

PROPERTY FILE

92-12018-07

009509

A GEOLOGICAL REPORT
ON DIAMOND DRILLING
WALHACHIN, B.C.
(Lat $50^{\circ}11'$, Long $120^{\circ}11'$)

for

URSUS MINERALS LIMITED.

Claims : Chief 14, 15 and 25.

Logging & Report by P.E. Lane, M.Sc., P.Eng.

April 9th - May 9th, 1973.

GEO, CHIEF

~~ASSESSMENT REPORT COVER SHEET~~

Property Name: _____ GEM Fig. _____ No. _____
 Min. occ. present: Y. _____ N. _____ M.I. card: Y. _____ N. _____ Map No.: _____
 M.D.: Kamloops M.I. property No.: _____
 Approx. location: Walhachin
 Precise location: _____

NTS: _____ Lat.: _____ ° _____ ' Long.: _____ ° _____ '
 Claims held contiguously: CHIEF, HASSO (U EAST & U WEST GROUPS)
 Total No.: _____

Claims worked on: Chief 14, 15, 25
 Owner: Ursus Minerals Ltd. & Supertest Investments and Petroleum Ltd.
 Address: 14th Floor, 335-8th Ave., S.W., Calgary, Alberta
 Operator: Ursus
 Address: _____
 Author(s): P. E. Lane, P. Eng. Counter signed by: _____
 Geol.: _____ Geophy.: _____ Geochem.: _____ L.C.: _____ Topo.: _____ Other: Diamond Drill.
 Metals: Cu References: 3506, 4457, GEM '71-359

Geological description: *The drill holes penetrated the contact between the hybrid phase of the Guichon Creek batholith and Nicole andesite and limestone. The granodiorite and andesite are extensively propylitized and fractured. Pyrite is common, in the fractures and disseminated. Rare specks of chalcopyrite and azurite were seen in the core. Some skarn occurs at the limestone-granodiorite contact.*

Description of work: *Two trenches were excavated and 2,250 feet was diamond drilled in fire holes.*

Year of work: 1973 Date of affidavit: June 13/73
 Total value of work done: \$ 2500 To C.M.B.: July 31/73
 Cert. of work claimed: \$ 1500 Attention: _____

Comments: ~~where is the core stored?~~
~~Require assay results before credit can be allowed for assaying.~~
J. E. P. Eastwood - July 31 '73.
 No provision at present for allowing credit for drilling reports.
J. E. P. Eastwood - July 31 '73.

Value of work approved: \$ _____ Assessment Report No. 4457
 Accepted: _____ Date: _____
 Chief, Mineralogical Branch

GEOLOGICAL REPORT
ON DIAMOND DRILLING
WALHACHIN, B.C.

for

URSUS MINERALS LIMITED

by

P. E. LANE, M.Sc., P.Eng.



May, 1973

Cranbrook, B.C.

CONTENTS

| | PAGE |
|---------------------------------|------|
| INTRODUCTION | 1 |
| CLAIMS | 1 |
| LOCATION MAP | 2 |
| GEOLOGY | 3 |
| CONCLUSION | 5 |
| APPENDIX | |
| Diamond Drill Logs and Sections | |
| D.D.H.1 | |
| D.D.H.1A | |
| D.D.H.2 | |
| D.D.H.3 | |
| D.D.H.4 | |

Folder with Drill Hole location Map

INTRODUCTION

Between April 9 and May 7, 1973 a program of diamond drilling was carried out on the Geo-Chief and Hasso claim group, Walhachin, Kamloops Mining District, British Columbia.

The claim group is located 5 miles west of Savona and south of the Thompson River.

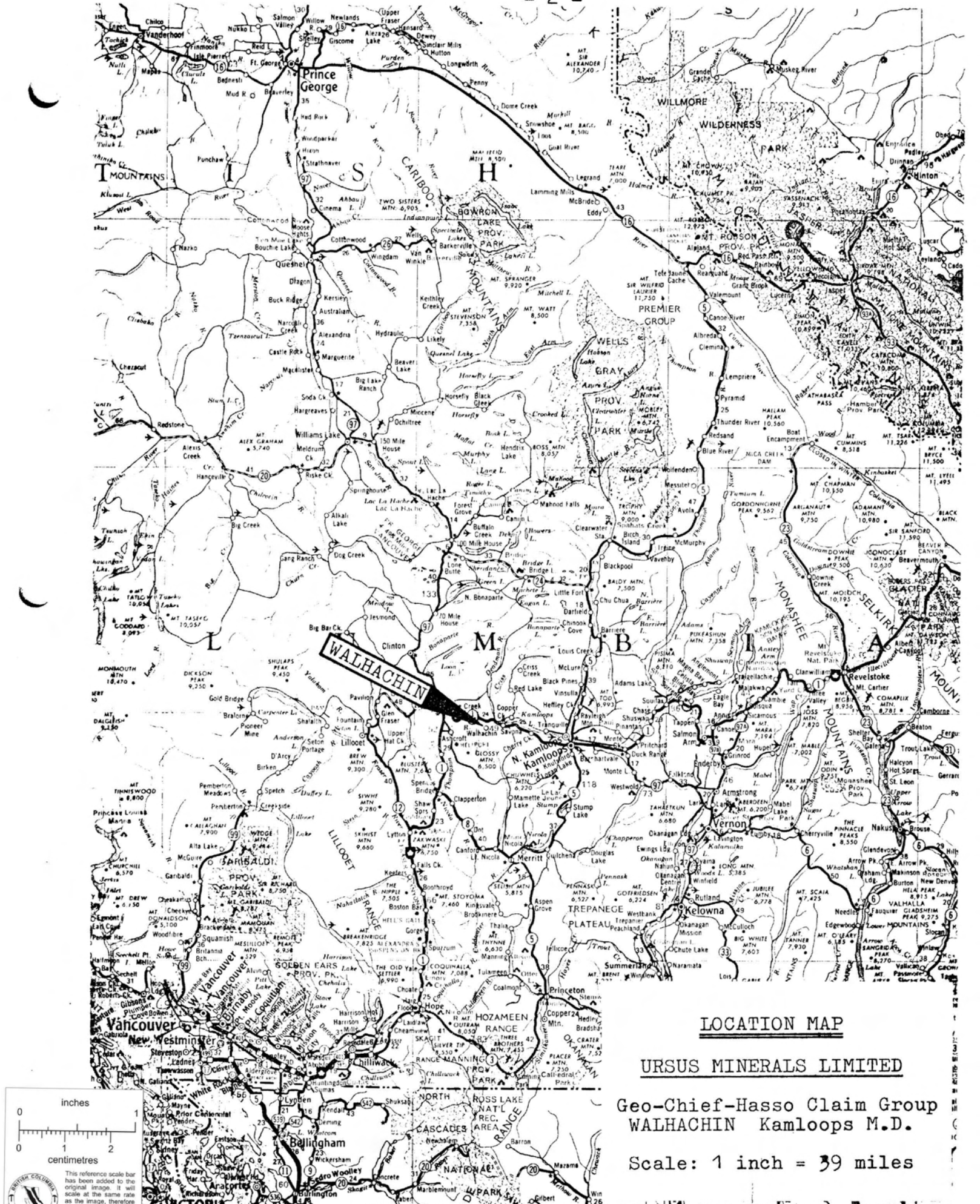
One hole was abandoned and four were completed.

CLAIMS

The claim group is composed of the Geo-Chief and Hasso claims.

Drilling was carried out on the following claims:-

| | |
|----------------|--|
| D.D.H.1 and 1A | Chief 15 (Record N ^o . 85591) |
| D.D.H.2 and 4 | Chief 14 (Record No. 85590) |
| D.D.H.3 | Chief 25 (Record N ^o . 85560) |

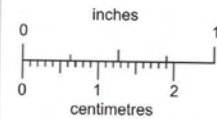


LOCATION MAP

URSUS MINERALS LIMITED

Geo-Chief-Hasso Claim Group
WALHACHIN Kamloops M.D.

Scale: 1 inch = 39 miles



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

GEOLOGY

The main rock-types encountered in the drill-holes are as follows :-

| | | |
|--------------|--------------|-------------------------------------|
| Jurassic | GRANODIORITE | Guichon Batholith, Hybrid Phase. |
| Triassic | ANDESITE | Nicola Volcanics |
| Triassic (?) | LIMESTONE | |

GRANODIORITE is usually medium grained with white feldspar phenocrysts, generally up to 1/8" long. Micro-lites of hornblende (?) are usually altered to chlorite. Chlorite and epidote alteration is widespread. No fresh mafic mineral was seen. Fine fractures are often filled with epidote or calcite. Hematite staining is common. Pyrite is common in fractures and disseminated form to 1 - 2%.

Variations from granite to diorite occur to a minor extent.

Late stage felsic intrusions are devoid of mafic minerals and are fine grained and sometimes porphyritic. Thin veins of white agate are usual. Brick red hematite stain and hematite is often well developed. Magnetite is often visible

ANDESITE varies in colour from light grey to grey, light brown, light grey/green to dark grey/green to dark greenish/black.

It is typically chloritised, epidotised and fractured with calcite and epidote filling hair-line fractures. Disseminated pyrite and pyrite in fractures is common but not always present. Very rare specks of chalcopyrite and occasional azurite were seen. Although magnetite is not usually seen, the rock is in general magnetic.

In some instances breccia is common probably due to flow but sometimes due to intrusions of the granodiorite. Gradation to a rock with granitic components, such as pink feldspar, is sometimes extensive, indicating invasion by deuteric solutions.

Porphyritic andesite contains white or greenish white feldspar phenocrysts up to 1/8" long in a very fine matrix.

Andesite/granodiorite contacts sometimes show bleached andesite over a few inches and are brecciated in other cases.

The LIMESTONE is white and coarsly crystalline. Some skarn development occurs near the granodiorite intrusive. Epidote, chlorite, are well developed; a very localised development of probable garnet and possible pyroxene occurs; limonite stain occurs in sheared zones.

CONCLUSION

The granodiorite and andesite generally contain pyrite, both in fractures and disseminations. Chalcopyrite and azurite are localised in trace amounts.

The widespread sulphide mineralisation could represent a halo to economic mineralisation and further drilling on the basis of geological, geophysical and geochemical data may be warranted.

These data have not been examined nor are the core sample assays available at the present time, consequently definite proposals for the further exploration are beyond the scope of this report.

Respectfully submitted

P. Lane

P. Lane, P.Eng.



Ursus Minerals Ltd.,
Geo-Chief-Hasso Claim Group
Walhachin, Kamloops M.D.

D.D.H. 1

Total Depth 97'

Dip -55°

Azimuth 270°

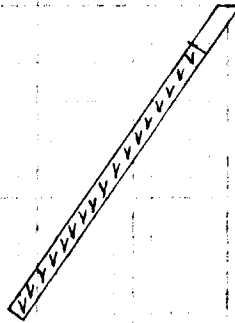
Coordinates 22N/12W

Logged by P. Lane

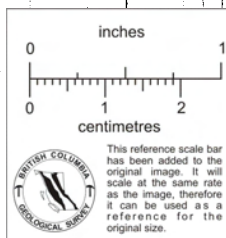
Legend



Andesite



Scale: 1 inch = 50 feet



D.D.H. No. 1 COMMENCED April 9 TOTAL DEPTH 97' AZIMUTH 270 PAGE 1 of 1
 COMPLETED April 11 DIP -55° COORDINATES 22N/12W

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|--------|--|----------|-----|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| 0 - 14 | OVERBURDEN. | | | | | |
| - 97.0 | <p>ANDESITE: Light grey, very fine grained, silicified, fractured, limonitic, occasional malachite and azurite stain, narrow DIORITE (?) veins at 17.5 and 20.5.</p> <p><u>39 - 42.6</u> BRECCIA, euhedral quartz crystals, very limonitic.</p> <p><u>42.6 - 72.4</u> ANDESITE light grey, very fine grained matrix, coarse grained white feldspar phenocrysts, pyrite and calcite in fractures, calcite fractures at 30° to coreaxis, pyritised veins at less than 10° T.C.A.</p> <p><u>72.4 - 73</u> BRECCIATED ANDESITE.</p> <p><u>73 - 97</u> ANDESITE as at 72.4.</p> | | | | | |

Ursus Minerals Ltd.
Geo-Chief-Hasso Claim Group
Wahhachin, Kamloops M.D.
D.D.H. 1A
Total Depth 510'
Dip -60°
Azimuth 250°
Coordinates 22N/12W
Logged by P. Lane

Legend



Andesite

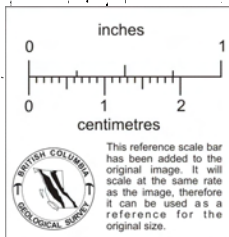
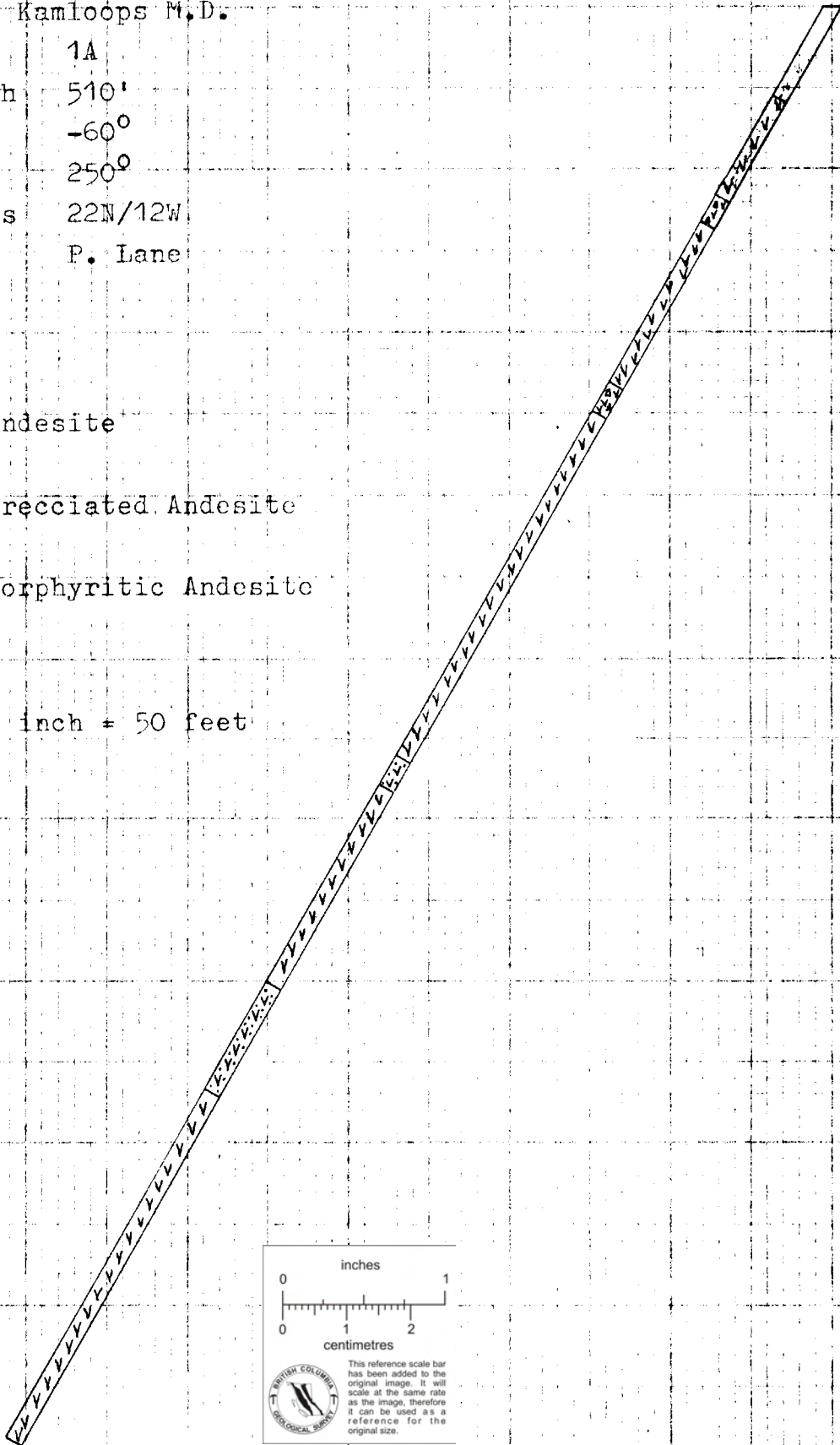


Brecciated Andesite



Porphyritic Andesite

Scale : 1 inch = 50 feet



D.D.H. No. 1A COMMENCED April 12 TOTAL DEPTH 510' AZIMUTH 250 PAGE 1 of 3

COMPLETED April 17 DIP -60° COORDINATES 22N/12W

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|--------|--|--------------------|----------------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| 0 - 32 | OVERBURDEN | | | | | |
| - 68 | ANDESITE: Light grey/green, very fine grained, mottled with chlorite, fine fractures pyritised and chloritised <u>18(?) - 46</u> Limonite stain common, rare trace azurite. | 26 - 37 37 - 47 | 3942* 3943* | | | |
| - 77 | BRECCIATED ANDESITE. | 68 - 77 | 3941* | | | |
| - 134 | ANDESITE: <u>85 - 124</u> As at 68 except heavily chloritised, highly fractured approximately parallel to core axis. Pyritised throughout in fractures and disseminations. <u>124 - 134</u> ANDESITE: As above but less chloritised, pyrite associated with chlorite. | | | | | |
| - 144 | BRECCIATED ANDSITE: Brecciated, generally faulted zone with fault gouge, occassioal trace of azurite, very fine grained very weak dissemination of <u>chalcoppyrite</u> , very fine dissemination of pyrite. | 134 - 144 | 3940* | | | |
| - 266 | ANDESITE: Grey/green, very fine grained, chloritised, fractured. <u>146.5</u> Azurite and very rare speck <u>chalcoppyrite</u> . <u>147.1</u> As at 146.5. <u>158 - 162.5</u> Andesite (?): buff, very fine grained, light colour possibly due to silicification, possibly brecciated, chloritised, pyritised, amygdaloidal vugs up to 1/8". <u>199.5</u> trace of azurite. <u>202 - 252</u> light grey/green to light brown, chloritised, pyritised, calcite in fractures. <u>223</u> Silcified andesite. <u>237</u> Epidote in veins and blebs. <u>252 - 253</u> Brecciated, light grey angular fragments in dark grey/green matrix. <u>253 - 266</u> Dark grey/green, soft, heavily chloritised. | 257 - 266 | 3939* | | | |

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|---------|---|-----------|-------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 276.3 | PORPHYRITIC ANDESITE: Dark grey/green, very fine grained, white euhedral feldspar, chloritised hornblende(?), matrix partially chloritised, 5 -10 pyrite. | | | | | |
| - 346.4 | ANDESITE: <u>276.3 - 281.4</u> grey/green, very fine grained, chloritised, pyritised, epidote and calcite in very fine fractures. <u>281.4 - 298</u> light purple grey/green very fine grained, minor chloritisation, local heavy epidote and chlorite, fine fractures filled with calcite, pyrite, disseminated pyrite. <u>283.5</u> trace azurite. <u>298 - 317</u> grey/green, very fine grained, chloritic, locally concentrated epidote, pyritised. <u>305.5</u> very occasional speck <u>chalcopryrite</u> , porphyritic. <u>317 - 322</u> Zone of fracturing, hair-line to 1/8", filled with calcite. <u>322 - 334</u> Light grey/green, very fine grained, pyritised, very fine fractures filled with calcite. <u>334 - 341</u> Light grey/green as above but abundant epidote, silicified, abundant calcite veinlets, pyritised. <u>341 - 346.4</u> Light grey, very fine grained, silicified (?), bleb <u>chalcopryrite</u> at 345.6. | 317 - 325 | 3937* | | | |
| | | 325 - 334 | 3938* | | | |
| - 384.5 | PORPHYRITIC ANDESITE (?): Light grey, very fine grained matrix, coarse pink feldspar phenocrysts, subhedral to anhedral, pale brown secondary silica, abundant epidote, magnetite localised in veins with epidote, uppercontact at 20° to core axis and brecciated 1" either side of contact, lower contact indistinct zone of contamination. | | | | | |

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|-------|---|-----------|-------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 509 | ANDESITE: Light grey/green, very fine grained, silicified, fractured with calcite epidote and pyrite fracture fill, also disseminated pyrite, pyrite to 15%. | 4083-4094 | 8344 | | | |
| | <u>407.9 - 476</u> Light purplish grey, very fine grained, fresh with little alteration, pyrite disseminated and in fractures, fine fractures with calcite, trace epidote, trace <u>chalcopyrite(?)</u> | 433 - 443 | 3936* | | | |
| | <u>408.5 - 409.1</u> Minor azurite stain over 6". | 490 - 500 | 3935* | | | |
| | <u>476 - 480</u> Grey/green, very fine grained, chloritised, silicified. | 500 - 509 | 3934* | | | |
| | <u>480 - 509</u> As at 476. | | | | | |
| | <u>488 490</u> Fault gouge. | | | | | |
| | <u>493 495</u> Fault gouge. | | | | | |
| - 509 | TOTAL DEPTH. | | | | | |
| | * Sampled prior to logging | | | | | |

Ursus Minerals Ltd.
Geo-Chief-Masso Claim Group
Walhachin, Kamloops M.D.

D.D.H. 2
Total Depth 540'
Dip -65°
Azimuth 135°
Coordinates 5S/4W
Logged by P. Lane

Legend



Granodiorite

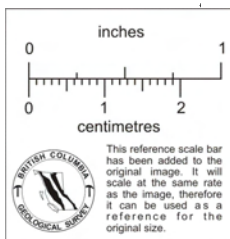


Felsic Dyke



Andesite

Scale: 1" = 50'



D.D.H. No. 2 COMMENCED April 18 TOTAL DEPTH 540' AZIMUTH 135° PAGE 1 of 4.

COMPLETED April 24 DIP -65° COORDINATES 5S/4W

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|---------|--|----------|-------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| 0- 10 | OVERBURDEN | | | | | |
| - 60 | ANDESITE: Dark green/grey to black, very fine grained, chloritic, fractured, fractures 20 - 40° to core axis, calcite and sometimes magnetite in fractures very magnetic, occasional stringer granodiorite up to 2' wide, epidote and pyrite associated with granodiorite. | 59 - 69 | 8326* | | | |
| - 69.4 | GRANODIORITE: Light green/grey, medium to coarse grained, white feldspar, abundant epidote in veins and as altered mafics, hematite stain on fracture planes, occasional specks pyrite. | | | | | |
| - 103.2 | ANDESITE: As at 60. | | | | | |
| - 108.4 | GRANODIORITE: Light grey to light grey/green, medium grained matrix, coarse phenocrysts white feldspar and chloritised and epidotised mafic (hornblende ?) | | | | | |
| - 112.4 | FELSIC VEIN: Buff, brecciated, very fine grained quartzofeldspathic intrusion, occasional thin agate bands local limonite stain and brick-red hematite (?) stain. | | | | | |
| - 125.8 | GRANODIOTRITE: As at 108.4. | | | | | |
| - 140.7 | ANDESITE: Dark grey/green, to black as at 60, upper contact silicified over 3' with abundant epidote and maroon hematite (?) stain. | | | | | |
| - 156 | GRANODIORITE: Grey/green, fine to medium grained, aphanitic in general, abundant epidote from 151 - 156. | | | | | |

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|---------|---|-----------|-------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 162.5 | ANDESITE: As at 140.7. | | | | | |
| - 186 | ANDESITE (?) (RHYOLITE?): Light grey, very fine grained, abundant epidote, heavily invaded by granodiorite, pyritised, fractured, hematite on fracture planes, calcite in fractures, probably bleached and silicified andesite but general appearance of rhyolite. | 167 - 177 | 8327* | | | |
| - 280.9 | GRANODIORITE: Grey to pink, medium grained, approximately 30% mafic (hornblende?), abundant epidote, fractured, calcite and pyrite fracture fill, many andesite inclusions. <u>221 - 241</u> Light grey, fine grained matrix, medium grained white feldspar, mafic (hornblende?) altered to chlorite, specks magnetite, magnetic, 2" band magnetite at 221.5. <u>241 - 271</u> Numerous andesite inclusions, abundant epidote, magnetite, fractured, brecciated andesite, no mineralisation. <u>271 - 280.9</u> Pinkish grey, medium to fine grained, abundant pink feldspar, 50% mafic altered to chlorite and epidote, generally pyritised to 1 - 2% | 247 - 257 | 8328* | | | |
| - 284.8 | FELSIC DYKE: Buff, fine grained, quartzo-feldspathic, kaolinitic alteration (?), 5% very fine grained black mafic, pyritised in part, upper contact limonitic, occasional thin bands of agate. | | | | | |
| - 294 | GRANODIORITE: Grey to pinkish grey, medium grey, 50% mafic altered to chlorite, white and pink feldspar, scattered thin veins of pink feldspar, lower 1½' buff coloured and heavily epidotised near contact with felsic dyke. | | | | | |
| - 298.9 | FELSIC DYKE: As at 284.8, three 6" sections of limonitic stain. | 294-298.9 | 8345* | | | |

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|-------|---|-------------------------------------|-------------------------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 317 | GRANODIORITE: Grey, medium grained, white feldspar and 20% mafic, pyritised to 1 - 2%, magnetic. <u>314 - 316</u> Andesite inclusions. | | | | | |
| - 342 | GRANODIORITE: Pink to grey, medium grained, 15% mafic altered to chlorite and epidote, pyritised 1 - 2%, contaminated by andesite inclusions. | | | | | |
| - 351 | FELSIC DYKE: Pinkish grey, very fine grained, heavily chloritised and epidotised, up to 5% pyrite, abundant black amorphous mineral (unidentified) probably iron oxide. | 341½-350 | 8329* | | | |
| - 399 | GRANODIORITE: Grey, medium grained, more mafic than above and probably close to diorite in composition, fractures and joints abundant, epidote in fractures, chloritised, pyritised to 1 - 2%, fine stringers of pink feldspar. <u>377 - 399</u> Pinkish grey, medium grained, variable pink feldspar content often concentrated along fractures as if due to late stage introduction of hematite stain, fine fractures with calcite filling, pyritised to 1 - 2%. | | | | | |
| - 427 | ANDESITE: Grey to purplish grey, very fine grained, fractured, locally brecciated, pyrite in disseminations and fractures calcite in fractures, occasionally cut by stringers of granodiorite. | 397 - 407 407 - 417 | 8330* 8331* | | | |
| - 452 | GRANODIORITE: Grey, medium grained, chloritised, epidotised, pyritised, inclusions of andesite. | 427 - 437 437 - 447 447 - 457 | 8333* 8334* 8335* | | | |
| - 503 | ANDESITE: <u>452 - 462</u> Grey, very fine grained, brecciated, fractured with calcite in fractures, pyritised. <u>462 - 466</u> Granodiorite as at 452 <u>466 - 503</u> Andesite: grey/green, very fine grained, heavily invaded by acid igneous material, epidotised, chloritised, brecciated, minor calcite veining, 1 - 2% pyrite, magnetic. | | | | | |

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|-------|--|----------|-----|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Ag |
| - 540 | GRANODIORITE: Grey, medium grained, chloritised, epidotised, pyritised as disseminations and in fractures, speck <u>chalcopyrite</u> at 509.5, magnetic . <u>510 - 540</u> Granitic intervals with predominant pink feldspar, pyritised 1 - 2%. | | | | | |
| - 540 | TOTAL DEPTH | | | | | |
| | * Sampled prior to logging. | | | | | |

Ursus Minerals Ltd.,
 Geo-Chief-Hasso Claim Group
 Walhachine, Kamloops M.D.
 D.D.H. 3
 Total Depth 607'
 Dip -65°
 Azimuth 240°
 Coordinates 8+54S/9+37W
 Logged by P. Lane

Legend



Granodiorite



Microgranodiorite



Porphyritic-Microgranodiorite



Contact Zone



Alteration Zone



Andesite

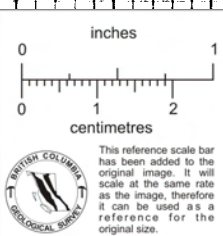
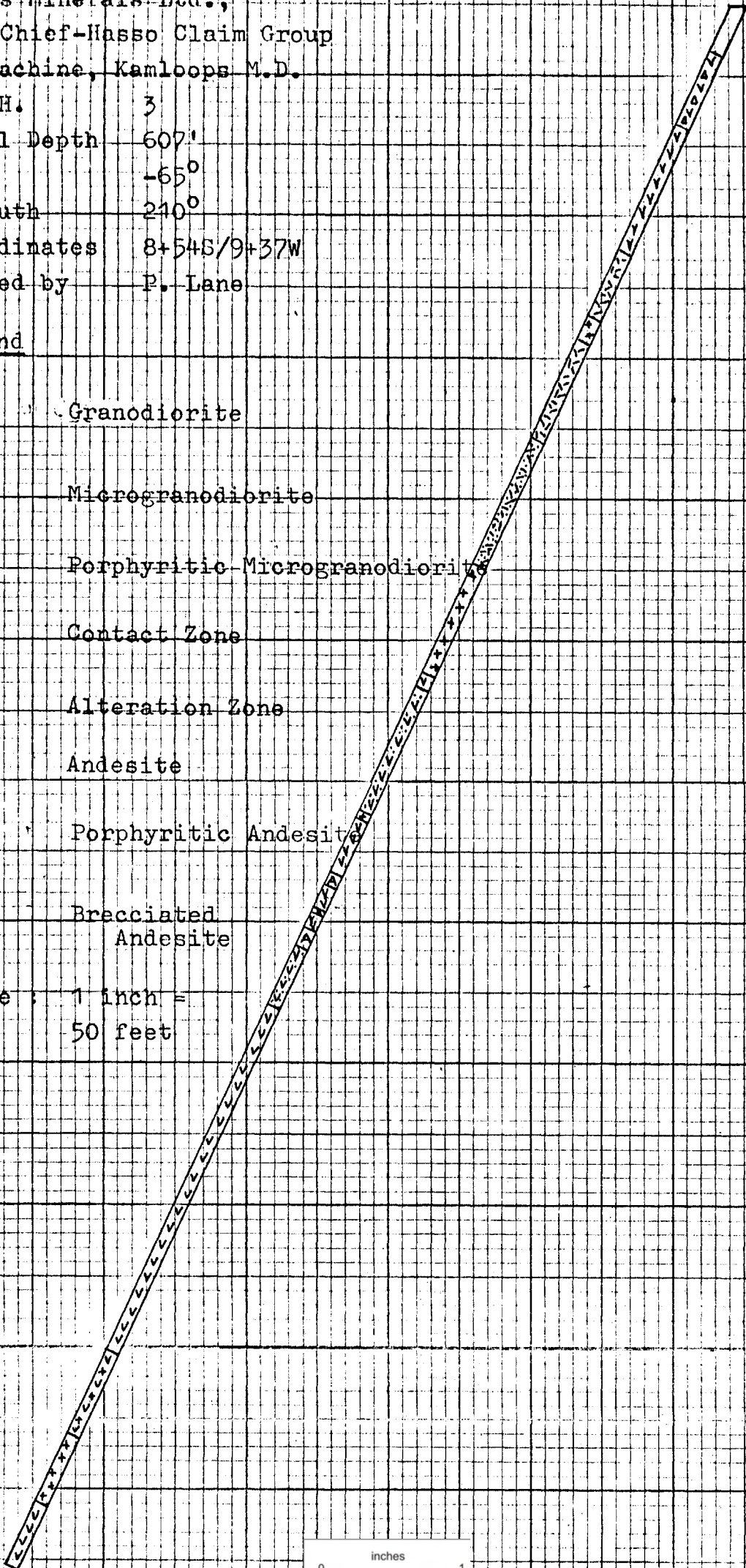


Porphyritic Andesite



Brecciated
Andesite

Scale : 1 inch =
50 feet



D.D.H. No. 3 COMMENCED April 25 TOTAL DEPTH 607' AZIMUTH 210° PAGE 1 of 4

COMPLETED May 1 DIP -65° COORDINATES 8+54S/9+37W

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|---------|---|-----------|-------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| 0 - 18 | OVERBURDEN. | | | | | |
| - 23.2 | ANDESITE: Very dark green/grey to black, very fine grained, coarse secondary (or porphyritic ?) quartz irregular to rounded form, magnetic. | | | | | |
| - 47 | PORPHYRITIC MICROGRANODIORITE: Grey/green, very fine grained matrix grey to pinkish grey, anhedral to euhedral white feldspar phenocrysts up to 1/8" altered to epidote, mafic (hornblende ?) altered to chlorite and epidote, upper contact slightly chilled to andesite, thin leached alteration zone on lower contact, magnetic. | | | | | |
| - 95.5 | ANDESITE: As at 23.2 <u>54 - 61</u> Heavily invaded by granitic material, abundant pink quartz/feldspar material, abundant epidote, pyritised, magnetic. <u>74.5 - 95.5</u> As at 54 - 61. | | | | | |
| - 120.8 | MICROGRANODIORITE: Light grey/green to buff, medium grained matrix, white feldspar phenocrysts altered to chlorite and calcite, less than 1% very finely disseminated pyrite. <u>112.5 - 120.8</u> Green, hard (silicified ?), chloritised, epidotised, pink feldspathic material in narrow diffused bands. <u>117</u> Feldspathic vein, 1' wide. | 120 - 127 | *8336 | | | |
| - 129.5 | GRANODIORITE: Grey, medium grained, white feldspar, hornblende altered to chlorite and calcite, brecciated, abundant calcite in veins and drusy calcite in vugs, brick red to blood red alteration heulandite (?) as fine crystal aggregates on fracture planes, abundant pyrite as coarse to fine crystals up to 20%. | 127 - 137 | *8337 | | | |







| DEPTH | DESCRIPTION | SAMPLES | | | | |
|---------|--|-----------|-------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 168.5 | GRANODIORITE: As at 120.8 | | | | | |
| - 218.8 | PORPHYRITIC MICROGRANODIORITE: Green, pink feldspar abundant in places, fractured, brecciated with coarse angular fragments, heavy chlorite and epidote especially in fractures, coarse calcite crystals, pyritised throughout with pyrite locally massive in fractures. | 165 - 175 | *8338 | | | |
| | | 175 - 185 | *8339 | | | |
| - 259 | DIORITE (?) Dark grey, medium to coarse grained, porphyritic (?) quartz, poorly pyritised, brecciated to 240, abundant pink feldspar localised near fractures and diffused, local heavy chlorite and epidote, very fine fractures containing calcite. | | | | | |
| - 265 | ANDESITE: Dark grey/green, very fine grained, chloritised, upper contact brecciated contaminated and indistinct, irregular very fine calcite veinlets, weakly pyritised and epidotised along fractures, magnetic. | | | | | |
| - 314 | PORPHYRITIC ANDESITE: Dark grey/green, very fine grained, plagioclase (?) phenocrysts generally chloritised and indistinct, calcite fracture fill in fractures up to 1/2" at 20' to parallel to core axis, alteration at upper contact over 1' of feldspar to calcite, magnetic, very weakly pyritised. <u>292.4 - 293.4</u> Granitic vein. <u>298.8 - 300.4</u> Blood red secondary alteration (heulandite ?) of feldspar phenocrysts and on fracture planes. | | | | | |
| - 316.5 | GRANODIORITE: Pinkish grey, medium to coarse grained, grey and pink feldspar, chloritised hornblende, epidote, very weakly pyritised, magnetic. | | | | | |
| - 338.2 | ANDESITE: As at 265, very weakly pyritised, magnetic | | | | | |

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|---------|---|----------|-----|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 343.7 | ALTERATION ZONE: Country rock completely altered, upper and lower sections silicified and feldspathised, thin (to 1/2") agate bands, abundant red/brown hematite stain throughout, hematite in fractures and blebs, very abundant epidote in centre of zone, lower contact gradational to andesite. | | | | | |
| - 352 | ANDESITE: As at 265. | | | | | |
| - 354.2 | ALTERATION ZONE: As at 343.7 except all hematite stain with few thin agate bands. | | | | | |
| - 360 | ANDESITE: As at 265. | | | | | |
| -- 367 | ALTERATION ZONE: Upper 2' hematite stained, lower 5' abundant epidote, chlorite and silicified and cut by limonitic fractures. | | | | | |
| - 390 | PORPHYRITIC ANDESITE: As at 314, very abundant epidote and chlorite, magnetic, pyritised along fractures. <u>383 - 390</u> Granitic zone, brecciated, quartzo-feldspathic material, frequently cut by fine epidote and calcite filled veins. | | | | | |
| - 523.8 | ANDESITE: Grey, very fine grained, porphyritic (?) quartz, very weakly pyritised, magnetic. <u>398.3 - 399.2</u> Brecciated, pyritised, silicified. <u>411.8 - 414.5</u> Granitic, pink feldspar epidote. <u>421.1 - 499</u> Invaded zone, silicified, local limonite and hematite stain of matrix, minor agate veining, calcite in fine fractures, epidote, chlorite, magnetic, fractures often parallel or at 70° to core axis, pale green stain may be malachite or chlorite, very weak pyritisation. | | | | | |

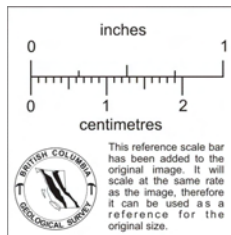
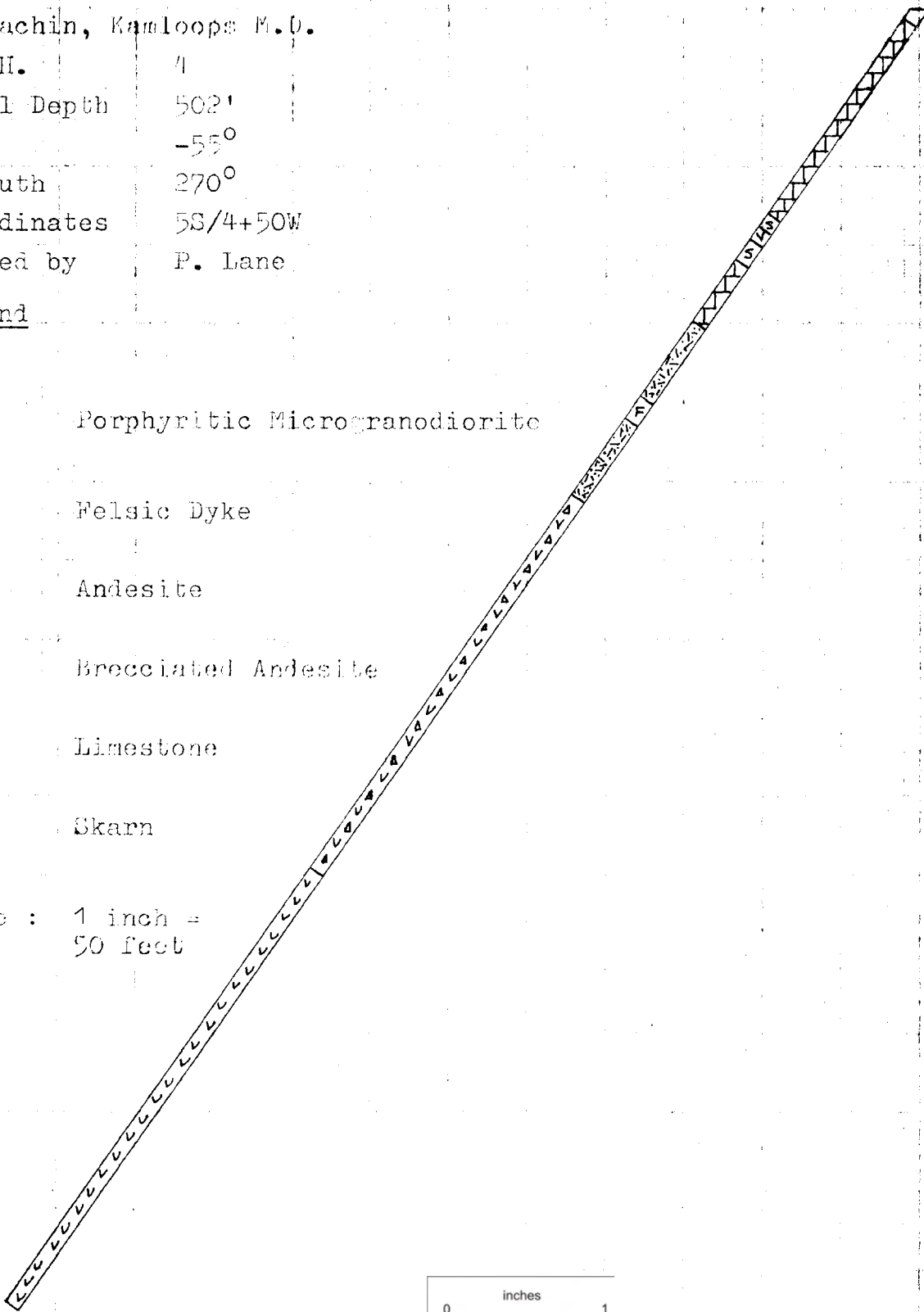
| DEPTH | DESCRIPTION | SAMPLES | | | | |
|-----------------------------|--|----------|-----|------|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 556 | CONTACT ZONE: Intervals of andesite, very fine grained felsic material and granite, well sheared, abundant veins of calcite and quartz, local hematite stain, local breccias filled with quartz and calcite, very weak pyrite in andesitic sections, hematite in blebs and fractures in felsic sections, <u>525 - 526</u> Blebs <u>chalcopryrite</u> . | | | | | |
| - 582 | GRANODIORITE: Pink to grey, medium to coarse grained, andesitic inclusions, generally pyritised to 1 - 2%, minor calcite veining and epidote in fractures, mafic minerals altered to chlorite and calcite, grades to porphyritic microgranodiorite in places. | | | | | |
| - 607 | ANDESITE: Green, very fine grained, some deuteric alteration to granodiorite, chloritised, epidote in fractures and matrix, calcite in veining. <u>587.9 - 590.8</u> Light buff, silicified, white feldspar phenocrysts, abundant agate veining, local limonite in fractures, 5% disseminated pyrite. | | | | | |
| - 607 | TOTAL DEPTH. | | | | | |
| * Sampled prior to logging. | | | | | | |
| | | D.D.H. | 3 | Page | 4. | |

Ursus Minerals Ltd.,
 Geo-Chief-Hasso Claim Group
 Walhachin, Kamloops M.D.
 D.D.H. 4
 Total Depth 502'
 Dip -55°
 Azimuth 270°
 Coordinates 5S/4+50W
 Logged by P. Lane

Legend

-  Porphyritic Microgranodiorite
-  Felsic Dyke
-  Andesite
-  Brecciated Andesite
-  Limestone
-  Skarn

Scale : 1 inch =
 50 feet



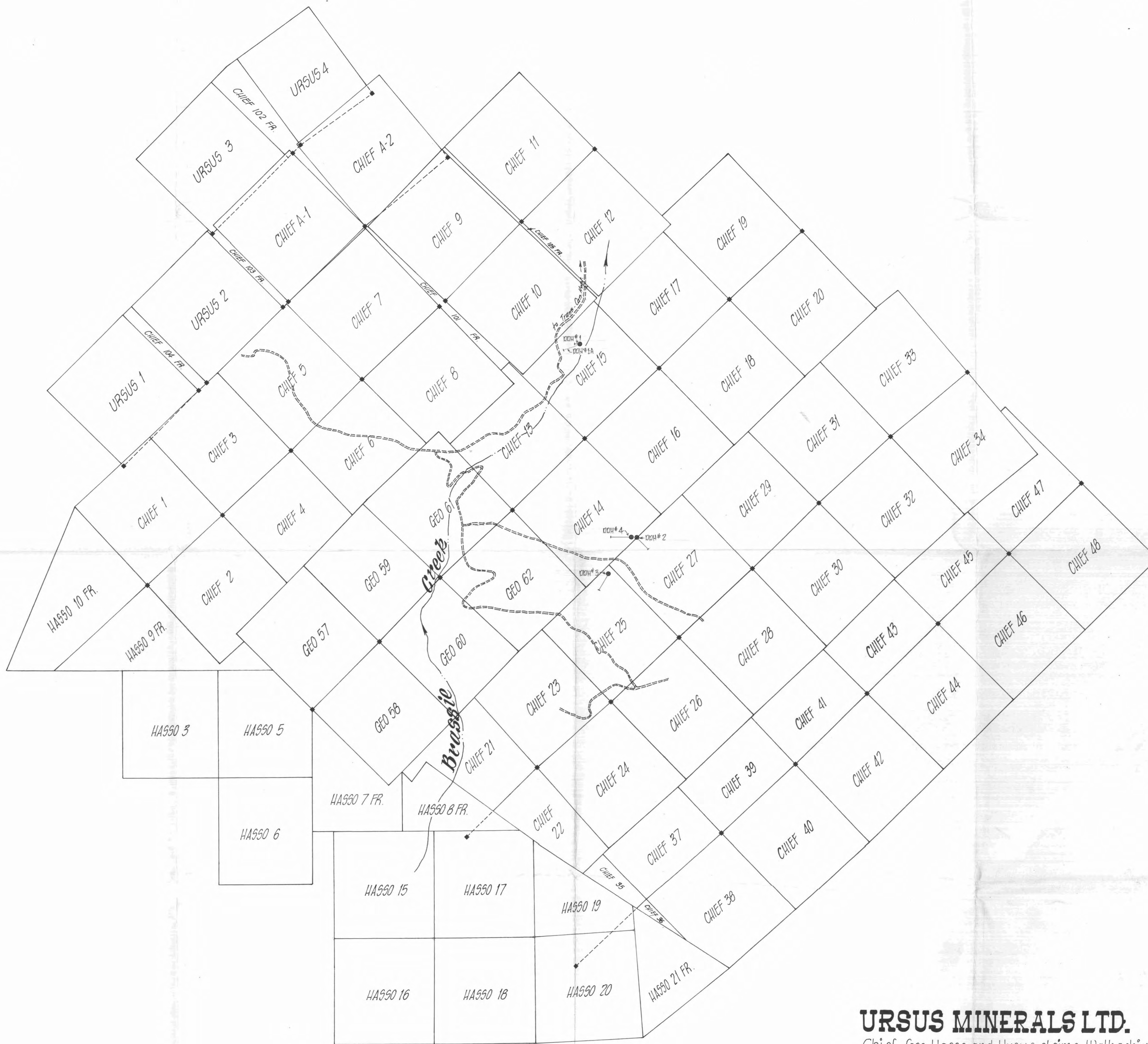
D.D.H. No. 4 COMMENCED May 2 TOTAL DEPTH 502' AZIMUTH 270° PAGE 1 of 3
 COMPLETED May 7 DIP -55° COORDINATES 5S/4+50W

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|--------|---|---------------|-------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| 0 - 4 | OVERBURDEN | | | | | |
| - 28.5 | GRANODIORITE: Light grey, medium grained, hornblende phenocrysts altered to chlorite and calcite, abundant limonite on fracture planes. | 4 - 14 | 8341* | | | |
| | | 14 - 25 | 8342* | | | |
| | | 25 - 28.5 | 8343 | | | |
| - 80 | LIMESTONE: White coarsly crystalline, brecciated, limonitic, epidote rosettes up to ¼" diameter, hematite associated with epidote, local (6") sections sheared friable limonitic with malachite (?) stain, black amorphous dendritic pyrolusite (?) on fracture planes, occassional blebs pyrite. | 28.5-35 | 8346 | | | |
| | | 35 - 41.5 | 8347 | | | |
| | | 41.5-44.5 | 8348 | | | |
| | | 44.5-55 | 8349 | | | |
| | | 55-68.4 | 8350 | | | |
| | <u>35 - 41.5</u> Sheared and limonitic. | | | | | |
| | <u>41.5 - 44.5</u> Sheared and limonitic. | | | | | |
| | <u>53</u> Trace malachite stain. | | | | | |
| | <u>68.4 - 71</u> Granodiorite intrusion, chloritised, fractured, heavily pyritised fractures. | 68.4-71 | 8351 | | | |
| | <u>71 - 80</u> Limonite on occassional fractures. | 71 - 80 | 8352 | | | |
| - 84.5 | SKARN: Highly altered soft rubbly material, very chloritic, small red/brown garnet (?), limonite and hematite stain, pyrolusite(?), no visible sulphides | 80 - 84.5 | 8353 | | | |
| | | 84.5-90 | 8354 | | | |
| - 90 | ANDESITE: Grey/green, very fine grained, chloritised, fractured, epidote and calcite fractures, heavily pyritised fractures. | | | | | |
| - 98 | SKARN: Brecciated, limonitic and hematite stain, chloritic, pyroxene (?) with limonitic aureol. | 90 - 98 | 8355 | | | |
| - 122 | LIMESTONE: As at 80, occassional very fine fractures with black fine grained mineral pyrolusite (?) or pyroxene (?), occassional inclusions often angular up to 2" completely chloritised, very weak pyrite in fractures. | | | | | |
| | <u>112.5 - 113.5</u> Very fine fractures filled with black pyrolusite (?) | 112.5 - 113.5 | 8357 | | | |

* Sampled prior to logging

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|---------|--|-----------|------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 151.5 | PORPHYRITIC MICROGRANODIORITE: Green/grey, fine grained, porphyritic with phenocrysts altered chlorite epidote and calcite, fractured with epidote and calcite fill, weakly pyritised. <u>133.5 - 137</u> Granitic, pink, white feldspar phenocrysts up to 1/8", very fine mafic (hornblende), occasional agate veins to 1/4" wide, hematite stain in fractures, upper contact gradational. <u>137 - 141</u> Xenolith of porphyritic andesite. | | | | | |
| - 151.5 | | | | | | |
| - 159 | FELSIC DYKE: Buff, very fine grained, quartzo-feldspathic, 1 - 2% pyrite, frequently cut by thin agate veins, local heavy hematite stain, 6" zone limonitic stain. <u>157 - 159</u> Local concentration of black mineral in fine veins. Pyrolusite (?), chalcocite (?). | 157 - 159 | 8358 | | | |
| - 189 | PORPHYRITIC MICROGRANODIORITE: Light grey/green, grey, pinkish grey, as at 151.5 except abundant epidote mostly in fractures, cut by thin veins of felsic material in upper part, pyrite in fractures and disseminations. | | | | | |
| - 333 | BRECCIATED ANDESITE: Dark grey/green, very fine grained, angular to rounded fragments, fractured, chloritised, epidote in fractures near contact with intrusive, upper contact marked by buff silicified zone cut by quartz veins and abundant hematite stain, generally very weakly pyritised but occasionally massive in fractures. <u>237 - 239</u> Granodiorite vein. <u>268</u> Speck chalcopyrite <u>282 - 289</u> Andesite. <u>329.5</u> Speck chalcopyrite | | | | | |
| | | 264.3 - | | | | |
| | | 269.3 - | 8359 | | | |
| | | 326.7 - | | | | |
| | | 331.7 - | 8360 | | | |

| DEPTH | DESCRIPTION | SAMPLES | | | | |
|-------|--|-------------|------|----|----|----|
| | | INTERVAL | No. | Cu | Ag | Au |
| - 502 | ANDESITE: Dark grey, very fine grained, frequently invaded by granitic material, epidote in fractures, magnetic, weakly pyritised. | | | | | |
| | <u>397 - 413</u> Abundant pink granitic material, weak pyrite, very occasional speck <u>chalcopyrite</u> . | 397 - 407 | 8361 | | | |
| | <u>459 - 464</u> Rare specks <u>chalcopyrite</u> (?) | 407 - 413 | 8362 | | | |
| | <u>474 - 479.5</u> Pyritic zone, heavily chloritised, up to 10% pyrite. | 459 - 464 | 8363 | | | |
| | <u>482 - 487</u> As at 479.5 | 474 - 479.5 | 8364 | | | |
| | <u>487 - 502</u> Brecciated andesite. | 482 - 487 | 8365 | | | |
| - 502 | TOTAL DEPTH | | | | | |



URSUS MINERALS LTD.

Chief, Geo, Haso, and Ursus claims, Walhachin area, Kamloops Min. Div.

Scale: 1" = 600'. Reference Maps 92 I/10W, 11E, 14E

Handwritten signature

