.52	0.00	191.44

2' GRID, LINE 15 N

STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
15S 10735	678.73	2226.80	57.23	.39	0.00	191.13
15S 10700	675.49	2216.19	57.91	.38	0.00	191.16
15S 10650	673.89	2210.91	58.24	.35	0.00	191.14
15S 10600	672.42	2206.10	58.55	.33	0.00	191.15
15S 10550	672.60	2206.68	58.44	.30	0.00	191.04
15S 10500	673.97	2211.19	58.07	.28	0.00	190.92
15S 10450	675.80	2217.19	57.70	.25	0.00	190.88
15S 10400	676.62	2219.89	57.51	.23	0.00	190.83
15S 10350	677.63	2223.19	57.22	.20	0.00	190.71
15S 10300	677.95	2224.23	57.02	.18	0.00	190.55
15S 10250	678.66	2226.57	56.91	.15	0.00	190.55
15S 10200	680.85	2233.77	56.43	.13	0.00	190.48
15S 10150	683.92	2243.82	55.78	.10	0.00	190.41
15S 10100	687.67	2256.14	55.14	.08	0.00	190.48
15S 10050	692.18	2270.92	54.14	.05	0.00	190.34
15S 10000	696.46	2284.98	53.12	.03	0.00	190.14
15S 9950	700.97	2299.77	51.93	0.00	0.00	189.81
15S 9900	703.88	2309.31	51.54	-.02	0.00	189.97
15S 9850	706.24	2317.05	51.19	-.05	0.00	190.06
15S 9800	711.50	2334.33	50.06	-.07	0.00	189.94
15S 9775	715.28	2346.73	49.28	-.09	0.00	189.89
15S 9725	720.01	2362.23	48.83	-.11	0.00	190.35
15S 9675	723.10	2372.38	48.80	-.14	0.00	190.89
15S 9625	727.51	2386.84	48.37	-.16	0.00	191.31
15S 9575	730.66	2397.19	48.07	-.19	0.00	191.60
15S 9525	733.81	2407.51	47.94	-.21	0.00	192.07
15S 9475	736.81	2417.36	47.80	-.24	0.00	192.49
15S 9425	740.85	2430.62	47.28	-.26	0.00	192.75
15S 9375	747.80	2453.41	46.16	-.29	0.00	192.96
15S 9325	759.57	2492.01	43.78	-.31	0.00	192.99
15S 9275	767.06	2516.58	42.53	-.34	0.00	193.18
15S 9225	773.93	2539.12	41.06	-.36	0.00	193.04
15S 9200	775.19	2543.26	40.85	-.37	0.00	193.08
15 9150	779.05	2555.94	40.08	-.40	0.00	192.92
15 9100	783.00	2568.90	39.32	-.42	0.00	192.92
15 9050	786.02	2578.79	38.81	-.45	0.00	192.97
15 9000	786.64	2580.85	38.63	-.47	0.00	192.89
15 8950	788.85	2588.09	38.06	-.50	0.00	192.73
15 8900	790.86	2594.69	37.73	-.52	0.00	192.77
15 8850	793.06	2601.89	37.23	-.55	0.00	192.67
15 8800	796.64	2613.65	36.61	-.57	0.00	192.74
15 8750	800.78	2627.24	35.80	-.60	0.00	192.71
15 8700	804.47	2639.33	35.04	-.62	0.00	192.66
15 8650	808.67	2653.12	34.17	-.65	0.00	192.59
15 8600	811.79	2663.34	33.55	-.67	0.00	192.56
15 8550	815.11	2674.24	32.87	-.70	0.00	192.50
15 8500	817.67	2682.66	32.41	-.72	0.00	192.53
15 8450	818.20	2684.38	32.38	-.75	0.00	192.57
15 8400	818.96	2686.89	32.30	-.77	0.00	192.62

LINE 20

STN. NO.	ELEV. METRES	ELEV. FEET	OBSERVED GRAVITY	LATITUDE COR.	TERRAIN COR.	COMPLETE BOUGUER
20S 10850	670.56	2200.00	57.22	.81	0.00	189.93
20S 10800	672.51	2206.41	56.86	.79	0.00	189.93
20S 10750	673.87	2210.86	56.63	.76	0.00	189.94
20S 10700	675.62	2216.61	56.23	.74	0.00	189.86
20S 10650	677.81	2223.80	55.80	.71	0.00	189.84
20S 10600	679.32	2228.74	55.45	.69	0.00	189.76
20S 10550	682.48	2239.11	55.05	.66	0.00	189.95
20S 10500	684.65	2246.22	54.73	.64	0.00	190.04
20S 10450	686.49	2252.27	54.52	.61	0.00	190.16
20S 10400	688.33	2258.29	54.15	.59	0.00	190.13
20S 10350	692.67	2272.54	53.47	.56	0.00	190.28
20S 10300	696.20	2284.11	52.87	.54	0.00	190.35
20S 10250	699.43	2294.72	52.34	.51	0.00	190.43
20S 10200	703.86	2309.25	51.47	.49	0.00	190.41
20S 10150	708.45	2324.31	50.58	.46	0.00	190.39
20S 10100	711.87	2335.53	50.07	.44	0.00	190.54
20S 10050	715.83	2348.51	49.55	.41	0.00	190.76
20S 10000	719.35	2360.06	49.14	.39	0.00	191.03
20S 9950	721.12	2365.89	49.14	.36	0.00	191.34
20S 9900	725.20	2379.27	48.81	.34	0.00	191.80
20S 9850	731.64	2400.39	48.04	.31	0.00	192.26

AGER, BERRETTA & ELLIS INC.

Telephone: (604) 669-7748
CONSULTING
GEOPHYSICISTS
606 - 595 Howe Street
Vancouver, B.C., Canada
V6C 2T5

RECEIVED
14 APR 1983
MINING RECORDER
WATSON LAKE, Y.T.
I.A. & N.D.

14 October, 1982

RECEIVED
SEP 29 1982
KERR ADDISON MINES LTD.
PER

Kerr Addison Mines Ltd,
1112 West Pender Street,
Vancouver, B.C.,
V6E 2S1

Invoice: Re Kent Project gravity survey, Watson Lake.

Field survey, mobilization/demobilization, data interpretation, final report; all inclusive charges: $50.00 per station.

Total charges for 516 stations:	$25,800.00
Total rendered and payable:	$25,800.00

APPROVED FOR PAYMENT
MANAGER
CHARGED 75-B A/C: 13

Sent to T/O
Sept 29/82

091450

KERR ADDISON MINES LIMITED

STATEMENT OF COSTS FOR GRAVITY SURVEY

ON "L" GRID, KENT PROJECT, Y.T.

105A-2, 105A-7

RECEIVED
14 APR 1983
MINING RECORDER
WATSON LAKE, Y.T.
I.A. & N.D.

1.	Grid length of line layout	4.5 line Kilometers
2.	Grid length of gravity survey	4.5 line Kilometers
3.	Total stations read on gravity survey	95 stations
4.	Survey date	Aug. 3-4, 1982

COSTS:

1(a) Grid line layout, Kerr Addison Mines' field costs $130/line km.

3(a) Gravity survey; Ager,Barretta & Ellis contract price $50/station

TOTAL COSTS:

Grid line layout-------4.5km x $130/km =	$ 585
Gravity survey---------95 sta. x $50/sta. =	4,750
Total	$ 5,335

F. Chow
Kerr Addison Mines Limited

Attachments:
1 Ager, Barretta & Ellis Inc. invoice

091450

YUKON QUARTZ MINING ACT

Sch 1

FORM C 9Sect 53)

APPLICATION FOR A CERTIFICATE OF WORK

RECEIVED 14 APR 1983 MINING RECORDER WATSON LAKE, Y.T. I.A. & N.D.

Affidavit

I, George R. Kent, President of George R. Kent and Associates Ltd, of 86 Catalina Drive, Scarborough, Ontario make oath and say:

That I have caused to be done work on the GE Mineral Claims numbered:

5	838-842 incl	Tag No's	YA 68174-YA 68178 incl
6	849-854 "	" "	YA 68185-YA 68190 "
1	861 "	" "	YA 68197
4	863-866 "	" "	YA 68199-YA 68202 "

Located on the Robert Campbell Highway and in its immediate vicinity, NTS Map No. 105 A3, in the Watson Lake Mining District, to the value of $5,335.00, since the first day of July, 1982.

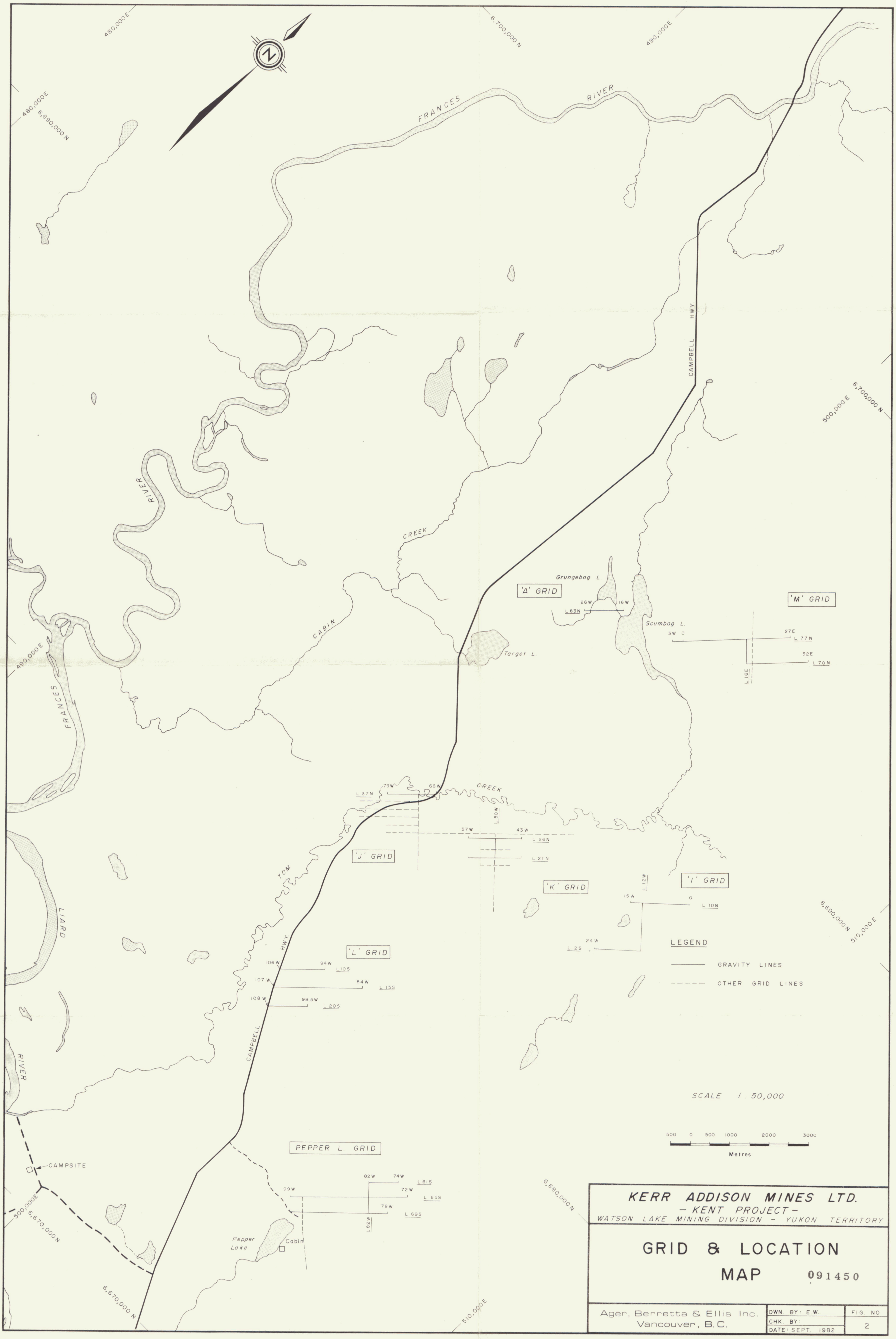
The following attached report by Ager, Berretta, & Ellis Inc., 1982 details the gravity survey and its location known as "L" Grid on these claims. Financial statements by Berretta et al and by F. Chow, for Kerr Addison Mines Limited who carried out and authorized the work respectively are also enclosed.

Sworn and subscribed to at Toronto, Ontario, this 31 st day of March 1983.

[signature]

President
George R. Kent & Associates Ltd.

091450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480,000E
6,700,000 N
490,000E
480,000E
6,690,000 N
FRANCES RIVER
CAMPBELL HWY.
500,000E
6,700,000 N
RIVER
CREEK
CABIN
Grungebag L.
'A' GRID
26W
16W
L 63N
'M' GRID
Scumbag L.
3W 0
27E
L 77N
32E
L 70N
L 16E
Target L.
490,000E
FRANCES
L 37N
79W
66W
CREEK
L 50W
57W
43W
L 26N
L 21N
'J' GRID
TOM
'K' GRID
'I' GRID
L 12W
15W
0
L 10N
6,690,000 N
510,000E
LIARD
24W
L 2S
LEGEND
GRAVITY LINES
OTHER GRID LINES
'L' GRID
HWY
106W
94W
L 10S
107W
84W
L 15S
108W
98.5W
L 20S
CAMPBELL
RIVER
SCALE 1: 50,000
500 0 500 1000 2000 3000
Metres
PEPPER L. GRID
CAMPSITE
82W
74W
L 61S
99W
72W
L 65S
78W
L 69S
L 82W
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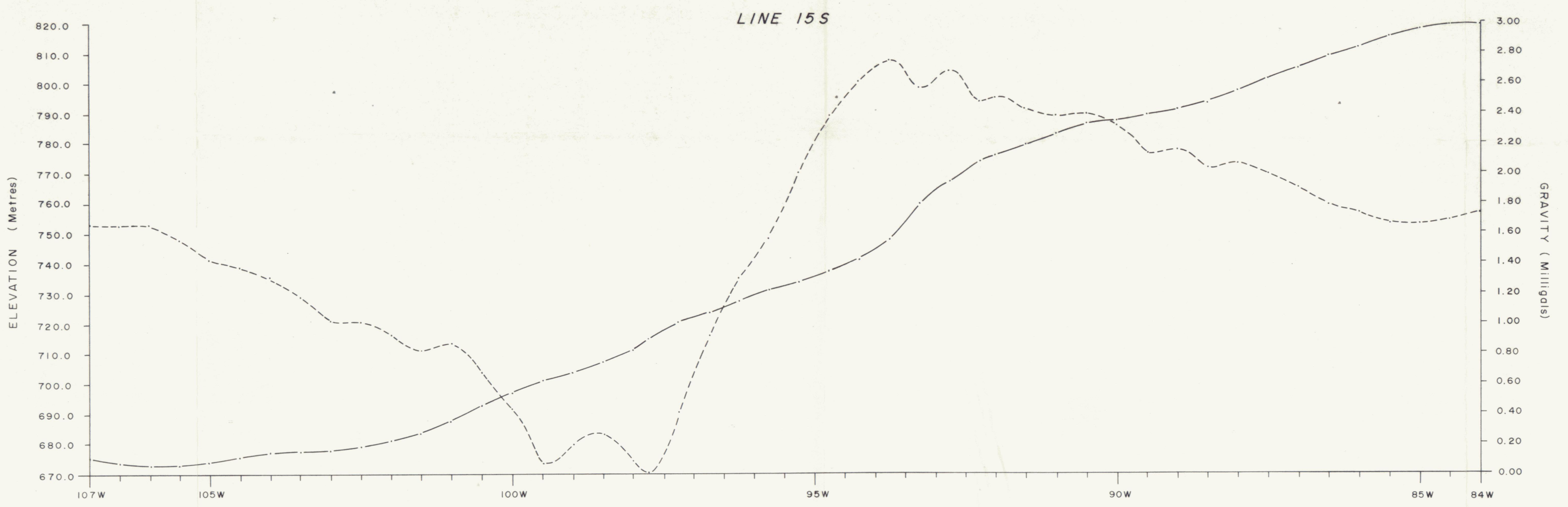
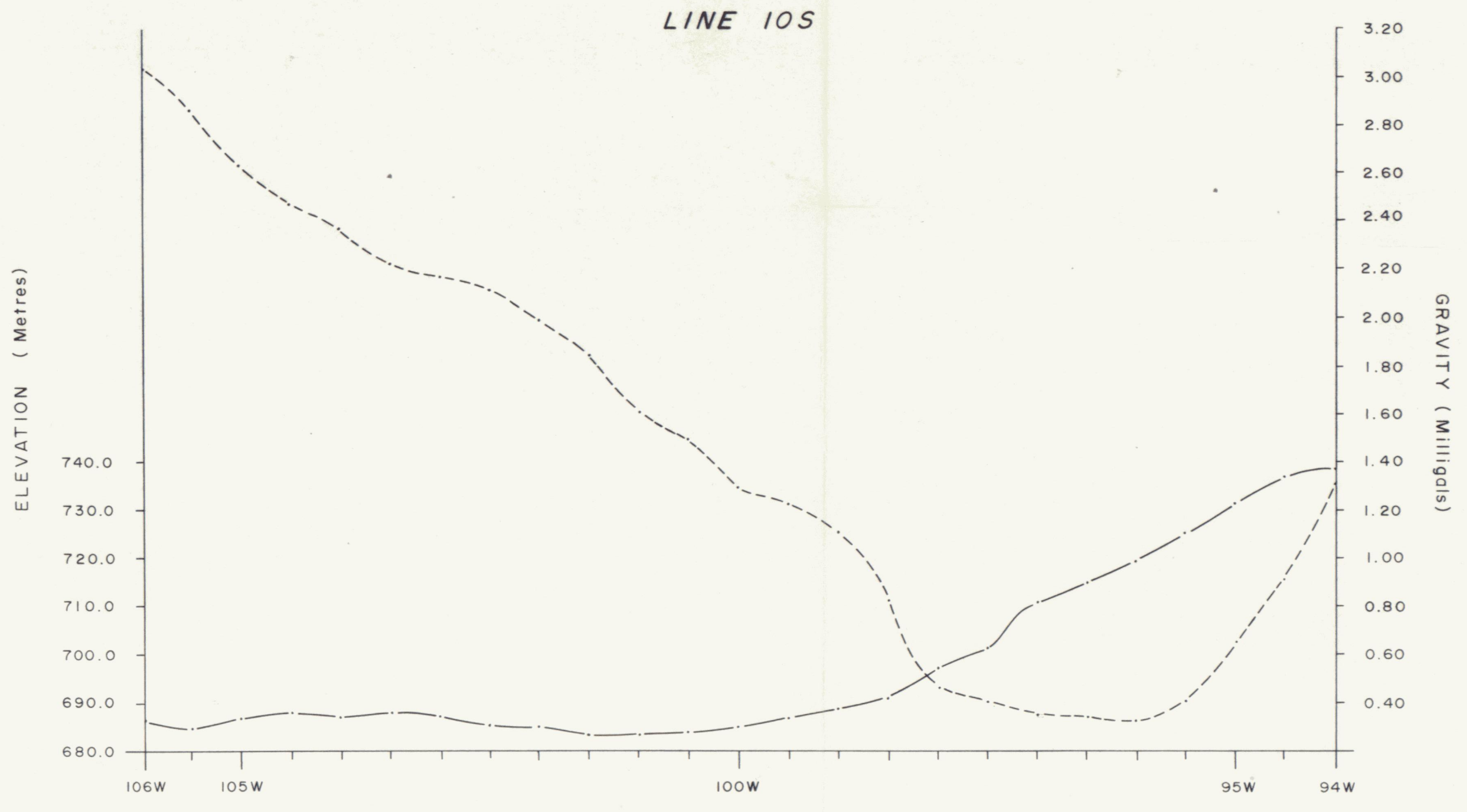
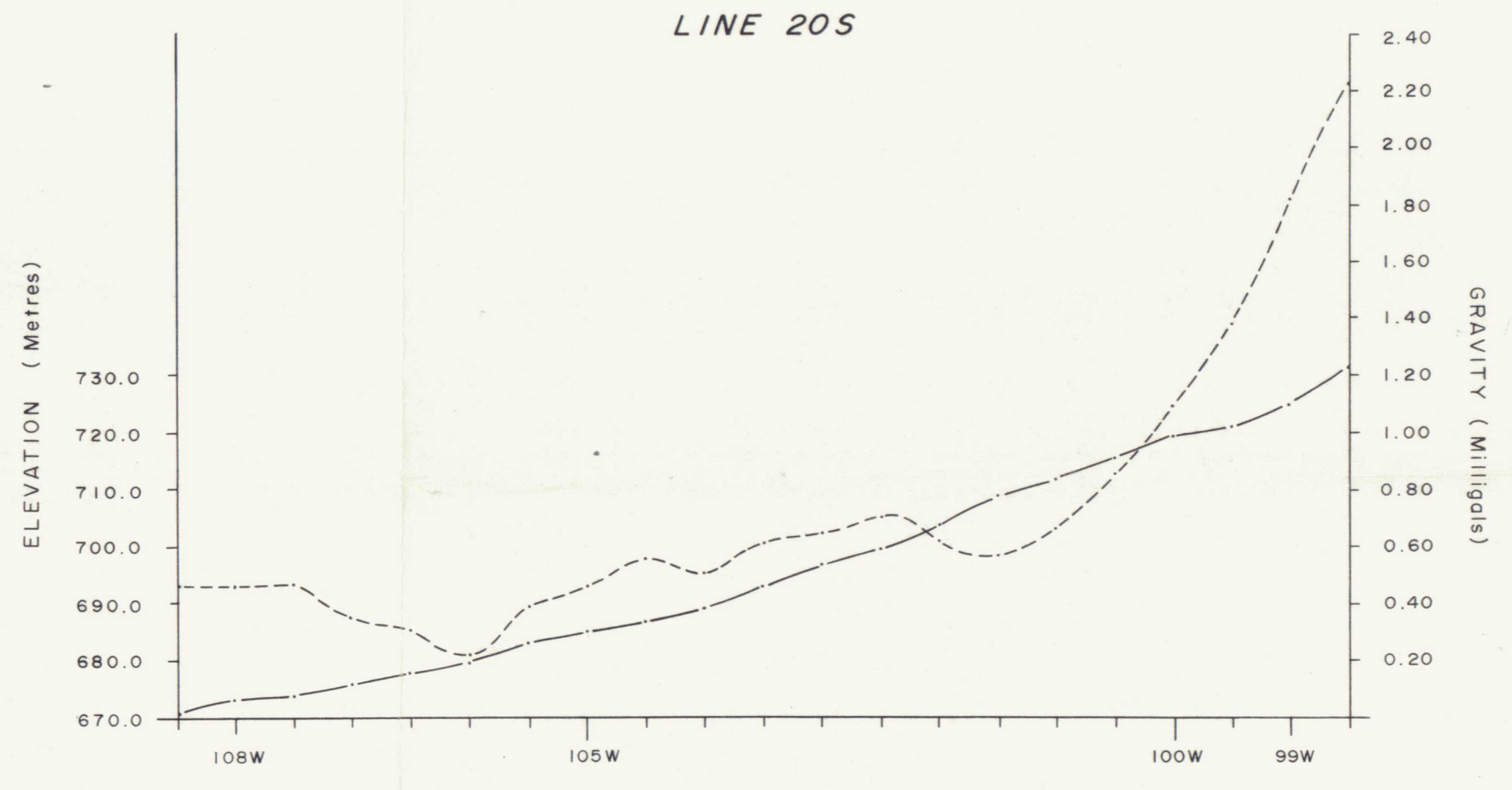
500,000E
6,670,000 N
Pepper Lake
Cabin
6,670,000 N
510,000E
KERR ADDISON MINES LTD.
- KENT PROJECT -
WATSON LAKE MINING DIVISION - YUKON TERRITORY
GRID & LOCATION MAP
091450
Ager, Berretta & Ellis Inc.
Vancouver, B.C.
DWN. BY: E.W.
CHK. BY:
DATE: SEPT. 1982
FIG. NO
2







50 0 50 100 200 300
Metres

- - - - - GRAVITY
—·—·— ELEVATION

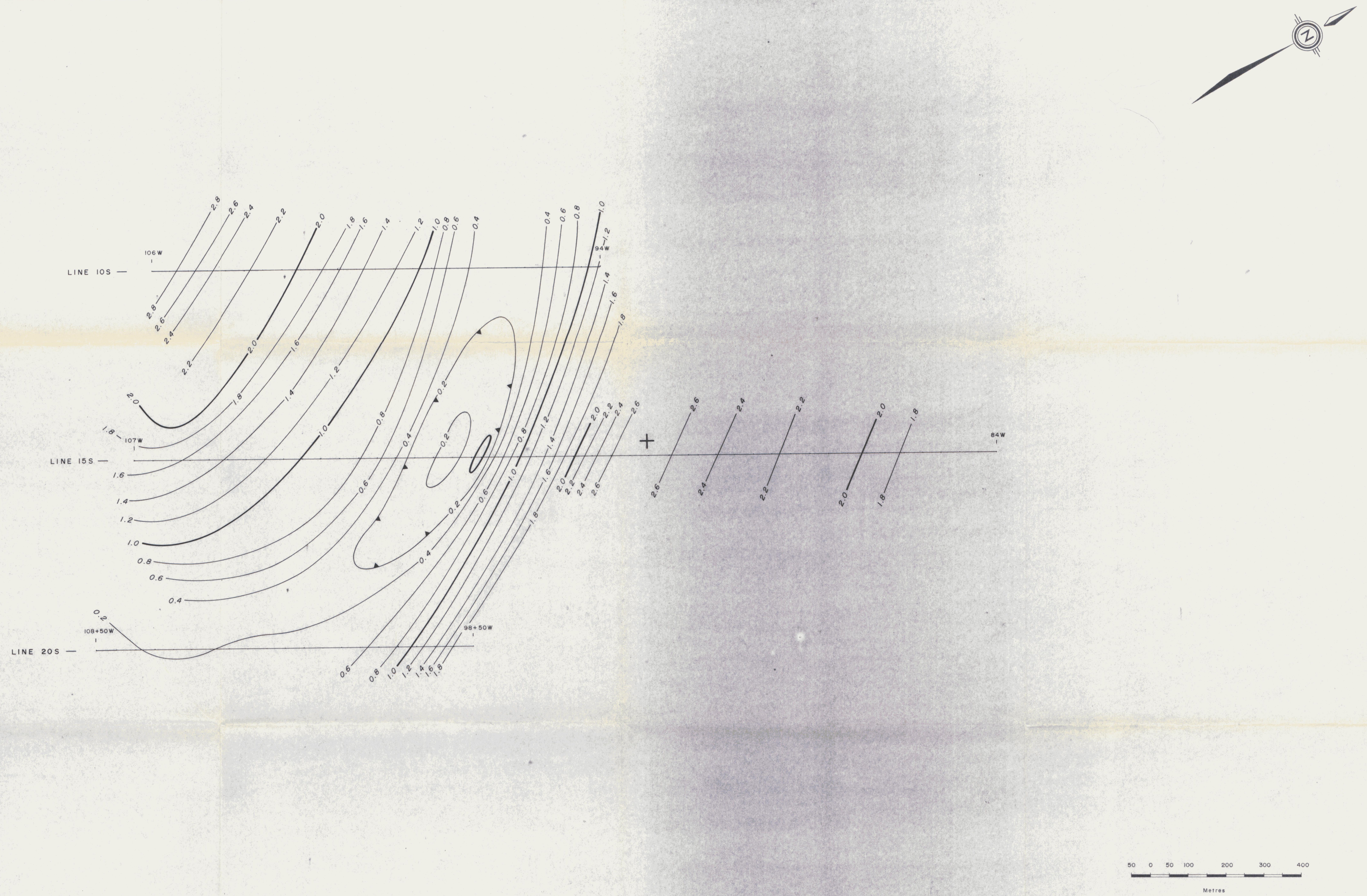
2.90 DENSITY FACTOR USED FOR THIS GRID

KERR ADDISON MINES LTD.
- KENT PROJECT -
WATSON LAKE MINING DIVISION - YUKON TERRITORY

ELEVATION & GRAVITY PROFILES
'L' GRID
LINES 10S, 15S, 20S.

091'50

Ager, Berretta & Ellis Inc. Vancouver, B.C.	DWN. BY E.W. / CHK. BY / DATE SEPT. 1982	FIG. NO. 6



KERR ADDISON MINES LTD.
- KENT PROJECT -
WATSON LAKE MINING DIVISION - YUKON TERRITORY

COMPLETE BOUGUER GRAVITY MAP
contour interval : 0.2 milligal
'L' GRID

091450

Ager, Berretta & Associates Inc. Vancouver, Canada	DWN. BY: E.W.	FIG. NO.
	SCALE: 1:5,000	11
	DATE: SEPT. 1982	