WELCOME NORTH MINES LTD. (N.P.L.)
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GEOPHYSICAL REPORT

ON THE

DOT 1-42 MINERAL CLAIMS

N.T.S. 105K-7

Latitude 61°21'N Longitude 135°48'W

Work conducted in the period June 1 - July 20, 1978

by

C.A. Ager, PhD, P.Eng.
July 20, 1978

090336

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GRAVITY SURVEY - DOT CLAIMS

SUMMARY

The results of the gravity survey over the Dot 1-42 mineral claims are given in this report for Welcome North Mines Ltd. There is one small gravity high residual of amplitude 0.25 mgals centered at L28W +12N. It has an excess mass of 0.380 million tons. Maximum depth to center of mass is 250 feet (80 meters). Drill core from DDH VD1-77 may provide insight into the economic nature of the source.

Respectfully submitted,

Charles A. Ager

July 20, 1978

Charles A. Ager, PhD, PEng
Geophysicist

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LIST OF FIGURES

LOCATION, DATE OF WORK, CREW

Location: Dot 1-42 (incl) mineral claims

Blind Creek Area, Yukon Territory

Whitehorse Mining District

NTS 105K/7

62°21' N Lat by 133°48' W Long

Date of Work:

Field Work - June 2 -June 5,1978

Office Work - July 1 - July 20, 1978

Crew: D.R. MacQuarrie, BSc, geophysicist/party chief

R.J. Englund, BSc, geophysicist/gravity observer

H. Penner, gravity observer

S. Beale, geophysical operator

J. Legare, field assistant

M. Faucher, field assistant

C.A.Ager, PhD, PEng, data interpreter

MINERAL CLAIMS

The DOT claims are held by the Woodside Joint Venture which is comprised Getty Mining Pacific Ltd. 60 percent and Welcome North Mines Ltd. (N.P.L.) 40 percent. The claims are as follows:

GRANT NUMBER	CLAIM	RECORDING DATE
YA7852-YA7893	DOT 1-42	August 23, 1976

INTRODUCTION

At the request of Mr John Brock and Mr Frank Foster, Welcome North Mines Ltd., an exploratory gravity survey was conducted over the eastern part of the Dot 1-42 claims, Blind Creek area, Yukon Territory. The intent of the gravity work was to delineate regions of excess mass which could indicate the presence of massive Pb-Zn mineralization within the underlying phyllitic rocks.

The geographic co-ordinates of the center of the Dot claims are 62°21' N Latitude by 133°48' W Longitude. The property is located approximately 33 kilometers east-northeast of Faro, Y.T. at elevation 4000 feet (1220 meters) on top of a small mountain. Access is by helicopter from either Faro or Ross River, Y.T.

INSTRUMENTATION AND SURVEY PROCEDURE

Gravity observations were made using LaCoste & Romberg Model G gravity meters (serial numbers G199 and G209) with reading accuracy of ±0.01 mgals. Diurnal and instrument drift were accounted for by tying into known base stations within three hour intervals.

Gravity stations were located at 200 foot (60 meter) intervals along pre-cut and picketed grid lines 400 feet (120 meters) and 800 feet (240 meters) apart (Figure 3).

Elevations were measured using an electronic level developed by Ager & Associates. Relative elevations are considered accurate to ±0.10 feet (0.03 meters) between stations. The elevation for the primary base station, GB 78-4, was picked from NTS 105k/7

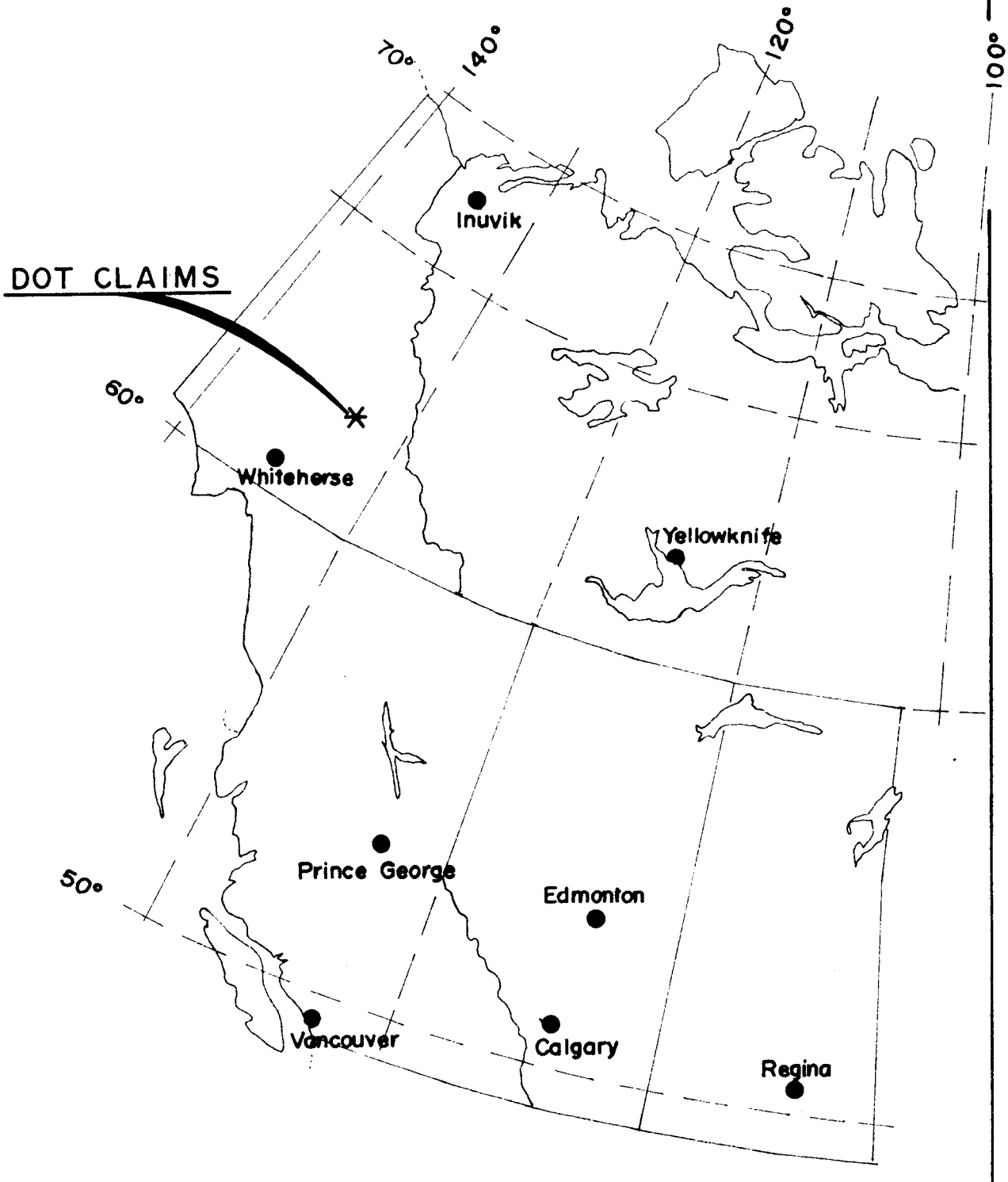


FIG. 1

LOCATION MAP	
DOT CLAIMS AREA	
DATE : JULY, 1978	C·A·AGER & ASSOC· Surrey B·C· Canada

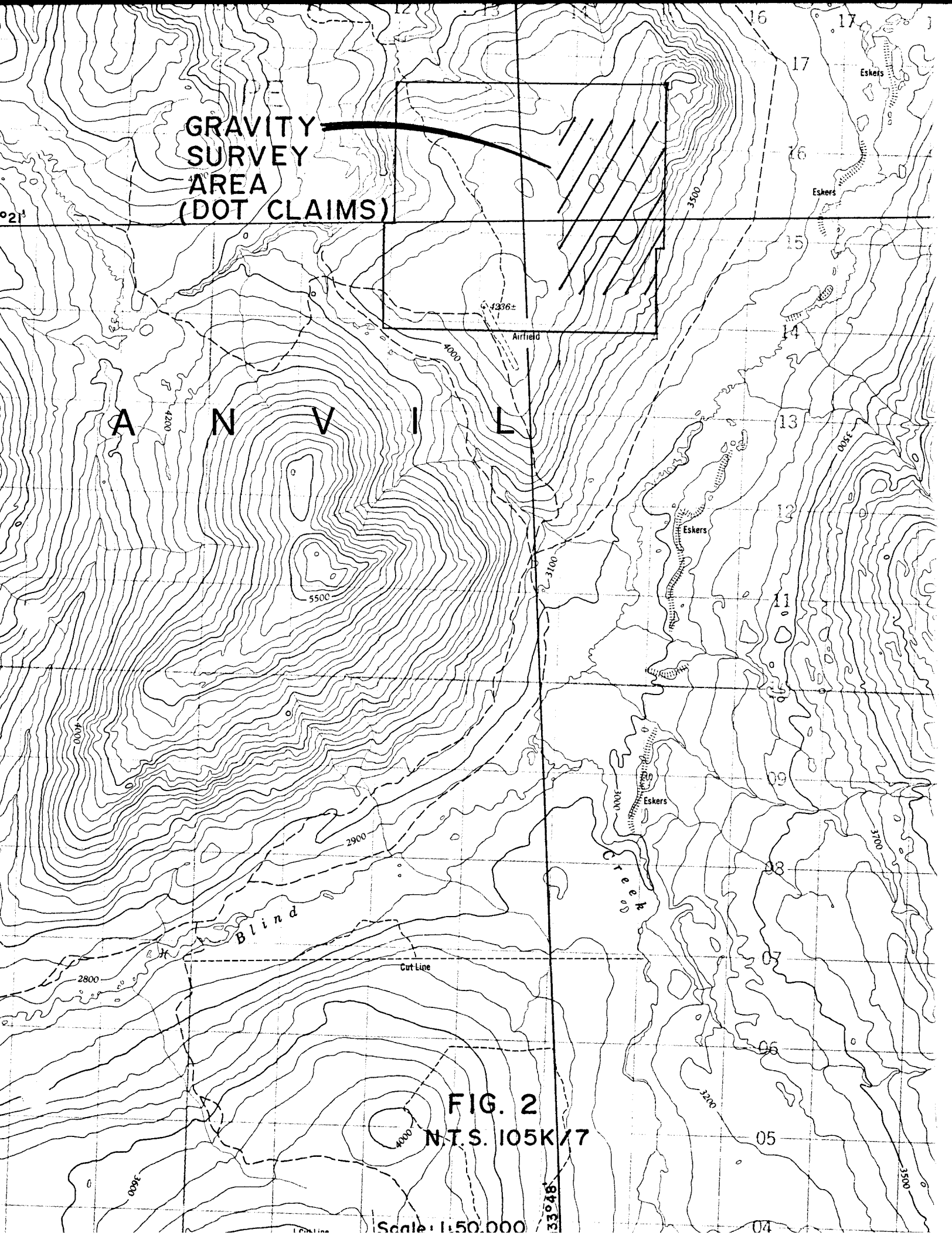


FIG. 2
N.T.S. 105K/7

Scale: 1:50,000

map sheet to be 4021.05 feet (1225.62 meters). The elevations so determined for the survey area (Figure 3) are relative to this base value.

The survey is referenced to one permanent base station established within the survey area. The station is called GB 78-4 and is located at grid co-ordinates 9N+25W, just south west of DDH VDI-77 and northeast of the helicopter landing area. It is marked by a four foot (1.3 meter) high post. The station is at ground level on a rock at the base of the post. The absolute value of the gravity field was determined by an ex-centre tye to the National Network station at Whitehorse, Y.T. A complete listing of all data is given in Appendix A.

DATA REDUCTION

As is well known, the observed gravity values (g_0) contain much information of non-interest to mining exploration. Simply stated, the problem is to separate the effects of the earth (g_E) from the observed gravity field. The map of interest, the Complete Bouguer Gravity Map (Δg_{CB}) is defined as follows:

$$\Delta g_{CB} = g_0 - g_E \qquad (1)$$

where

$$g_E = g_L + g_{FA} + g_{BS} + g_T \qquad (2)$$

g_L: Latitude effect
g_{FA}: Free Air effect
g_{BS}: Bouguer Slab effect
g_T: Terrain effect

Using standard procedures, the Complete Bouguer Gravity Map (Figure 4) was calculated from equations 1 and 2 above. Terrain effects were calculated to a radius of 2000 feet (610 meters) about each station using a computer technique of Ager & Associates. Bouguer slab and terrain densities were taken to be 2.80 g/cc which are mean densities for phyllites which are presumed to underly the area. The complete Bouguer gravity values are all relative to base station GB 78-4 which was assigned an arbitrary value of 200.64 mgals.

Computer and graphical techniques were used to generate the residual gravity map (Figure 5). It is this map which is most indicative of local density changes within the underlying rocks.

INTERPRETATION OF RESULTS

The regional gravity field (Figure 4) strikes north-west and has a gradient of about +0.50 mgals/100 meters south-west. These

features are taken to indicate the general strike and thickening direction of the underlying phyllitic (?) rock units.

There is one small gravity high residual of amplitude 0.25 mgals centered at L28W+12N. The source lies within the region bounded by the 'zero' contour on Figure 5. It has an excess mass of 0.380 million tons which corresponds to a total tonnage of 5.74 million tons for 3.00 g/cc rock and to 1.28 million tons for 4.00 g/cc density rock. Maximum depth to center of mass is about 250 feet (80 meters). The center of the anomaly is located to the north-west of DDH VD1-77. Core in this hole may provide some insight as to the economic nature of the source.

The gravity low feature inferred between lines 32W-40W and BL0-10N is of no apparent economic importance.

The inflection in the gravity contours on BL0 between 20W-12W is caused by steep topography in this region and is not of any economic significance (Figure 4).

RECOMMENDATIONS & CONCLUSIONS

The drill core in hole DDH VD1-77 should be examined from the density point of view as an aid in explaining the small amplitude gravity high feature to the north-west of the drill hole. The most optimistic appraisal of the gravity high residual indicates a maximum total tonnage of 5.74 million tons of rock with density

3.00 g/cc. It is the author's opinion that if the source rock contains any Pb-Zn mineralization, then Zn would probably dominate as the gravity feature is too small in amplitude to indicate much volume of the denser Pb.

Respectfully submitted,

Charles A Ager

July 20, 1978

Charles A. Ager, PhD, PEng.

Geophysicist

APPENDIX A : DOT CLAIMS GRAVITY DATA

GB78-4: Absolute observed gravity value = 981,736.31 mgals as determined by ex-centre tye to Whitehorse base station no. 9807-69 with tye to Faro bridge BM 72Y246

STATION	COORD. (100's feet)	ELEVATION (meters)	OBSERVED GRAVITY (mgals)	C.BOUGUER GRAVITY (mgals)
GB	78-4	1225.62	200.64	436.21
BL O	48W	1247.31	198.39	438.17
BL C	46W	1244.47	198.78	438.13
BL O	44W	1239.64	199.56	438.00
BL O	42W	1235.88	200.12	437.84
BL C	40W	1233.85	200.29	437.62
BL O	38W	1232.13	200.54	437.56
BL C	36W	1227.54	201.34	437.51
BL O	34W	1221.42	202.49	437.49
BL O	32W	1216.94	203.18	437.33
BL C	30W	1217.22	203.08	437.28
BL O	28W	1216.84	203.05	437.29
BL O	26W	1218.74	202.33	437.10
BL O	24W	1222.72	201.02	436.97
BL O	22W	1230.07	198.73	436.89
BL O	20W	1217.35	199.03	435.04
BL C	18W	1208.00	202.77	437.62
BL O	16W	1191.13	205.74	437.66
BL O	14W	1167.56	210.20	437.51
L 12W	600S	1124.11	218.98	437.76
L 12W	400S	1132.62	217.20	437.75
L 12W	200S	1136.04	216.42	437.68
L 12W	000S	1146.61	214.25	437.56
L 12W	200N	1154.98	212.48	437.29
L 12W	400N	1159.96	211.46	437.02
L 12W	600N	1171.73	208.87	436.55
L 12W	800N	1184.35	206.35	436.37
L 12W	1000N	1194.30	204.34	436.20
L 12W	1200N	1207.04	201.60	435.86
L 12W	1400N	1225.53	197.35	435.34
L 12W	1600N	1245.24	192.94	434.98
L 12W	1800N	1265.49	188.29	434.68
L 12W	2000N	1275.14	186.18	434.40
L 12W	2200N	1282.51	184.64	433.82
L 12W	2400N	1275.54	186.33	433.30
L 12W	2600N	1277.16	185.97	432.62
L 12W	2800N	1286.77	183.65	431.86
L 12W	3000N	1287.53	183.53	431.56
L 12W	3200N	1297.79	180.98	430.83
L 12W	3400N	1304.43	179.50	430.60
L 12W	3600N	1309.16	178.57	430.41
L 12W	3800N	1319.18	176.27	430.08
L 12W	4000N	1321.41	175.80	430.10
L 12W	4200N	1326.08	174.68	430.00
L 20W	1200S	1163.42	212.22	437.83
L 20W	1000S	1183.45	207.92	437.64

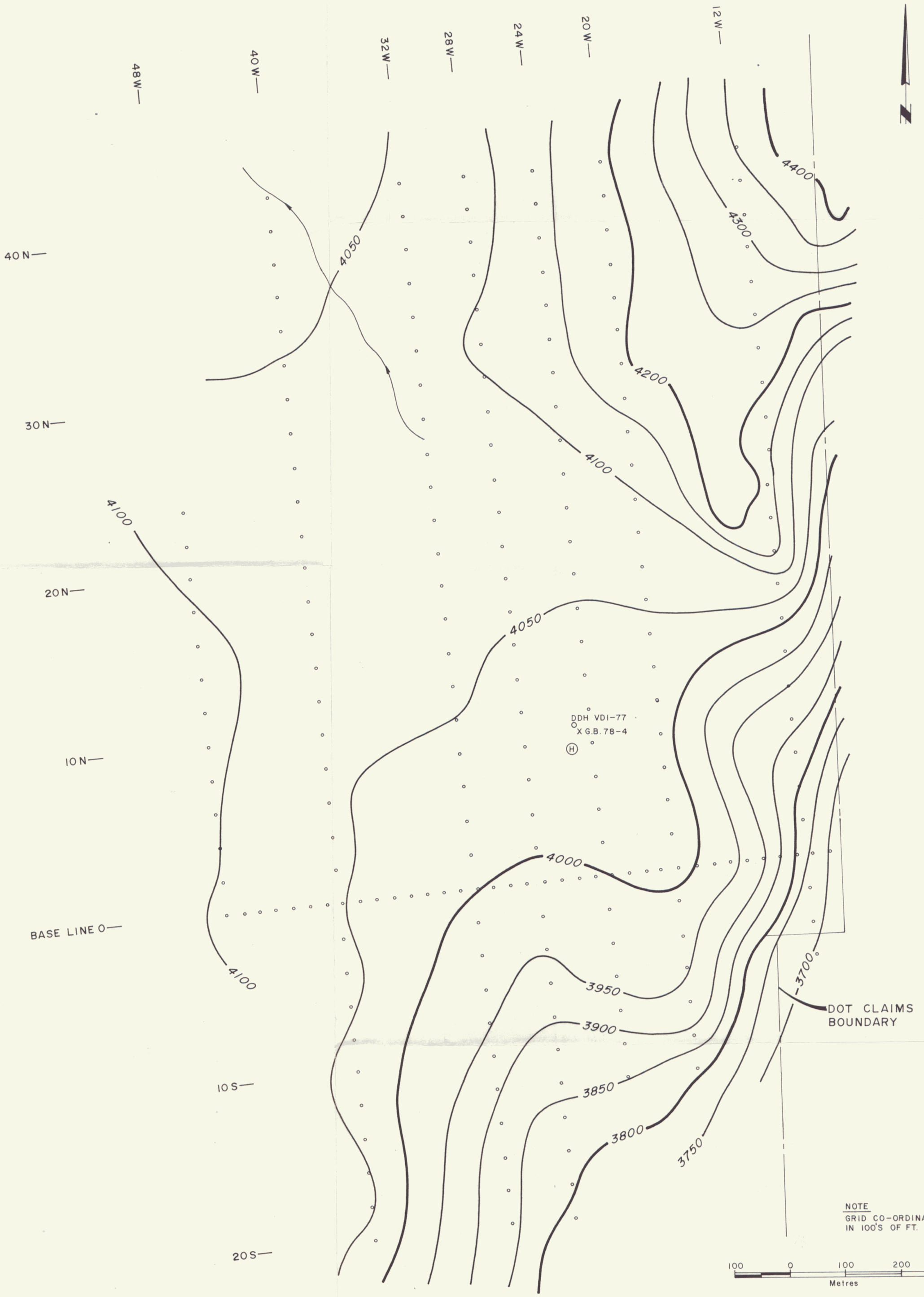
L	20W	800S	1199.90	204.64	437.79
L	20W	600S	1205.44	203.73	437.59
L	20W	400S	1209.60	202.99	437.31
L	20W	200S	1216.89	201.38	436.92
L	20W	000S	1227.65	199.06	436.76
L	20W	200N	1231.15	198.39	436.56
L	20W	400N	1232.02	198.39	436.47
L	20W	600N	1228.04	199.22	436.15
L	20W	800N	1223.22	200.37	436.05
L	20W	1000N	1225.05	199.97	435.87
L	20W	1200N	1228.97	199.06	435.61
L	20W	1400N	1232.32	198.23	435.33
L	20W	1600N	1235.65	197.39	435.07
L	20W	1800N	1240.12	196.36	434.85
L	20W	2000N	1244.69	195.24	434.58
L	20W	2200N	1248.58	194.25	434.30
L	20W	2400N	1252.28	193.51	434.22
L	20W	2600N	1256.29	192.56	434.00
L	20W	2800N	1267.30	189.99	433.43
L	20W	3000N	1273.39	188.28	432.86
L	20W	3200N	1276.64	187.26	432.37
L	20W	3400N	1277.73	186.66	431.95
L	20W	3600N	1279.18	186.22	431.73
L	20W	3800N	1278.77	186.08	431.49
L	20W	4000N	1278.28	185.98	431.29
L	20W	4200N	1277.35	186.07	431.19
L	24W	1200S	1174.99	210.77	437.88
L	24W	1000S	1185.07	208.70	437.68
L	24W	800S	1198.57	205.96	437.49
L	24W	600S	1208.00	204.23	437.46
L	24W	400S	1213.23	203.28	437.33
L	24W	200S	1216.91	202.59	437.16
L	24W	000S	1219.20	202.13	436.98
L	24W	200N	1222.88	201.34	436.78
L	24W	400N	1225.37	200.77	436.59
L	24W	600N	1226.70	200.37	436.35
L	24W	800N	1227.58	200.20	436.26
L	24W	1000N	1228.72	199.81	436.02
L	24W	1200N	1230.61	199.21	435.73
L	24W	1400N	1232.05	198.97	435.72
L	24W	1600N	1233.85	198.49	435.54
L	24W	1800N	1237.85	197.47	435.25
L	24W	2000N	1244.71	195.77	434.81
L	24W	2200N	1248.59	194.90	434.64
L	24W	2400N	1247.54	195.05	434.54
L	24W	2600N	1248.52	194.73	434.41
L	24W	2800N	1253.58	193.51	434.14
L	24W	3000N	1257.96	192.52	433.96
L	24W	3200N	1261.31	191.64	433.69
L	24W	3400N	1261.04	191.37	433.33
L	24W	3600N	1260.45	191.13	432.95
L	24W	3800N	1258.67	191.16	432.62
L	24W	4000N	1256.17	191.45	432.42
L	24W	4200N	1255.61	191.45	432.27
L	28W	2000S	1154.15	214.97	438.16
L	28W	1800S	1158.93	214.12	438.14
L	28W	1600S	1165.99	212.78	438.04
L	28W	1400S	1171.30	211.80	437.98
L	28W	1200S	1176.20	210.86	437.91
L	28W	1000S	1182.88	209.50	437.75

L	28W	800S	1189.63	208.20	437.64
L	28W	600S	1197.41	206.78	437.58
L	28W	400S	1204.59	205.48	437.53
L	28W	200S	1213.11	203.79	437.34
L	28W	000S	1217.01	203.08	437.27
L	28W	200N	1220.94	202.26	437.11
L	28W	400N	1222.48	201.82	436.89
L	28W	600N	1224.06	201.51	436.82
L	28W	800N	1226.02	200.94	436.57
L	28W	1000N	1226.96	200.73	436.50
L	28W	1200N	1229.95	200.02	436.32
L	28W	1400N	1232.07	199.52	436.18
L	28W	1600N	1237.30	198.28	435.89
L	28W	1800N	1242.35	197.03	435.56
L	28W	2000N	1244.85	196.37	435.32
L	28W	2200N	1245.29	196.13	435.11
L	28W	2400N	1243.01	196.50	435.01
L	28W	2600N	1241.15	196.76	434.91
L	28W	2800N	1245.51	195.64	434.60
L	28W	3000N	1249.40	194.64	434.33
L	28W	3200N	1250.65	194.21	434.12
L	28W	3400N	1249.47	194.21	433.87
L	28W	3600N	1247.85	194.35	433.69
L	28W	3800N	1244.55	194.68	433.35
L	28W	4000N	1245.54	194.37	433.19
L	28W	4200N	1244.87	194.11	432.76
L	32W	2000S	1175.30	210.94	438.22
L	32W	1800S	1179.24	210.31	438.22
L	32W	1600S	1181.91	209.88	438.19
L	32W	1400S	1185.54	209.28	438.18
L	32W	1200S	1191.91	208.10	438.11
L	32W	1000S	1197.82	206.97	438.01
L	32W	800S	1204.28	205.62	437.79
L	32W	600S	1209.60	204.59	437.65
L	32W	400S	1211.80	204.29	437.65
L	32W	200S	1215.00	203.73	437.60
L	32W	000S	1219.29	202.80	437.39
L	32W	200N	1222.92	202.10	437.29
L	32W	400N	1226.84	201.34	437.21
L	32W	600N	1229.47	200.53	436.84
L	32W	800N	1230.86	200.46	437.00
L	32W	1000N	1234.52	199.50	436.69
L	32W	1200N	1238.36	198.54	436.43
L	32W	1400N	1240.72	198.00	436.29
L	32W	1600N	1245.41	196.82	435.98
L	32W	1800N	1246.74	196.45	435.82
L	32W	2000N	1245.84	196.54	435.67
L	32W	2200N	1243.71	196.90	435.56
L	32W	2400N	1240.96	197.34	435.44
L	32W	2600N	1239.01	197.55	435.25
L	32W	2800N	1237.41	197.74	435.11
L	32W	3000N	1236.16	197.92	435.03
L	32W	3200N	1236.62	197.68	434.84
L	32W	3400N	1235.33	197.82	434.71
L	32W	3600N	1235.90	197.31	434.27
L	32W	3800N	1236.49	196.96	433.99
L	32W	4000N	1235.21	196.98	433.74
L	32W	4200N	1235.29	196.71	433.45
L	40W	2000S	1233.71	199.95	438.63
L	40W	1800S	1234.96	199.83	438.61

L	40W	1600S	1234.80	200.06	438.59
L	40W	1400S	1231.17	200.90	438.50
L	40W	1200S	1229.04	201.34	438.38
L	40W	1000S	1230.49	201.12	438.32
L	40W	800S	1233.26	200.54	438.16
L	40W	600S	1235.91	200.04	438.07
L	40W	400S	1237.16	199.81	437.97
L	40W	200S	1235.99	200.02	437.85
L	40W	000S	1234.86	200.26	437.79
L	40W	200N	1235.20	199.97	437.49
L	40W	400N	1235.16	199.98	437.43
L	40W	600N	1236.25	200.01	437.62
L	40W	800N	1238.20	199.56	437.49
L	40W	1000N	1239.44	199.20	437.31
L	40W	1200N	1240.30	198.99	437.23
L	40W	1400N	1239.96	199.02	437.15
L	40W	1600N	1240.46	198.86	437.04
L	40W	1800N	1239.44	199.05	436.99
L	40W	2000N	1239.03	199.02	436.84
L	40W	2200N	1238.43	199.02	436.68
L	40W	2400N	1237.59	199.13	436.59
L	40W	2600N	1237.42	198.89	436.27
L	40W	2800N	1236.77	198.76	435.96
L	40W	3000N	1236.12	198.67	435.71
L	40W	3200N	1234.97	198.73	435.52
L	40W	3400N	1233.87	198.72	435.26
L	40W	3600N	1232.94	198.67	435.02
L	40W	3800N	1230.15	198.99	434.77
L	40W	4000N	1227.00	199.48	434.63
L	40W	4200N	1223.64	199.98	434.43
L	48W	200N	1249.51	197.80	437.96
L	48W	400N	1249.90	197.73	437.93
L	48W	600N	1250.47	197.53	437.78
L	48W	800N	1249.77	197.76	437.84
L	48W	1000N	1250.07	197.63	437.73
L	48W	1200N	1252.71	197.12	437.68
L	48W	1400N	1253.37	196.87	437.52
L	48W	1600N	1253.41	196.87	437.49
L	48W	1800N	1250.71	197.35	437.41
L	48W	2000N	1247.45	198.02	437.42
L	48W	2200N	1243.90	198.60	437.28
L	48W	2400N	1241.11	199.02	437.12

EXECUTION TERMINATED

$SIGNOFF



N.T.S. 105 K/7

WELCOME NORTH MINES LTD.

BLIND CREEK AREA

WHITEHORSE MINING DISTRICT, YUKON TERRITORY

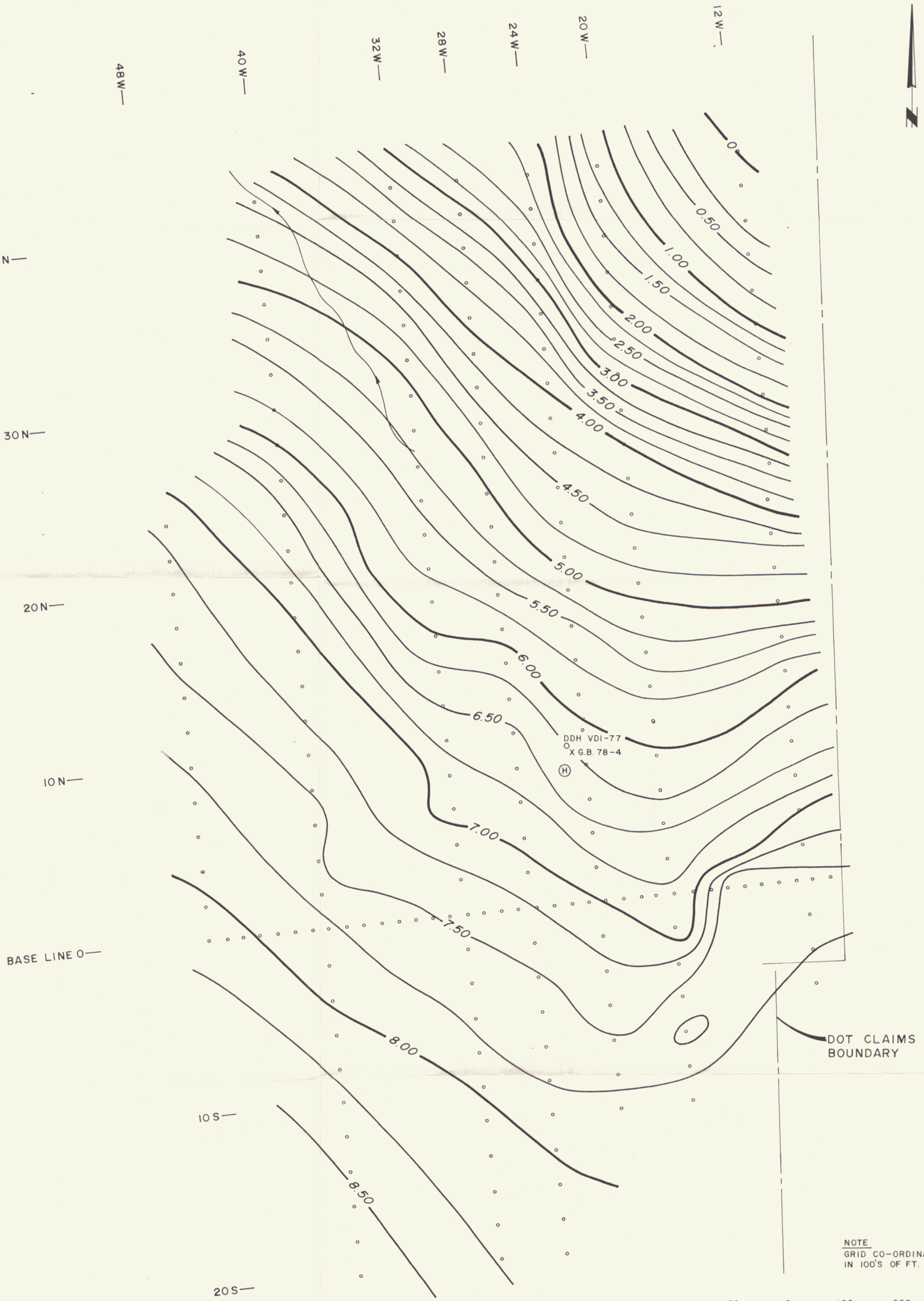
ELEVATION MAP

CONTOUR INTERVAL : 50 FEET (~~30~~ 15 METRES)

TO ACCOMPANY REPORT TITLED
GRAVITY SURVEY
DOT CLAIMS AREA
BY: C.A. AGER PhD, PEng.
DATED: JULY, 1978 PROJECT: DOT

Charles A Ager

DWN. BY: T.M.	C.A. AGER & ASSOC.	FIG. NO.
CHECKED	SURREY B.C. CANADA	3
DATE: JULY, 1978		



ρ = 2.80 g/cc (EF = 0.19128 Mgal/m)
(EF = 0.0583 Mgal/Ft.)

TO ACCOMPANY REPORT TITLED
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N.T.S. 105 K/7

WELCOME NORTH MINES LTD.

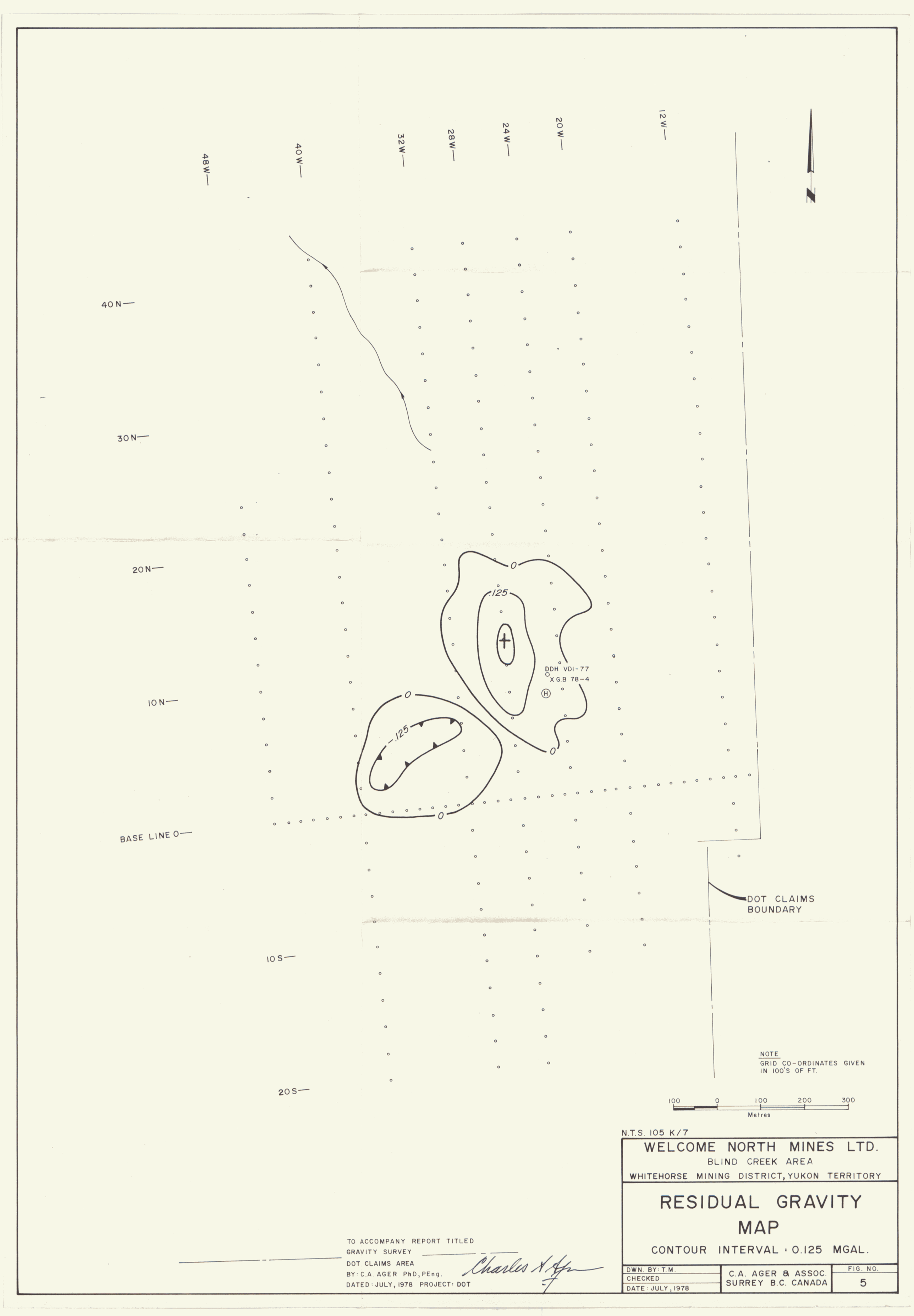
BLIND CREEK AREA

WHITEHORSE MINING DISTRICT, YUKON TERRITORY

COMPLETE BOUGUER GRAVITY MAP

CONTOUR INTERVAL : 0.25 MGAL.

DWN. BY: T.M.	C.A. AGER & ASSOC.	FIG. NO.
CHECKED	SURREY B.C. CANADA	4
DATE: JULY, 1978		



N.T.S. 105 K/7

WELCOME NORTH MINES LTD.

BLIND CREEK AREA

WHITEHORSE MINING DISTRICT, YUKON TERRITORY

RESIDUAL GRAVITY MAP

CONTOUR INTERVAL : 0.125 MGAL.

TO ACCOMPANY REPORT TITLED
GRAVITY SURVEY
DOT CLAIMS AREA
BY: C.A. AGER PhD, PEng.
DATED: JULY, 1978 PROJECT: DOT

Charles A. Ager

DWN. BY: T.M.	C.A. AGER & ASSOC.	FIG. NO.
CHECKED	SURREY B.C. CANADA	5
DATE: JULY, 1978		