93-B-9

GIBRALTAR MINES LTD.
(NPL)

801 - 475 Howe Street
VANCOUVER 1, B.C.

Cominco Ltd./508 Marine Building/Vancouver 1, B.C., Canada/Tel. (604) MU 5-6331

Gibraltar Mines Ltd.,
c/o Mr. D. Bowes,
845 West Pender Street,
Vancouver, B. C.

June 29, 1966

Dear Doug:

Enclosed is our Sample Record Sheet showing the assay results on drill hole C-23. The location and dip of the hole is shown on the Sample Record.

Drill hole C-24 was temporarily abandoned before reaching the anticipated zone, but will be deepened when "A" drill rods are available.

Results have not yet been received from drill hole C-25 and C-26. Hole C-27 is currently drilling.

In the assay results which I sent to you on holes B-19, 20, 21, 22 and 23, there are some typographical and arithmetical errors as follows:-

Hole B-19	- From 502.5 to 540 should read 37.5' averaging 0.54% Cu. - From 565 to 592 should read 27' averaging 0.41% Cu - From 502.5 to 592 should read 89.5' averaging 0.40% Cu.
Hole B-20	- Section from 193 to 207' was sampled and ran trace. We estimated it as barren in the averages so there will be no change in the average given.
Hole B-21	- From 633.5 to 655' should read 21.5' averaging 0.59%.

Yours very truly,

E. H. Caldwell,
Superintendent,
Exploration

EHC/nc
Encl.

COMINCO LTD.

WESTERN DISTRICT — EXPLORATION OFFICE

GIBRALTAR PROPERTY
DRILL SAMPLING

HOLE C-23

Location: 18+00W, 10+00S
Dip: -90°

Footage

From	To	Length	%Cu		
139.5'	144.5'	5.0'	.05		
144.5'	145.5'	1.0'	.20		
145.5'	153.0'	7.5'	.05		
153.0'	153.5'	0.5'	1.6		
153.5'	165.0'	11.5'	.05		
165.0'	170.0'	5.0'	.10		
194.0'	199.0'	5.0'	Tr.		
199.0'	205.0'	6.0'	.20		
205.0'	215.0'	10.0'	.10		
215.0'	225.0'	10.0'	.05		
225.0'	228.0'	3.0'	Tr.		
228.0'	234.5'	6.5'	.30		
376.0'	381.0'	5.0'	<.05		
381.0'	387.0'	6.0'	.20		
387.0'	392.0'	5.0'	.20		
392.0'	403.0'	11.0'	.05		
403.0'	404.0'	1.0'	1.7		
404.0'	406.0'	2.0'	.10		
406.0'	410.0'	4.0'	1.3		
410.0'	412.5'	2.5'	.10		
412.5'	413.5'	1.0'	1.4	0.48	
413.5'	425.0'	11.5'	.10	48'	
425.0'	427.0'	2.0'	2.1		
427.0'	441.0'	14.0'	.25		
441.0'	445.0'	4.0'	.10		
445.0'	451.0'	6.0'	.80		
451.0'	454.0'	3.0'	.30		
454.0'	460.0'	6.0'	Tr.	.10	
460.0'	462.0'	2.0'	.15	11'	
462.0'	464.5	2.5'	.50		
464.5'	468.0'	3.5'	.30		0.50
468.0'	477.0'	9.0'	.10		132.5'
477.0'	478.5'	1.5'	6.0		
478.5'	486.0'	7.5'	.10		
486.0'	495.0'	9.0'	.70		
495.0'	500.0'	5.0'	1.2		
500.0'	505.0'	5.0'	.25		
505.0'	510.0'	5.0'	.40		

Footage

From	To	Length	% Cu		
510.0'	515.0'	5.0'	.60	)	)
515.0'	518.0'	3.0'	.55	)	)
518.0'	521.5'	3.5'	.05	)	)
521.5'	525.0'	3.5'	.20	)	)
525.0'	527.5'	2.5'	.55	) 0.58	)
527.5'	530.0'	2.5'	.15	) 73.5'	)
530.0'	535.5'	5.5'	1.5	)	)
535.5'	538.5'	3.0'	.15		
570.0'	574.0'	4.0'	.30		
574.0'	580.0'	6.0'	.25		
580.0'	583.0'	3.0'	.20	.30	
583.0'	586.0'	3.0'	.30		
586.0'	588.0'	2.0'	.05		
588.0'	592.0'	4.0'	.60		

.685

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June 27, 1966
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1.2
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66.25
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72.95

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Gibraltar Mines Ltd.,
c/o Mr. D. Bowes,
845 West Pender Street,
Vancouver, B. C.

July 28, 1966

Dear Sirs:

Enclosed are our sample record sheets showing the assay results on drill holes C-24, C-25, C-26, and C-27. The location and dip of the holes are shown on the respective sample record.

Assay results have not yet been received from drill holes C-28 to C 30 inclusive.

Yours very truly,

E. H. Caldwell,
Superintendent,
Exploration

EHC/nc
encl.

C O M I N C O L T D.

WESTERN DISTRICT — EXPLORATION OFFICE

GIBRALTAR PROPERTY
DRILL SAMPLING

HOLE C-24

Location: 14+00W, 10+00S
Dip: -90°
Elevation: 2,595'
Length: 370.5'

Footage

From	To	Length	% Cu
193.5'	198.5'	5.0'	<.05
198.5'	203.0'	4.5'	.25
203.0'	206.0'	3.0'	<.05
291.5'	296.0'	4.5'	.05
296.0'	300.0'	4.0'	.10
300.0'	308.0'	8.0'	.10
308.0'	318.0'	10.0'	1.0
318.0'	320.0'	2.0'	.15
320.0'	326.0'	6.0'	<.05
326.0'	328.5'	2.5'	.20
328.5'	333.5'	7.0'	.05

To be deepened when "A" equipment available

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WESTERN DISTRICT — EXPLORATION OFFICE

GIBRALTAR PROPERTY
DRILL SAMPLING

HOLE C-25

Location: 10+00W, 10+00S
Dip: -90°
Elevation: 2,602'
Length: 627'

Footage

From	To	Length	% Cu			
392.5'	397.5'	5.0'	<.05			
397.5'	405.5'	7.5'	.05			
405.0'	412.0'	7.0'	<.05			
412.0'	418.0'	6.0'	.65			
418.0'	424.5'	6.5'	1.60	.95		
424.5'	430.5'	6.0'	.70	23.5		
430.5'	433.5'	3.0'	.20			
433.5'	435.5'	2.0'	1.60		.50	474
435.5'	440.0'	4.5'	.05		65.5	412
440.0'	450.0'	10.0'	.05	.07		62
450.0'	461.5'	11.5'	.10	26.0		
461.5'	462.5'	1.0'	1.40			
462.5'	474.0'	11.5'	.05	.54		
474.0'	477.5'	3.5'	1.90	16.0		
477.5'	484.0'	6.5'	<.05			
484.0'	490.0'	6.0'	.15			
490.0'	500.0'	10.0'	.05			
500.0'	510.0'	10.0'	.05			
510.0'	520.0'	10.0'	.10			
520.0'	530.0'	10.0'	.10			
530.0'	538.0'	8.0'	.10			
538.0'	540.0'	2.0'	.15			
540.0'	550.0'	10.0'	.10			
550.0'	562.0'	12.0'	.05			
562.0'	572.0'	10.0'	.35			
572.0'	583.5'	11.5'	.15			
583.5'	586.0'	2.5'	.65			
586.0'	595.0'	9.0'	.50			
595.0'	604.5'	9.5'	.15	0.59		
604.5'	610.5'	6.0'	1.5	36.5		
610.5'	615.5'	5.0'	.45			
615.5'	620.0'	4.5'	.60			
620.0'	627.0'	7.0'	.15			

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WESTERN DISTRICT — EXPLORATION OFFICE

GIBRALTAR PROPERTY
DRILL SAMPLING

HOLE C-26

Location: 6+00W, 9+50S
Dip: -45°
Brg: N 45° E
Elevation: 2,600'
Length: 695'

From	To	Length	% Cu
210.0'	219.0'	9.0'	<.05
219.0'	226.0'	7.0'	.20
226.0'	227.0'	1.0'	.45
227.0'	237.0'	10.0'	.05
237.0'	245.0'	8.0'	.10
245.0'	257.0'	12.0'	.10
257.0'	267.0'	10.0'	.05
267.0'	277.0'	10.0'	.10
277.0'	284.5'	7.5'	.15
284.5'	291.0'	6.5'	.65
291.0'	301.0'	10.0'	.10
301.0'	311.0'	10.0'	.10
311.0'	317.5'	6.5'	.05
317.5'	321.0'	3.5'	.15
321.0'	325.5'	4.5'	.05
325.5'	334.5'	9.0'	.20
334.5'	339.5'	5.0'	.05
339.5'	346.0'	6.5'	.20
346.0'	352.5'	6.5'	.35
352.5'	357.0'	4.5'	.35
357.0'	364.5'	7.5'	.20
364.5'	375.0'	10.5'	1.9
375.0'	385.0'	10.0'	.15
385.0'	395.0'	10.0'	.10
395.0'	405.0'	10.0'	.05
405.0'	417.5'	12.5'	.05
417.5'	426.0'	8.5'	1.4
426.0'	436.0'	10.0'	.15
436.0'	438.0'	2.0'	.80
438.0'	444.5'	6.5'	.10
444.5'	452.0'	7.5'	.10
452.0'	453.0'	1.0'	.50
453.0'	463.0'	10.0'	.05
463.0'	466.0'	3.0'	.05
466.0'	469.0'	3.0'	.50
469.0'	476.0'	7.0'	.15
476.0'	479.0'	3.0'	.55

.48
9.2

Footage

From	To	Length	% Cu
479.0'	482.5'	3.5'	.25
482.5'	488.5'	6.0'	.50
488.5'	499.0'	10.5'	.20
499.0'	500.0'	1.0'	.10
500.0'	510.0'	10.0'	.05
510.0'	520.0'	10.0'	.05
520.0'	530.0'	10.0'	.05
530.0'	541.5'	11.5'	.10
541.5'	543.5'	2.0'	.65
543.5'	553.0'	9.5'	.05
553.0'	563.0'	10.0'	.15
563.0'	573.0'	10.0'	.15
573.0'	581.0'	8.0'	.15
581.0'	587.0'	6.0'	.15
587.0'	592.0'	6.0'	.20
592.0'	593.0'	1.0'	.25
593.0'	603.0'	10.0'	.10
603.0'	612.0'	9.0'	.10
612.0'	615.0'	3.0'	.35
615.0'	625.0'	10.0'	.05
625.0'	635.0'	10.0'	.10
635.0'	643.0'	8.0'	.05
643.0'	649.5'	6.5'	.15
649.5'	660.0'	10.5'	.10
660.0'	666.0'	6.0'	.35
666.0'	676.0'	10.0'	.10
676.0'	686.0'	10.0'	.10
686.0'	695.0'	9.0'	.15

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July 26, 1966
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COMINCO LTD.

WESTERN DISTRICT — EXPLORATION OFFICE

GIBRALTAR PROPERTY
DRILL SAMPLING

HOLE C-27

Location:	8+00W, 9+00S
Dip:	45°
Brg:	N 45° E
Elevation:	2,625'
Length:	350'

Abandoned at 350'. No sampling.

DWH:sa
Trail Expl'n. Office, Western District
July 26, 1966
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93-B-9

THE COPPER CREEK PROPERTY

MALABAR MINING CO. LTD.

INTRODUCTION

This report is based upon examinations of the property, and supervision of the 1964 field programme thereon, by the writer, May to September, 1964. Included is information from reports of the B.C. Minister of Mines, Canadian Geological survey, and independent exploration engineers.

The purpose of the report is to compile the available information from exploratory work over the past several years and outline results of the 1964 works programme to date.

LOCATION AND ACCESSIBILITY

The property is located in southern British Columbia on the east side of the Fraser River, five miles east of the village of Marguerite. Longitude 122° - 18' west and latitude 52° - 31' north pass through the property.

Access is by highway 2, through Williams Lake 34 miles to McLeese Lake thence 5 miles by good secondary road to the Paxton Ranch and an additional 2 miles to the property.

TOPOGRAPHY, CLIMATE, TIMBER AND WATER

The property lies on the lower southwest slope of Granite Mountain five miles east of the Fraser River. The general trend of the topography and drainage down to the west and southwest. Cuisson Lake touches on the southwest corner of the claims and there are several small sloughes near the east boundary.

The climate is moderate and logging and mining operations are carried on throughout the year.

Timber stands cover most of the property and, over the years, much of the area has been logged. There are several abandoned millsites on the property and there is one mill operating about three miles to the south.

There is an ample supply of water in the two branches of Copper Creek which flow through the property.

PROPERTY

The property comprises the following located adjoining mineral claims:-

Zephyr	1 to 16 inclusive
Al	1 to 20 "
Al	21 Fr and 22 Fr
Pan	1 to 5 inclusive
Xaire	1 and 2

Plus 20 recently located claims as yet not recorded.

GEOLOGY

Sedimentary and volcanic rocks of the Permian Cache Creek formation, and sedimentary rocks of the Upper Triassic Gonanza group have been intruded by Jurassic granite and granodiorite. Jounger Tertiary sediments and volcanics cover large areas of the older rocks. On the property only the granitic rocks are in evidence.

The granite has been faulted, fractured, and highly foliated. Quartz veins, some carrying sulphides of iron and copper, have filled many of the fracture zones. The foliated granitic rock has in places been impregnated with pyrite and cholcopyrite. These sulphides of iron and copper occur as disseminations and fillings along the small slip planes in the foliated rock. They are uniformly distributed over a remarkably large area and have been encountered to a depth of 1,200 feet underground. On the exposed section in Copper Creek the granite is locally contorted where steep dipping shears cut the nearby flat foliation. There, lenses of nearly pure pyrite lie parallel to the fractioning and the fractures are filled with quartz carrying pyrite and chalcopyrite. The zone is enriched near the surface with secondary chalcocite. This large zone appears to be anticlinal with the axis striking southeasterly and dipping steeply southwesterly to vertical. Limited exploratory workings have shown a uniform character to this zone over a length of about 1,500 feet, a width of 500 feet and a depth of 1,200 feet.

ADIT TUNNEL

From the south bank of Copper Creek an adit tunnel has been driven south 30 degrees east for 110 feet.

The tunnel starts on a fracture zone containing irregular quartz stringers and leases of heavy pyrite. Throughout the length of the tunnel the foliation dips at a low angle to the southwest, the fracturing dips steeply to the southwest, and there is considerable pyrite, chalcopyrite and chalcocite throughout the quartz and foliated granite. An 8-foot crosscut to the southwest at the face of the tunnel shows similar mineralization. Several short diamond drill holes directed at right angles to the tunnel and from the face southeasterly reportedly encountered similar mineralization. A series of short holes directed vertically and at steep angles from the surface near the tunnel also reportedly showed similar mineralization.

Face sampling, during the driving of the tunnel, reportedly averaged 2.5% copper.

Sample results by the writer, May 17, 1964, are as follows:-

Location In Tunnel	Assay, % Copper
Southwest wall 10 feet from portal	0.87
" " 20 " " "	0.93
" " 30 " " "	1.00
" " 40 " " "	0.70
" " 50 " " "	1.50
" " 60 " " "	1.60
" " 70 " " "	2.30
" " 80 " " "	2.80
" " 90 " " "	0.65
" " 100 " " "	0.90
Face of tunnel	1.30
Northeast wall, 30 feet from portal	0.57
" " 60 " " "	1.52
" " 90 " " "	1.75
Face of crosscut	0.90

The arithmetic average of the fifteen samples is 1.28% copper.

DIAMOND DRILLING

Surface

In the area around the adit tunnel about 120 feet by 150 feet, eight 100 to 125 foot diamond drill holes were located to test the zone.

To the northwest two diamond drill holes were located about 500 and 800 feet from the adit portal. These holes were collared at an elevation somewhat lower than the tunnel level and drilled to 481 and 346 feet of depth.

Two additional holes were drilled 350 feet southeast of the adit portal, about 100 feet higher in elevation. They were 100 feet apart and directed at about 60 degrees northeast. One is 438 feet and the other 364 feet deep.

One vertical hole was diamond drilled from a location to the southeast 70 feet from the tunnel portal and about 30 feet above it, this summer. The hole was drilled to a depth of 1,175 feet.

Mr. R. Clothier, who was in charge of driving the adit tunnel and diamond drilling in that immediate area reported an average grade for all diamond drill holes, and tunnel of 1.15% copper.

There are no results available for the two holes drilled to the northeast of the portal, but by visual examination of the split core left at the property the writer would estimate it to be very similar in grade to the two holes located to the southeast of the portal and the 1175-foot hole diamond drilled this summer. The following are resumes of the sample results from these three holes, named 63-1, 63-2 and 64-1.

63-1: Core AX1, Interval	-70°, N. 45° E. Length	Line 4E - 25S % Copper
31 to 36	5 feet	0.39
36 to 41	5	0.40
41 to 50	9	0.20
50 to 55	5	0.68
55 to 60	5	0.56
60 to 65	5	0.65
65 to 75	10	0.16
117 to 122	5	0.30
129 to 135	6	0.18
210 to 219	9	0.05
219 to 224	5	0.40
224 to 229	5	0.33
229 to 234	5	0.24
234 to 239	5	0.21
260 to 270	10	0.18
310 to 320	10	0.16
350 to 360	10	0.20
360 to 365	5	0.36
365 to 370	5	0.24
370 to 383	13	0.15
383 to 388	5	0.33
388 to 398	10	0.23
398 to 408	10	0.22
408 to 418	10	0.18
418 to 431	13	0.29

63-2: Core AX1, - 60°, N 45° E, Line 4E - 75N

Interval	Length	% Copper	Sludge
25 - 35	10	0.22	-
55 - 65	10	0.62	1.20
65 - 75	10	0.29	0.52
75 - 85	10	0.21	0.42
85 - 95	10	0.39	0.69
95 - 105	10	0.28	0.52
116 - 124	8	-	0.26
124 - 134	10	-	0.16
134 - 144	10	-	0.30
144 - 156	12	-	0.10
156 - 163	7	-	0.19
163 - 173	10	-	0.24
173 - 183	10	-	0.18
183 - 193	10	-	0.16
193 - 203	10	-	0.26
201 - 211	10	0.27	0.30
213 - 223	10	-	0.22
223 - 240	17	-	0.27
245 - 255	10	0.18	
240 - 255	15	-	0.25
255 - 264	9	-	0.25
300 - 310	10	0.29	-
310 - 320	10	0.16	-
320 - 330	10	0.25	-
330 - 340	10	0.20	-
340 - 352	12	0.14	-
352 - 364	12	0.26	-

64-1: Core AX1 Vertical

Interval	Length	% Copper
0 - 16	16	Casing
16 - 30	14	0.60
30 - 40	10	1.58
40 - 50	10	0.45
50 - 64	14	0.30
64 - 74	10	0.06
74 - 84	10	0.27
84 - 94	10	0.16
94 - 104	10	0.28
104 - 114	10	0.30
104 - 124	10	Tr.
124 - 128	4	0.03
128 - 129	1	2.08
129 - 140	11	0.35
140 - 145	5	0.40
	Weighted Average 16 - 145, 0.40	
145 - 150	5	0.05
150 - 155	5	Tr.
155 - 160	5	Tr.
160 - 170	10	0.10
170 - 180	10	0.05
180 - 190	10	0.15
190 - 205	15	0.03
205 - 212	7	0.01
212 - 220	8	Tr.

64-1: Core AX1 Interval	Vertical Length	% Copper
220 - 230	10	Tr.
230 - 235	5	Tr.
235 - 245	10	Tr.
245 - 250	5	Tr.
250 - 258	8	Tr.
258 - 267	9	Tr.
267 - 277	10	0.12
277 - 297	20	0.03
	Average, 145 to 297	Trace
297 - 311	14	0.35
311 - 326	15	0.07
326 - 341	15	0.10
341 - 346	5	0.16
346 - 351	5	0.42
351 - 357	6	0.27
357 - 362	5	0.13
362 - 367	5	0.20
367 - 372	5	0.15
372 - 377	5	0.18
377 - 382	5	0.23
382 - 387	5	0.18
387 - 390	3	0.16
390 - 395	5	0.25
395 - 400	5	0.40
400 - 405	5	Tr.
405 - 410	5	0.16

64-1: Core AX1 Vertical

Interval	Length	% Copper
410 - 415	5	0.10
415 - 420	5	0.10
420 - 426	6	0.40
426 - 432	6	0.13
432 - 437	5	0.20
437 - 442	5	0.16
442 - 447	5	0.18
447 - 451	4	0.35
451 - 456	5	0.34
456 - 460	4	0.17
460 - 465	5	0.26
465 - 470	5	0.18
470 - 475	5	0.08
475 - 479	4	0.07
479 - 485	6	0.45
485 - 489	4	0.17
489 - 494½	5½	0.40
494½-504½	10	0.15
504½-514	9½	0.25
514 - 524	10	0.40
524 - 538	14	0.17
538 - 548	10	0.15
548 - 558	10	0.18
558 - 568	10	0.10

64-1: Core AX1 Interval	Vertical Length	% Copper
568 - 578	10	0.27
578 - 588	10	0.08
588 - 598	10	0.20
598 - 604½	6½	0.12
Arithmetic Average, 297 - 604½		0.30
604½-611	6½	0.40
611 - 620	9	Tr.
620 - 628	8	0.32
628 - 637	9	0.55
637 - 648	11	Tr.
648 - 657	9	Tr.
657 - 666	9	0.18
666 - 674	8	Tr.
674 - 683	9	Tr.
683 - 693	10	Tr.
693 - 705	12	Tr.
705 - 715	10	Tr.
715 - 736	21	0.30
Arithmetic Average , 604½ - 736,		0.13
807 - 817	10	0.13
817 - 826	9	0.30
826 - 835	9	0.19
835 - 845	10	0.35
845 - 854½	9½	0.19

64-1: Core AX1 Interval	Vertical Length	% Copper
854½- 863	9½	0.18
863 - 872	9	0.13
872 - 881	9	0.14
881 - 891	10	0.20
891 - 901	10	0.11
901 - 922	21	0.21
922 - 955	33	0.09
955 - 985	30	0.06
985 - 990	5	0.19
990 - 996½	6½	0.04
Arithmetic Average, 736 - 996½,		0.17
1040 - 1056	16	0.20
Estimated grade 1056 - 1175		0.20

SOIL SAMPLING SURVEY

A soil sampling survey was conducted over the property using the Rubeanic Acid method of determining the relative copper content.

A base line crosses the property in a northwest - southeast direction. From the base line parallel grid lines were surveyed northeast - southwest at 200-foot intervals. At picketed stations 100 feet apart on the grid lines soil samples were taken.

The results of the soil sampling are shown on the map accompanying this report. Briefly, on the western portion of the property extensive anomalies appear to have a general northwest - southeast trend, and on the eastern portion the anomalous zones appear to have a general north by northeast trend.

STRIPPING

Stripping to expose bedrock by the use of a bulldozer was employed to facilitate examination of mineral occurrences in many of the areas indicated to have high copper content in the overburden. This work is currently in progress, but trenches completed to August were as follows:-

Grid Location			Length Feet	Results
12	W	0	50	Small mineralized shear zone
8	W	9N	60	Foliated granite Minor malachite stain
8	W	9N	125	Chloritized granite malachite in fracture
8	W	13N	50	Chloritized granite, shear with quartz, epidote, malachite, azurite and chalcopyrite
4	E	14N	100	Foliated granodiorite
28	E	30N	100	Foliated granodiorite minorcopper stain
36	E	35N	75	" " " " "
39	E	37N	75	" " " " "
1	E	9S	60	" " " " "
3	E	8S	70	" " " " "
4	E	5S	80	" " " " "

Grid Location		Length Feet	Results
4E	2S	TS	Foliated granite, minor copper stain
8E	Base Line	100	Quartz veins in flat granite foliated and chloritized.
4E	2½ S	50	Foliated granite minor malachite
4E	4 S	300	" " " "

To date stripping has exposed chiefly foliated and fractured chloritized granite with minor pyrite - chalcopyrite mineralization. This work is continuing on soil sampling anomalies.

SUMMARY AND CONCLUSIONS

The Copper Creek property is accessible from a main highway, all year round, and is in an area of favorable geology.

The discovery showing on Copper Creek is well mineralized foliated, chloritized and sericitized granite. This rock is cut by steeply dipping shear zones with which are associated siliceous and sulphide mineralization, namely quartz, pyrite, chalcopyrite and chalcocite.

Over an extensive area surrounding the discovery showings there are zones of pyrite and chalcopyrite disseminated throughout the choritized granite and quartz veins carrying similar mineralization. Much of the area is masked by overburden. Diamond drilling to a depth of 1175 feet at the discovery

showings, indicates that the iron - copper mineralization is uniform to this depth.

Chalcocite mineralization appears to be secondary and to date has been encountered at the adit tunnel location. It appears to be confined to the upper 50 feet of the mineralized zone at that location. Insufficient work, either at the adit tunnel location or elsewhere on the property, has been done to indicate whether additional chalcocite-rich zones may be present.

It is concluded from exploration results to date, particularly at the location of the adit tunnel and to the south and east of same, that considerably more exploratory work is warranted, and it is upon these results that the following work programme is recommended.

RECOMMENDATIONS

Because of the favorable geology and extensive distribution of copper in the overburden, a major exploration program is warranted on the Copper Creek property.

Herewith please find Schedule A representing the first stage of the recommended exploratory work, considered a minimum; and Schedule B to be contingent upon results of the first programme.

Schedule A		Estimated Cost
1	Complete soil sampling, by necessary fill-in lines to define clearly the anomalies.	$ 1,000.00
2	Bulldoze the overburden to expose bedrock on selected areas.	5,000.00
3	Extend the adit tunnel southeasterly and crosscut in alternate direction at 100-foot intervals, 1,500 feet total.	50,000.00
4	Diamond drill from underground 1000 feet.	4,000.00
5	Diamond drill from surface, short holes to test favorable areas.	7,000.00
6	Contingencies	3,000.00
	Estimated cost:	$70,000.00

Schedule B		Estimated Cost
1	Rock trenching over selected areas	$10,000.00
2	Underground extension of workings or adit tunnels at new locations.	50,000.00
3	Diamond drilling, underground	10,000.00
4	Diamond drilling, surface	47,000.00
5	Contingencies	13,000.00
	Estimated cost:	$130,000.00

Respectfully submitted,

Alfred R. Allen, P.Eng.

TELEPHONE 922-0227

ALLEN GEOLOGICAL ENGINEERING LTD.

830 KING GEORGES WAY
WEST VANCOUVER, B. C.

May 26, 1964

Malabar Mining Co. Ltd.
801 - 675 West Hastings Street
Vancouver, B. C.

Dear Sirs:

Herewith please find my report pertaining to an examination of the Copper Creek property, 35 miles north of Williams Lake, B. C.

The examination was made on May 17, 1964 and the writer was accompanied and assisted by Mr. P. Bowes and Mr. R. Mathews of Malabar Mining Co. and Mr. C. Anderson, all of Vancouver, B. C.

The Copper Creek campsite and workings may be reached by following Highway 2, 34 miles north of Williams Lake to Macallister, 5 miles by good secondary road to the Paxton Ranch, and 2 miles by passable secondary road to the main workings.

The property comprises the following 43 located adjoining mineral claims:

Zephyr	1 - 16 inclusive
H.C.	1 - 20 "
Pan	1 - 5 "
Xaise	1 and 2

The claims lie on the westerly lower slope of Granite mountain about 3,000 feet above sea level.

The area is underlain by granodiorite which has intruded Cache Creek rocks outcropping 5 miles to the south and 9 miles to the east. To the west, along the east bank of the Fraser River, Tertiary volcanics blanket the older rocks. The geology of the region is shown on Map 12-59 of the Geological Survey.

Copper and iron mineralization has been found in highly foliated and sheared granodiorite in two zones named the K and M. The foliated, sheared and crushed K zone strikes southeasterly where exposed in Copper Creek. The M zone, about a mile to the east, trends northerly.

The K zone is characterized by uniformly disseminated pyrite with erratically distributed chalcopyrite, and the M zone contains quartz veins carrying sulphides of iron and copper.

Numerous open cuts, one 110-foot adit tunnel and about a dozen shallow diamond drill holes have partially exposed the K zone. The adit has been driven within and almost along strike of the K zone, from Copper Creek, 110 feet to the southeast. It has a 10-foot crosscut to the southwest at the face. At the portal there is a 2-foot lense of heavy pyrite. Quartz stringers, striking southeasterly and dipping steeply southwest, occur in the foliated granodiorite from portal to to face. These are narrow and short, but contain pyrite and chalcopyrite. The foliated granodiorite contains fairly uniformly disseminated pyrite along with erratic showings of chalcopyrite. Narrow bands of both sulphides occur in the slip planer of the foliated granodiorite. Where exposed by a trench on the bank of Copper Creek, the foliated and sheared zone is about 100 feet wide.

A string of eight or ten holes has been diamond drilled from the surface east of the face of the tunnel and two steep angle holes have been drilled from above the tunnel, 350 feet southeast of the portal. Several short holes have been diamond drilled from underground.

Some of the core stored at the property was examined. The logs of two holes, 63-1 and 63-2, were made available.

The tunnel was sampled by the writer. Ten vertical chip samples were cut from the southwest wall at 10-foot intervals. Three samples were chipped vertically at 30-foot spacing, from the northeast wall. A sample was chipped from the faces of the drift and crosscut. These samples assayed as follows:-

Sample No.	Location in adit tunnel	Content % Cu.
3580	SW wall, 10' from portal	0.87
81	" 20 "	0.93
82	" 30 "	1.00
83	" 40 "	0.70
84	" 50 "	1.50
85	" 60 "	1.60
86	" 70 "	2.30
87	" 80 "	2.80
88	" 90 "	0.65
89	" 100 "	0.90
90	Drift face	1.30
91	Crosscut face	0.90
92	NE wall, 30' from portal	0.57
93	" 60 "	1.52
94	" 90 "	1.75
	Arithmetic Average is	1.28% Cu.

Samples taken May 1957 by L.P. Stark, P. Eng., averaged 1.19% Cu.

Face samples when the adit was driven by Kimalco Mines Ltd., under the direction of R. Clothier, P. Eng., averaged 2.56%. The average of all samples in this area of the K zone was reported by R. Clothier, P.Eng., to be 1.15% copper.

Time did not permit examination of all the open cut shafts and trenches on the eastern part of the K zone, or the M zone.

The salient features observed on the K zone were as follows:

1. The general area is 80% covered by overburden.

2. The mineralized structure, exposed by Copper Creek, is foliated, fractured and mineralized with pyrite and chalcopyrite. Anticlinal or domed structure is indicated by the foliation.

3. Pyrite and chalcopyrite occur in blebs, lenses, fracture fillings and dissemination throughout the altered granodiorite.

4. Silicification appears to be controlled by the fracture pattern which has a steep dip to the southwest.

5. The area exposed by trenching, the adit tunnel and diamond drilling is at least 100 feet wide and 400 feet long. There is 400 feet difference in elevation from the highest to the lowest showing of sulphide mineralization, the adit being about midway.

6. The mineralization is primary, there being only minor secondary copper mineralization evident.

It is concluded by a study of all available data on the Copper Creek property, and an examination of the main showings, that it is a worthwhile copper prospect, warranting thorough investigation.

The following works programmes are recommended:-

X Schedule A

		Estimated Cost	Estimated Time
1.	Prospect the property, locating all showings and workings	750.00	10 days
2.	Construct a geological map of the claims area	1,250.00	10 days
3.	Conduct a soil sampling programme on a grid pattern over the claims area	2,000.00	20 days

TELEPHONE 922-0227

ALLEN GEOLOGICAL ENGINEERING LTD.

830 KING GEORGES WAY
WEST VANCOUVER, B. C.

July 15, 1964.

The Directors,
Malabar-Gibraltar Joint Venture,
801 Stock Exchange Building,
475 Howe Street,
Vancouver, B. C.

Dear Sirs:

COPPER CREEK PROPERTY
PROGRESS REPORT #1
June 15 - July 16, 1964

Camp was set up and prospecting started June 14th on the Copper Creek property, Cuisson Lake, B. C. The soil sampling survey was started June 21st. A diamond drill was moved on to the property and drilling commenced on #1 hole July 7th. A bulldozer was moved on to the property and started stripping July 13th on a soil sampling anomaly located on the Zenith 16 claim.

CAMP

The house, about 2000 feet southwest of the adit tunnel, has been rented from the owner and is suitable for a small crew.

PROSPECTING

Prospecting was confined to the northern half of the property because of wet weather. The remainder of the property will be prospected when the lower swampy areas are drier and the weather is warmer.

SOIL SAMPLING

Soil sampling along the 400-foot grid lines has been completed on the northern half of the property. Intermediate lines will be sampled. Thus a sample grid, with lines 200 feet apart, and samples taken at 100-foot spacing along each line will result.

To date positive results have been encountered on the Zenith 16 claim in sufficient concentration to warrant checking the

bedrock thereon by bulldozer stripping.

A preliminary sketch map accompanies this report showing locations of medium and strong samples to date.

DIAMOND DRILLING

Hole #1-64, Vertical, started July 7, 1964.

A diesel-powered wireline drill was set up 70 feet southeast of the adit portal.

On July 10th the drill had reached the 150-foot mark.

At the 350-foot mark the drill encountered broken ground, lost water, and had to cement.

Of the first 150 feet of hole, 0 to 16 was cored, and core recovery was better than 90%.

The ground penetrated is similar to that exposed in the tunnel, granitic rock, highly altered, principally by sericitization, foliated and fractured, with some silicification and pyritization throughout. Chalcopyrite occurs in the fine fractures, as blebs and as disseminations. Near the surface chalcocite occurs with the chalcopyrite often coating same.

SAMPLE RESULTS

To date the following core has been split and assayed:

D.D.H. #1 - 64	0 - 16 feet, coring
	16 - 30 feet, 0.60% copper
	30 - 40 feet, 1.58% copper

BULLDOZING

A D-6 Caterpillar machine has been rented and is stripping through overburden to expose the bedrock on the strong geochemical anomaly outlined on the Zenith 16 claim. This work has just started and no results are as yet available.

GENERAL

Showings of copper mineralization are numerous and widespread over your 43-claim property. The underlying rock is

granitic and highly foliated, sericitized and pyritized. It is sheared and silicified to varying degrees and contains chalcopyrite along with the pyrite. Near-surface enrichment by chalcocite is evident in the adit tunnel and number 1 - 64 diamond drill hole. This type of geology points to the possibility of a large tonnage deposit.

Respectfully submitted,

A. R. Allen, P. Eng.

TELEPHONE 922-0227

ALLEN GEOLOGICAL ENGINEERING LTD.

830 KING GEORGES WAY
WEST VANCOUVER, B. C.

August 8, 1964.

The Directors,
Malabar-Gibraltar Joint Venture,
801 Stock Exchange Building,
475 Howe Street,
Vancouver, B. C.

Dear Sirs:

COPPER CREEK PROPERTY
PROGRESS REPORT #2
July 16 - July 31, 1964

DIAMOND DRILLING

Hole #64-1, vertical, started July 7, continued to 604½ feet, with excellent core recovery. Unavailability of rods prevented completion of the hole during the period.

From bedrock to a depth of 145 feet, the core contains disseminated pyrite, with chalcopyrite in fracture fillings and scattered blebs. Assay results are as follows:

Footage	% Copper
0 - 16	Casing
16 - 145, Weighted Average	0.40
145 - 297	Trace
297 - 604½, Weighted Average	0.30

Copies of the assay sheets are attached.

TELEPHONE 922-0227

ALLEN GEOLOGICAL ENGINEERING LTD.

830 KING GEORGES WAY
WEST VANCOUVER, B. C.

SOIL SAMPLING

Wet weather slowed the soil sampling work considerably. Except for the southeast corner of the claims area, the 400-foot grid has been sampled.

It is planned to sample on a 200-foot grid over anomalous areas.

BULLDOZING

Work was delayed by equipment breakdowns and wet weather. The following trenches have been completed:

Location Station	Length Feet
12-W-0	50
8-W-9N	60
8-W-13N	50
4-E-14N	100
28-E-30N	100
36-E-35N	75
39-E-37N	75
1E-9S	60
3-E-8S	70
4-E-5S	80
4-E-2S	75
11 Trenches	795 Feet

The width of the trenches is 16 to 20 feet and depth 2 to 20 feet.

Respectfully submitted,

A. R. Allen, P.Eng.

August 26th, 1964.

The Directors,
Malabar - Gibraltar Joint Venture,
801 Stock Exchange Building,
475 Howe Street,
VANCOUVER, B. C.

Dear Sirs:

COPPER CREEK PROPERTY
PROGRESS REPORT # 3

August 1st - August 15th, 1964.

DIAMOND DRILLING

Hole # 64-1 was completed to a depth of 1175 feet. The geology was uniform to the bottom of the hole. Pyrite, along with chalcopyrite, was evident throughout. It was decided to have check assays made on all samples and this is currently underway.

SOIL SAMPLING

Work on the 400-grid spacing was completed, and fill-in lines were sampled on selected anomalous areas near the east boundary of the property. A map of the results is under preparation.

BULLDOZING

Three additional trenches were completed. At station 8-E on the base line, trenching exposed structure similar to that at the adit tunnel, with strong, flatish foliation, iron and copper mineralization, and some quartz veins. Two 100-foot trenches, close to those on 4-E, 2 to 5 south, showed up spotty malachite stain on foliated granite.

The property was examined by representatives of Nippon Mining Co. Ltd. and several Canadian Mining concerns.

Respectfully submitted,

Alfred R. Allen.

ARA:sm

Alfred R. Allen
B.A.Sc., M.A.Sc., P.Eng.
CONSULTING GEOLOGICAL ENGINEER

830 King Georges Way,
West Vancouver B. C.,
October 10th 1964.

The Directors,
Malabar-Gibraltar Joint Venture,
801 Stock Exchange Building,
475 Howe Street,
VANCOUVER B. C.

Dear Sirs;

COPPER CREEK PROPERTY
PROGRESS REPORT
#5

SOIL SAMPLING

Soil sampling over fill-in areas was completed.

BULLDOZING

Areas of strong copper content as indicated by the soil sampling survey are currently being exposed to check bedrock mineralization.

MINERAL CLAIMS

Twenty additional mineral claims were staked adjoining the property on the southeast and southwest.

Respectfully submitted,

Alfred R. Allen.

4.	Diamond drill one hole, in the vicinity of the adit tunnel, to a minimum depth of 500 feet	5,000.00	20 days
5.	Allowance for contingencies	1,000.00	
	Estimated Total Cost	$10,000.00	

Should the results of the exploratory work listed under Schedule A be satisfactory, it is recommended that a more comprehensive programme be considered as follows:

Schedule B

		Estimated Cost
1.	Where favourable indications of copper mineralization are encountered, expose as completely as practicable by bulldozing	5,000.00
2.	Where copper mineralization warrants, excavate trenches into bedrock to expose for detailed study and sampling	2,500.00
3.	Diamond drill worthwhile showings	25,000.00
4.	Office, supervision and overhead	3,500.00
5.	Contingencies	4,000.00
	Estimated Total Cost	$40,000.00

Respectfully submitted,

Alfred R. Allen, P. Eng.

TELEPHONE 922-0227

ALLEN GEOLOGICAL ENGINEERING LTD.

830 KING GEORGES WAY
WEST VANCOUVER, B. C.

September 28, 1964.

Malabar-Gibraltar Joint Venture,
821 Stock Exchange Building,
Vancouver, B. C.

Dear Sirs:

Re: Soil Sampling Survey, Copper Creek Property

The soil sampling survey on your Copper Creek property, Williams Lake, B.C., has been completed and the results are herewith summarized.

The copper content of the soil over the 45-claims area was tested by the Rubianic Acid method. Samples were taken at 100-foot intervals along lines spaced 200 feet apart.

Most of the claims area is covered with light grey compact glacial till, up to 20 feet deep.

The copper content of the soil is above average for most of the claims area and markedly higher over sizeable sections. The general trends of the high copper-bearing zones are southeast and north 30 degrees east. The southeast trending zones appear to be derived from copper-iron disseminated mineralization in chloritized silicified and sericitized foliated granitic bedrock. In contrast, the north 30 degrees east bands appear to be associated with sizeable quartz veins in and near which are copper-iron sulphides. The two southeasterly trending zones may be termed A and B and the north 30 degrees east zones designated as C and D.

The northerly of the two southeasterly zones, A, extends across the southern portion of the PAN 4 and ZEPHYR 1 claims, then bulges to include most of the ZEPHYR 2 and northern part of PAN 1 and 2, southeasterly to include the northern portion of XAIRE 1 and 2 and the south parts of ZEPHYR 9 and 10, and across the AL 22 Fraction and AL 13 and 14 claims. Parallelling A, zone B touches on the west corner of PAN 3, includes the south few hundred feet of PAN 1, the north part of AL 1 and crosses the AL 3, 5 and 7 claims.

Of the two north 30 degrees east zones the most westerly is C, which includes the east half of AL 10, the central part of AL 9, northwest corner of AL 13, cuts across AL 21 and 22 Fractions, up the east side of ZEPHYR 12, across SEPHYR 14, and widens to include most of SEPHYR 16. Parallel zone D cuts diagonally across AL 15, up the east side of AL 17 and across AL 19 where it widens at the north boundary.

The very sensitive Rubianic Acid technique indicates many areas of unusually high copper content within the four anomalous zones above described. Extensive exploratory work is warranted to investigate bedrock conditions in these areas. Bulldozer stripping is currently in progress and where warranted by sufficient copper mineralization this will be followed up by diamond drilling.

Yours very truly,

Alfred R. Allen

Alfred R. Allen, P. Eng.

REPORT

ON

THE COPPER CREEK PROPERTY

WILLIAMS LAKE, B.C.

FOR

MALABAR MINING CO. LTD.

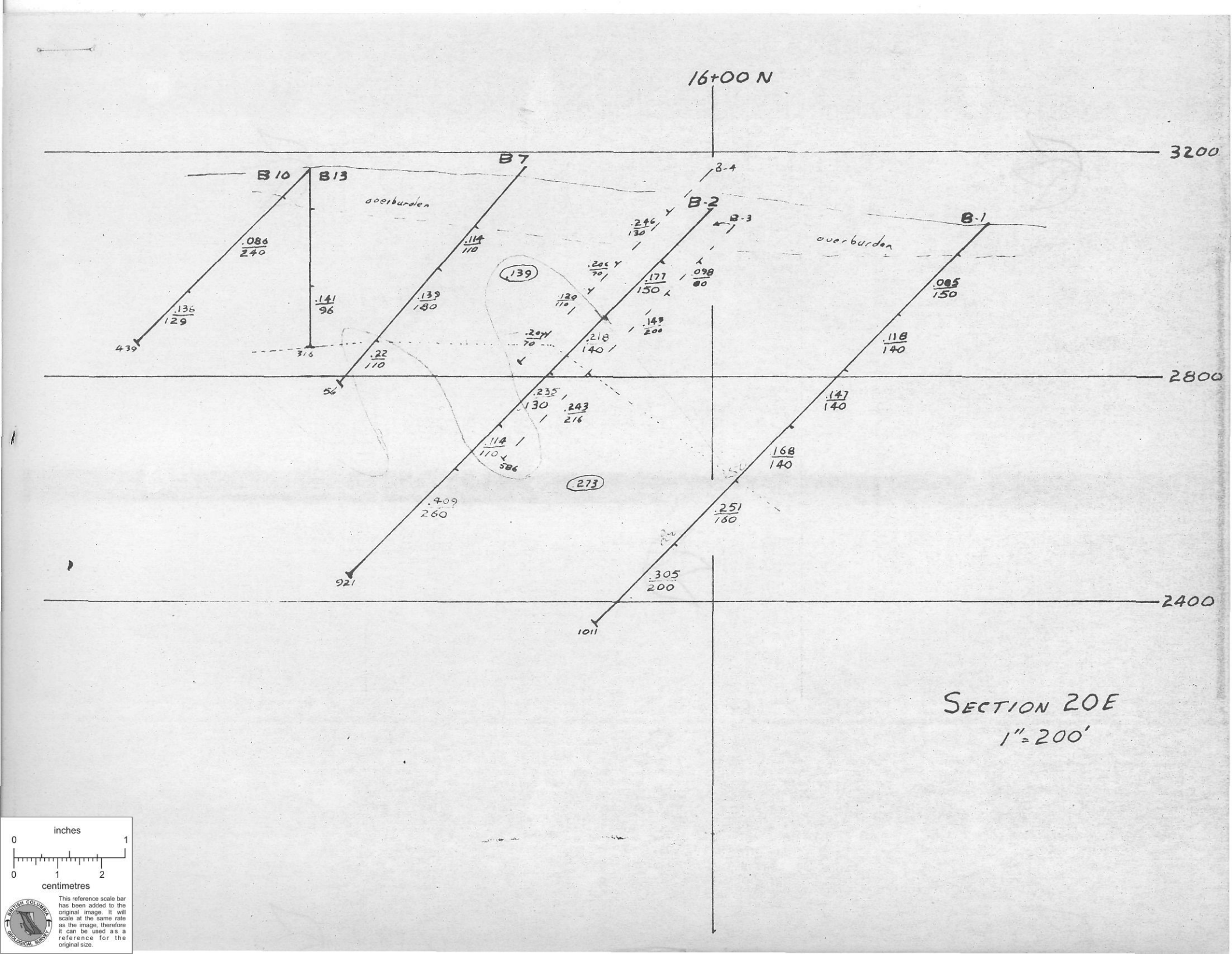
VANCOUVER, B.C.

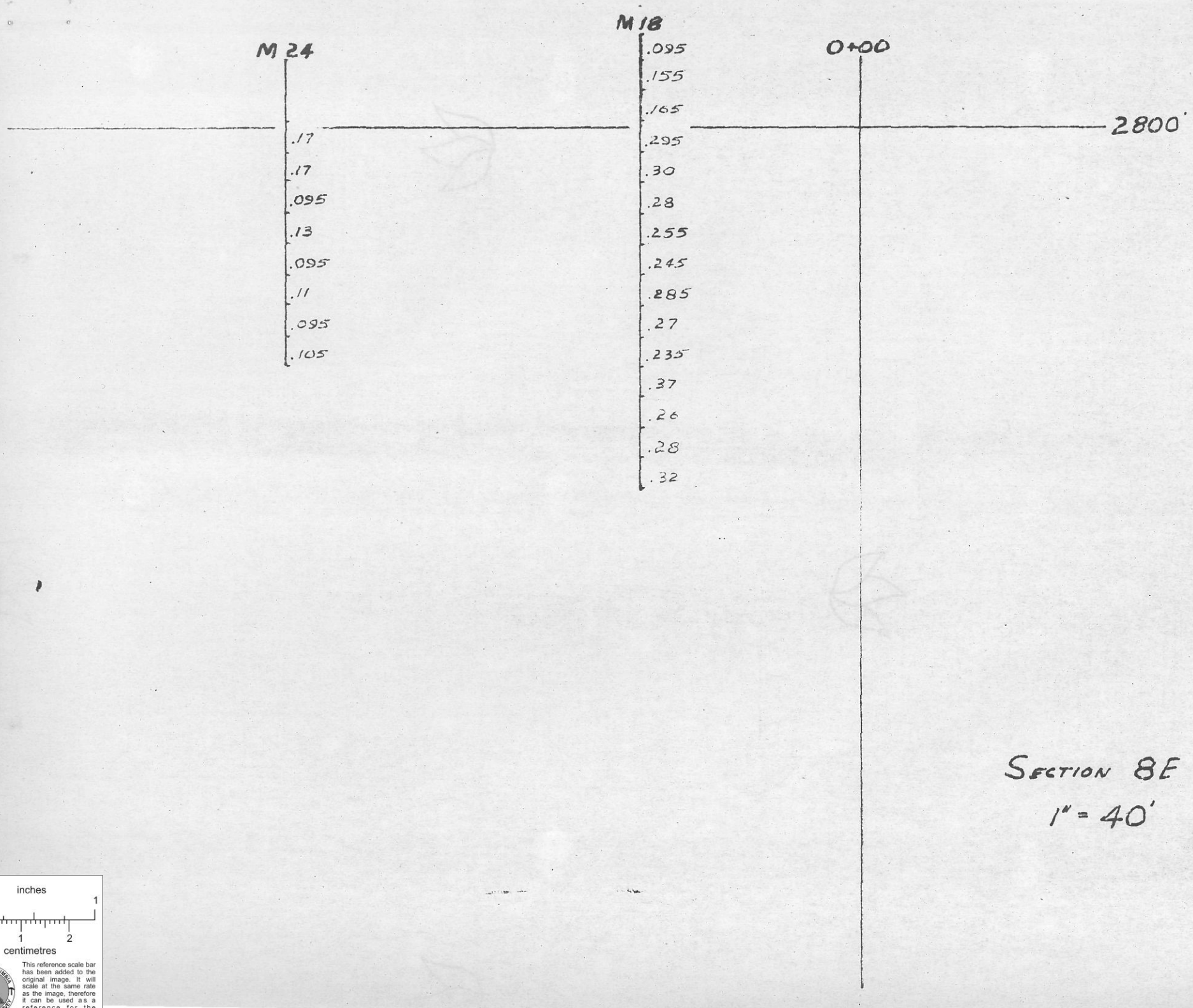
BY

Alfred R. Allen, P.Eng.,

September, 1964

C O N T E N T S





SECTION 8E

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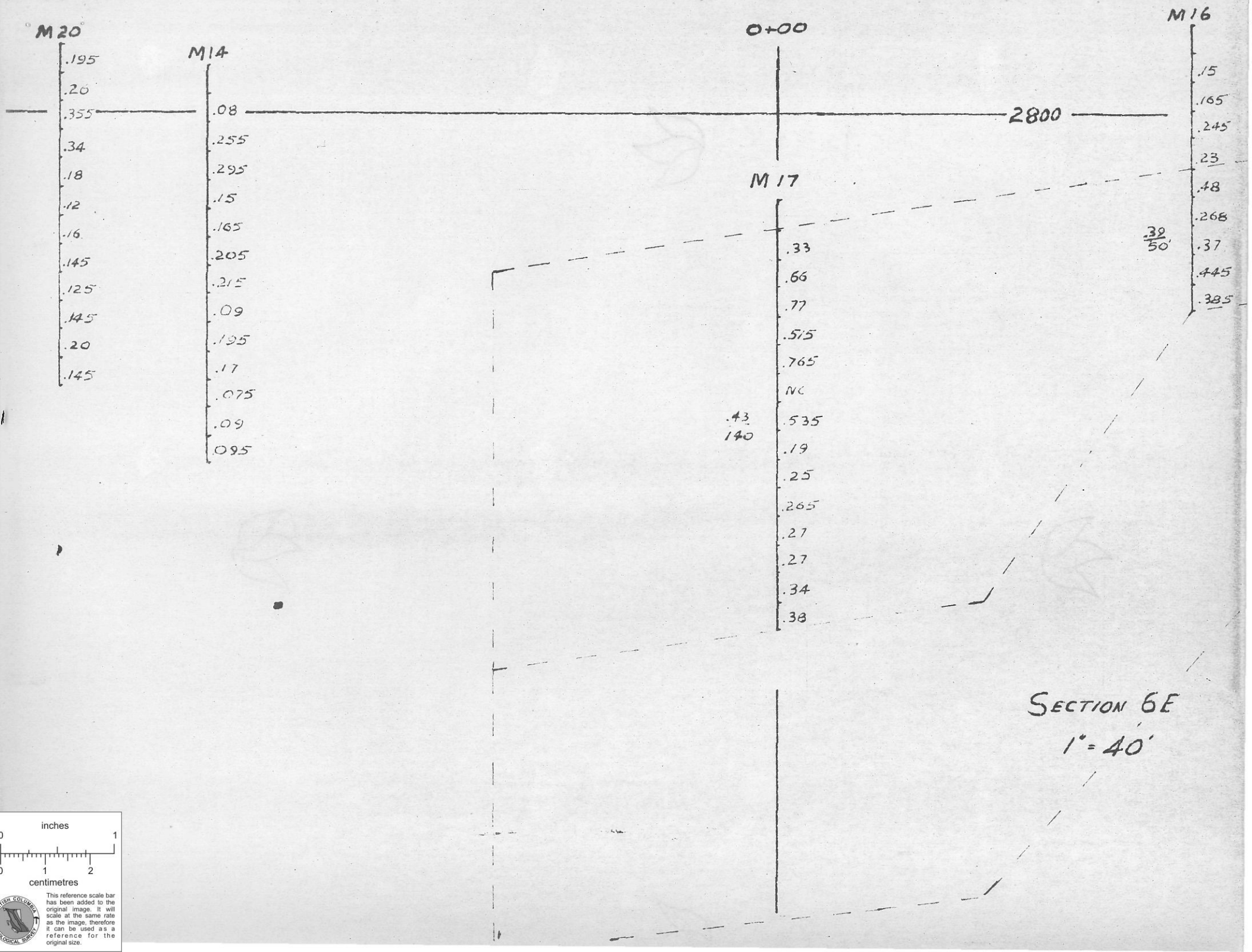

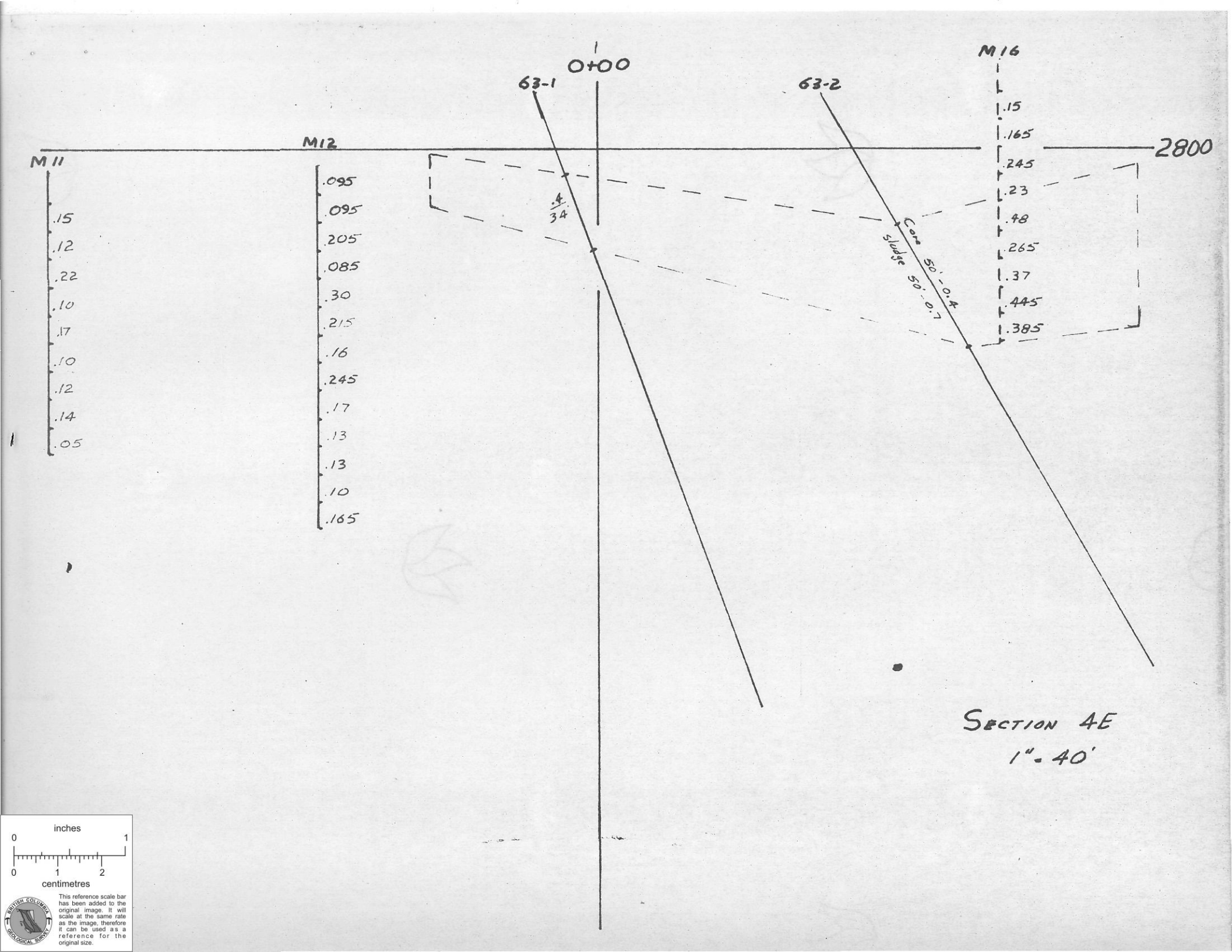

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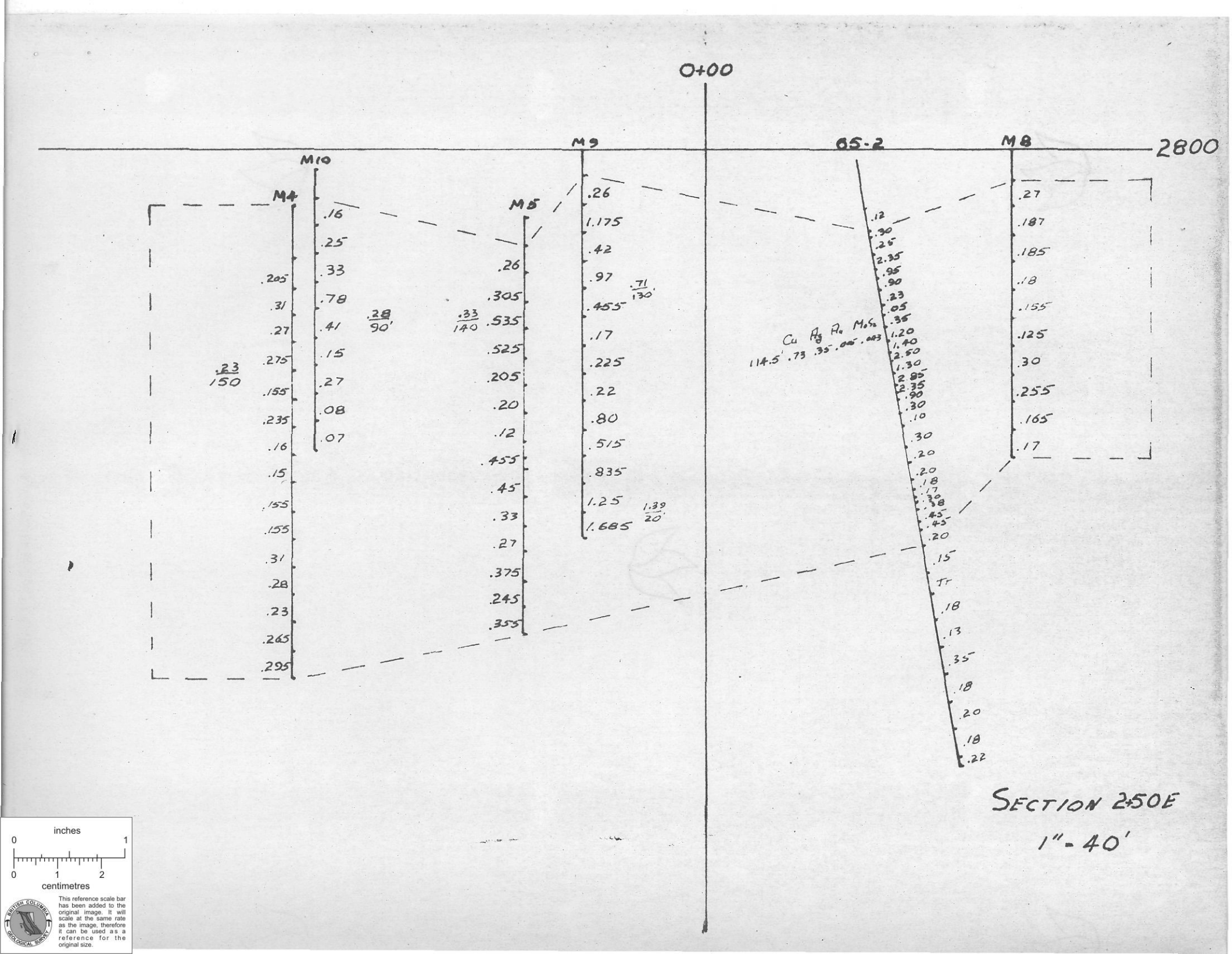
1"-40'



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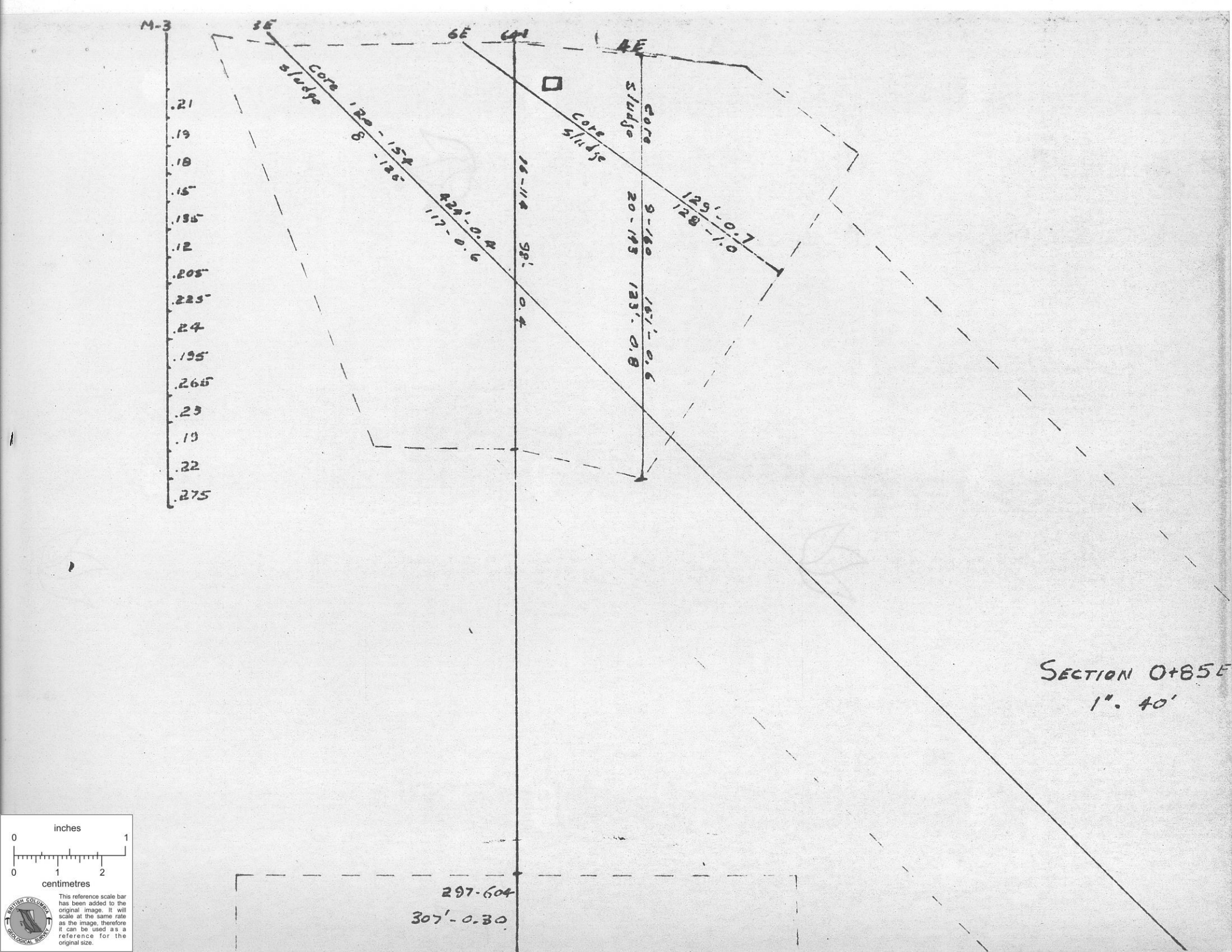
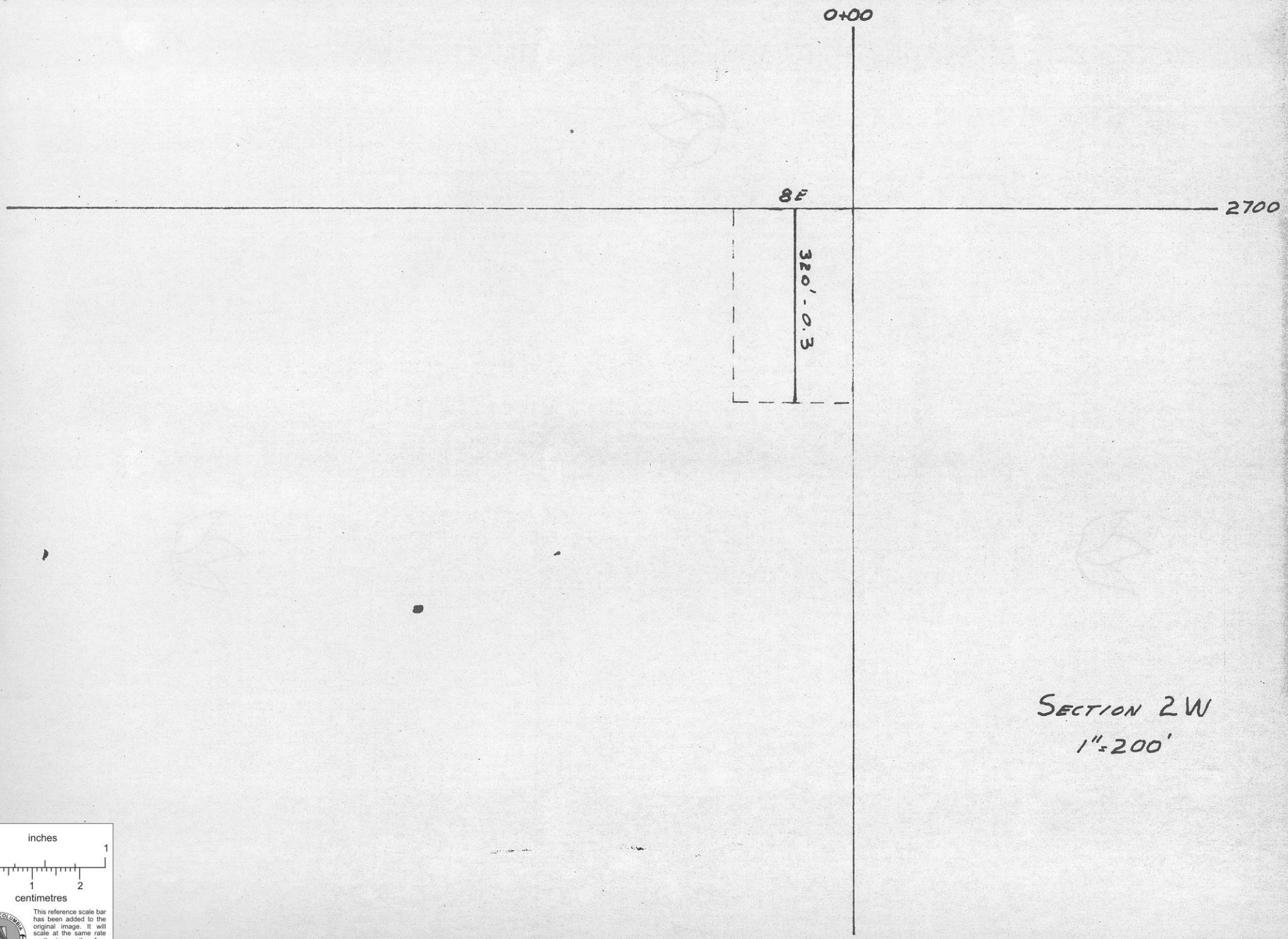
1" - 40'





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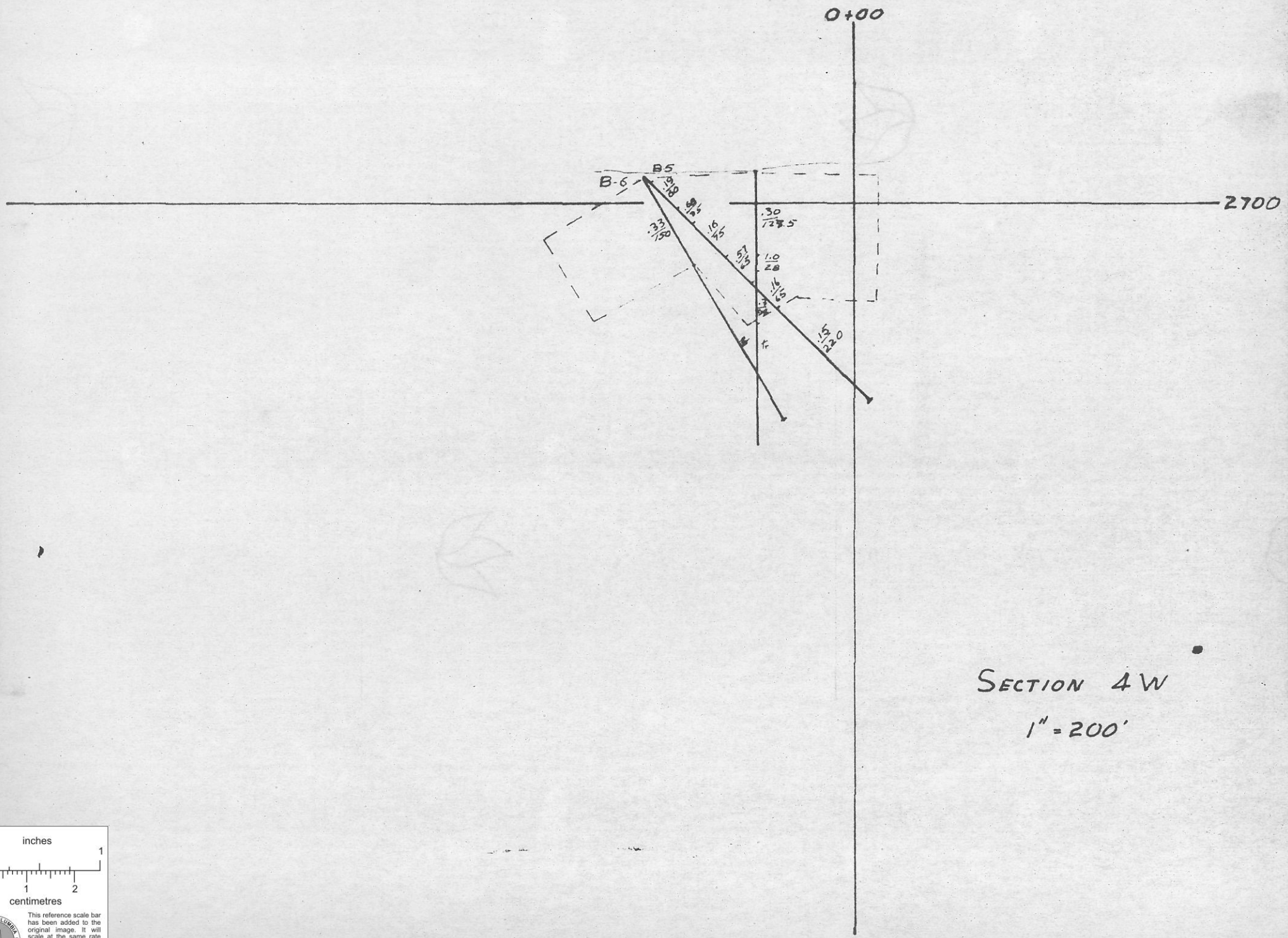

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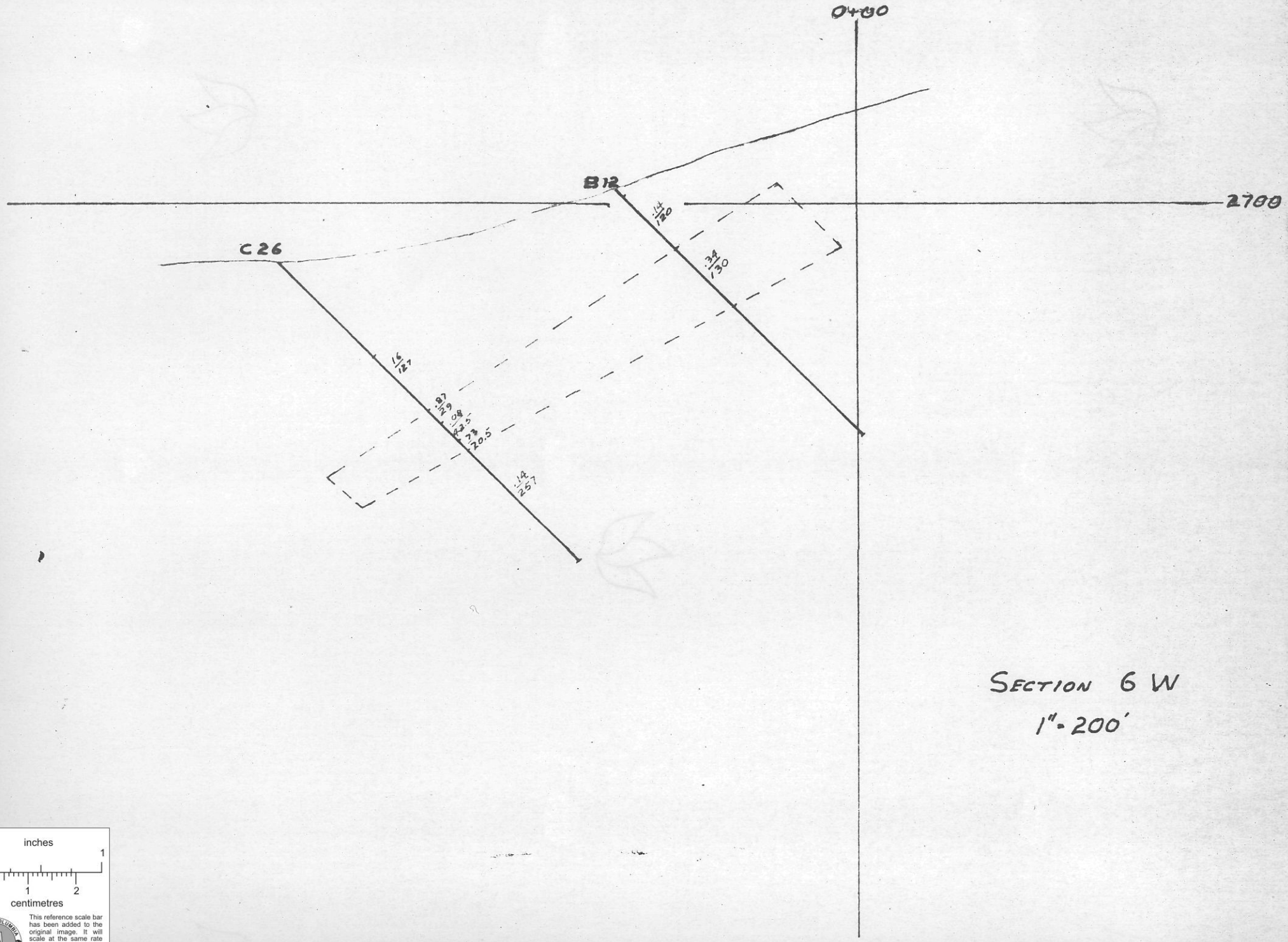

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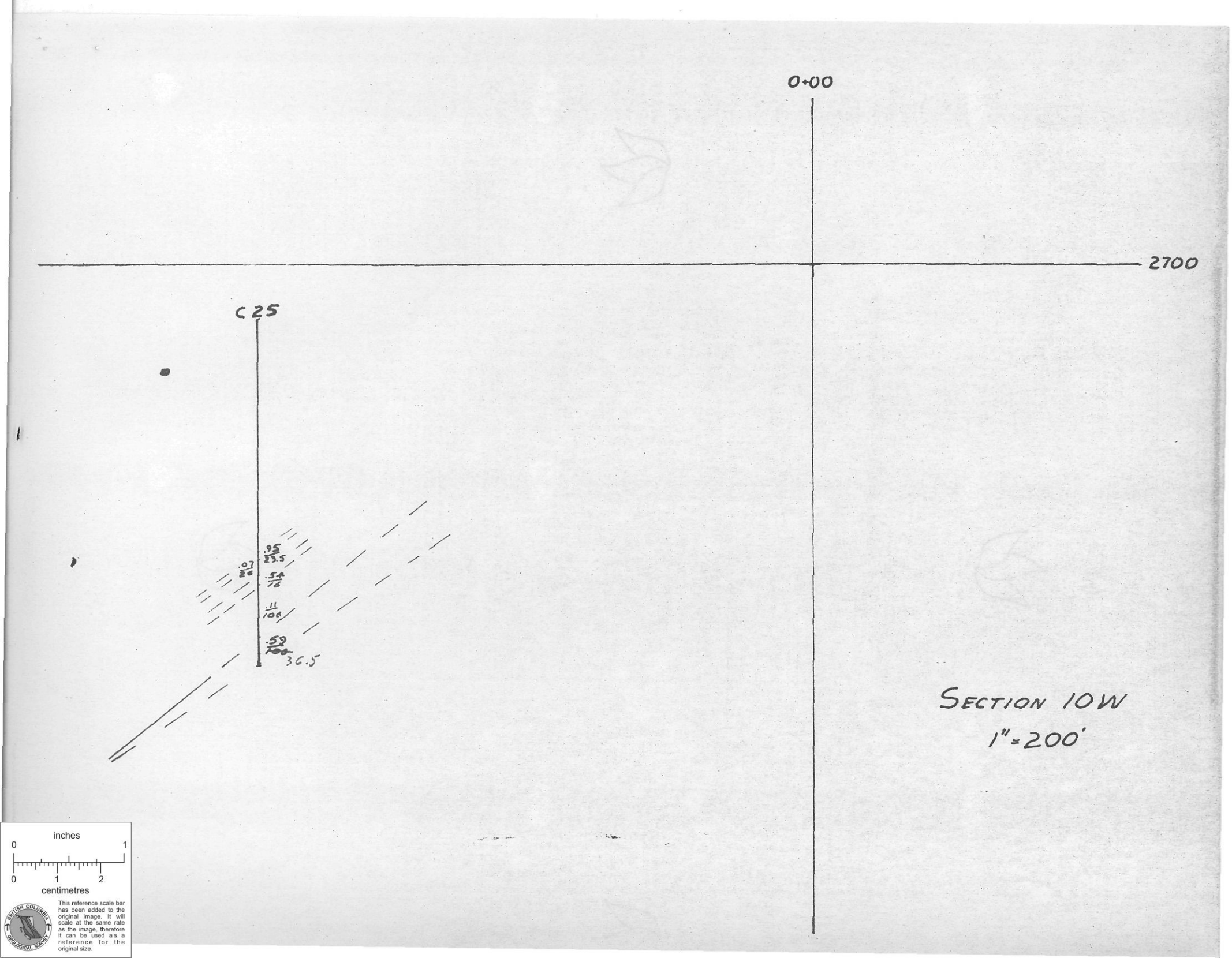

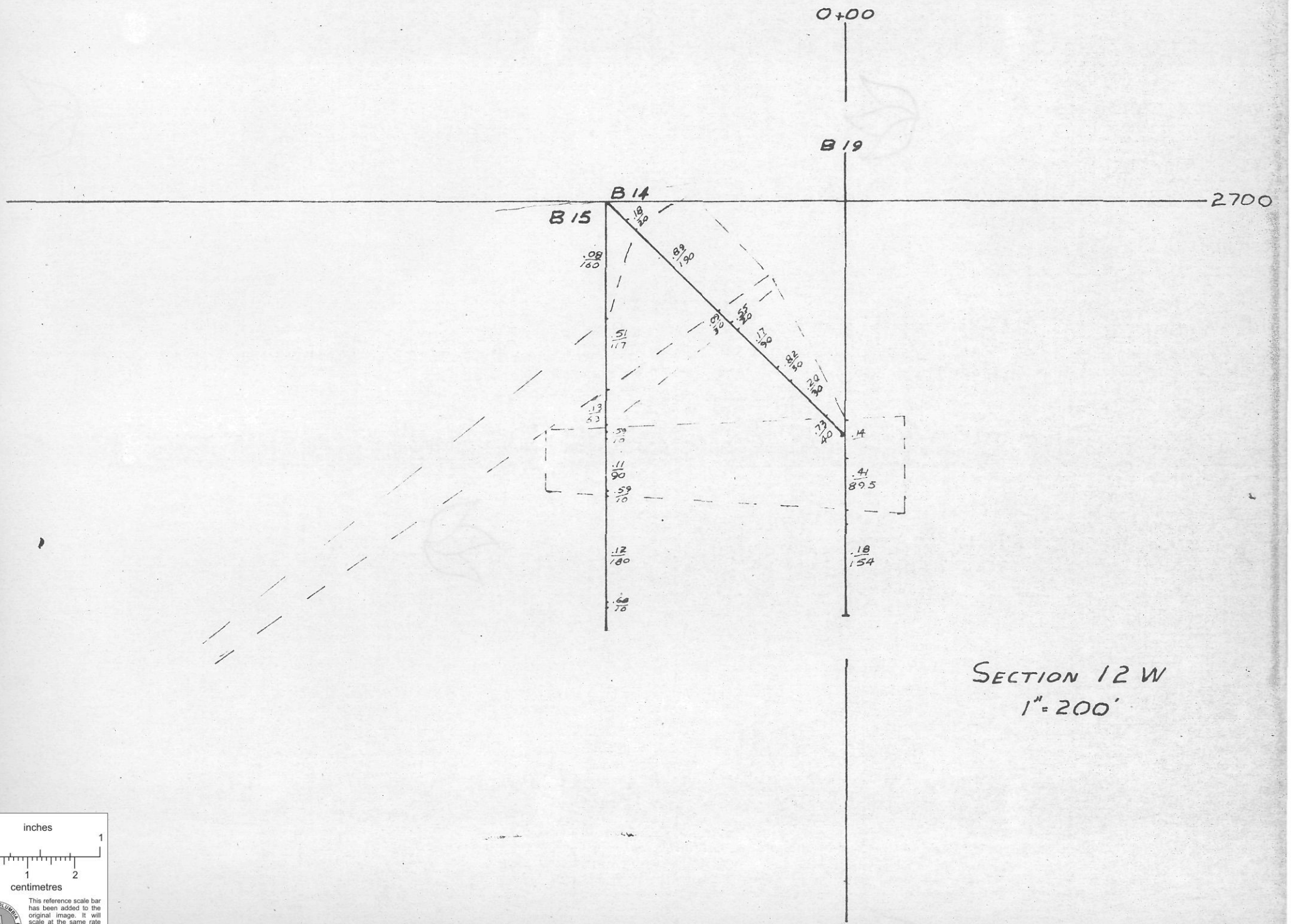

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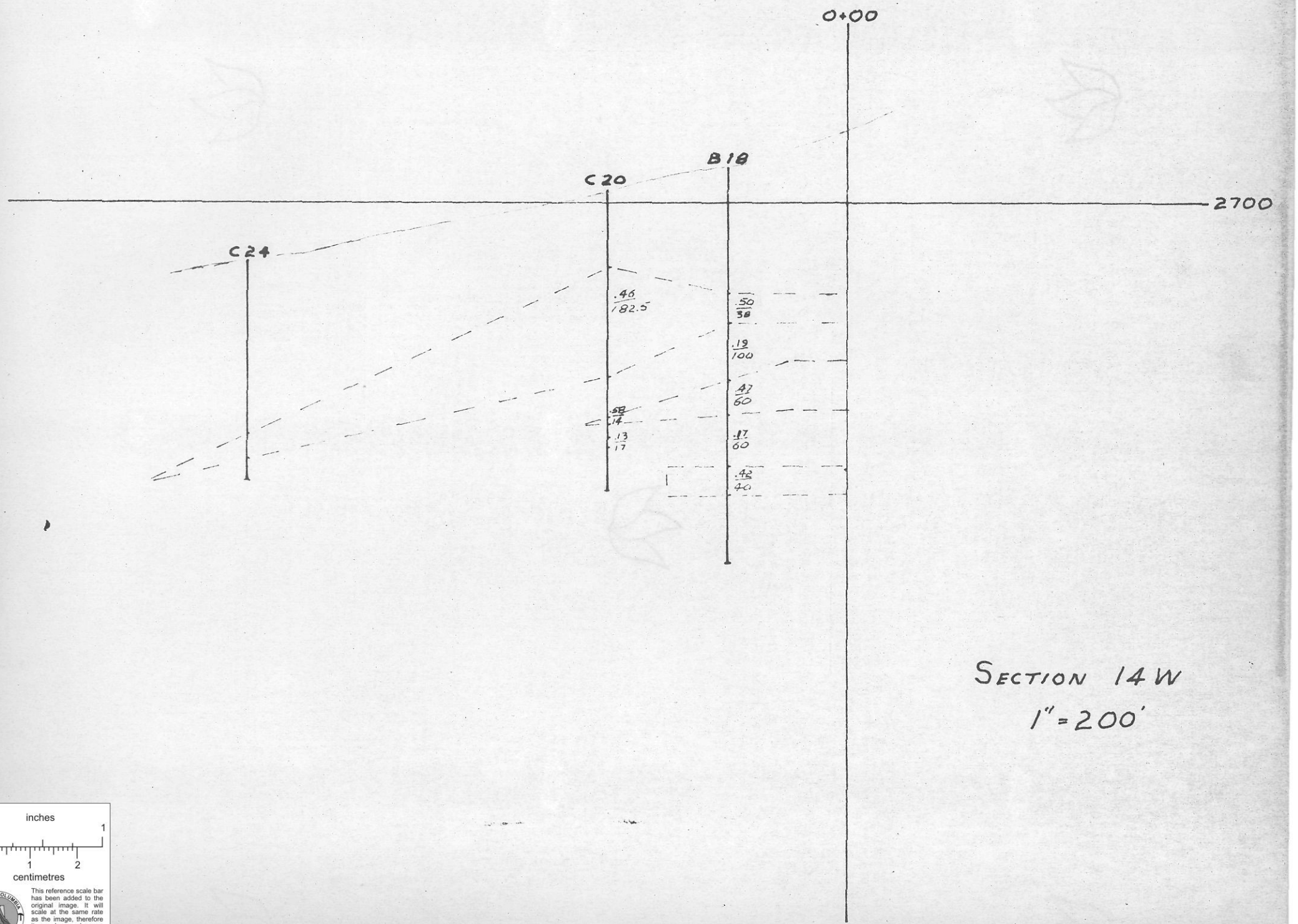

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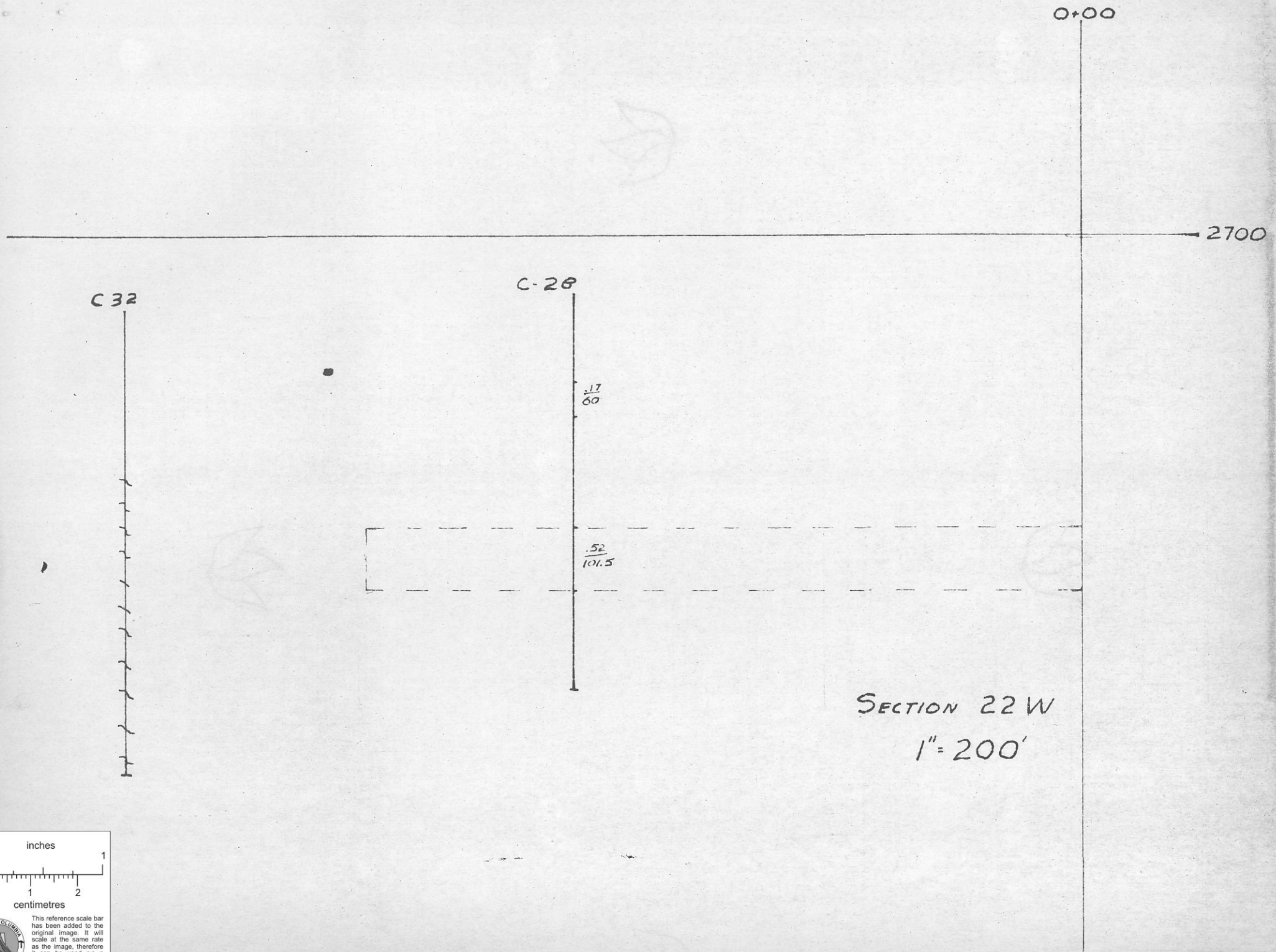

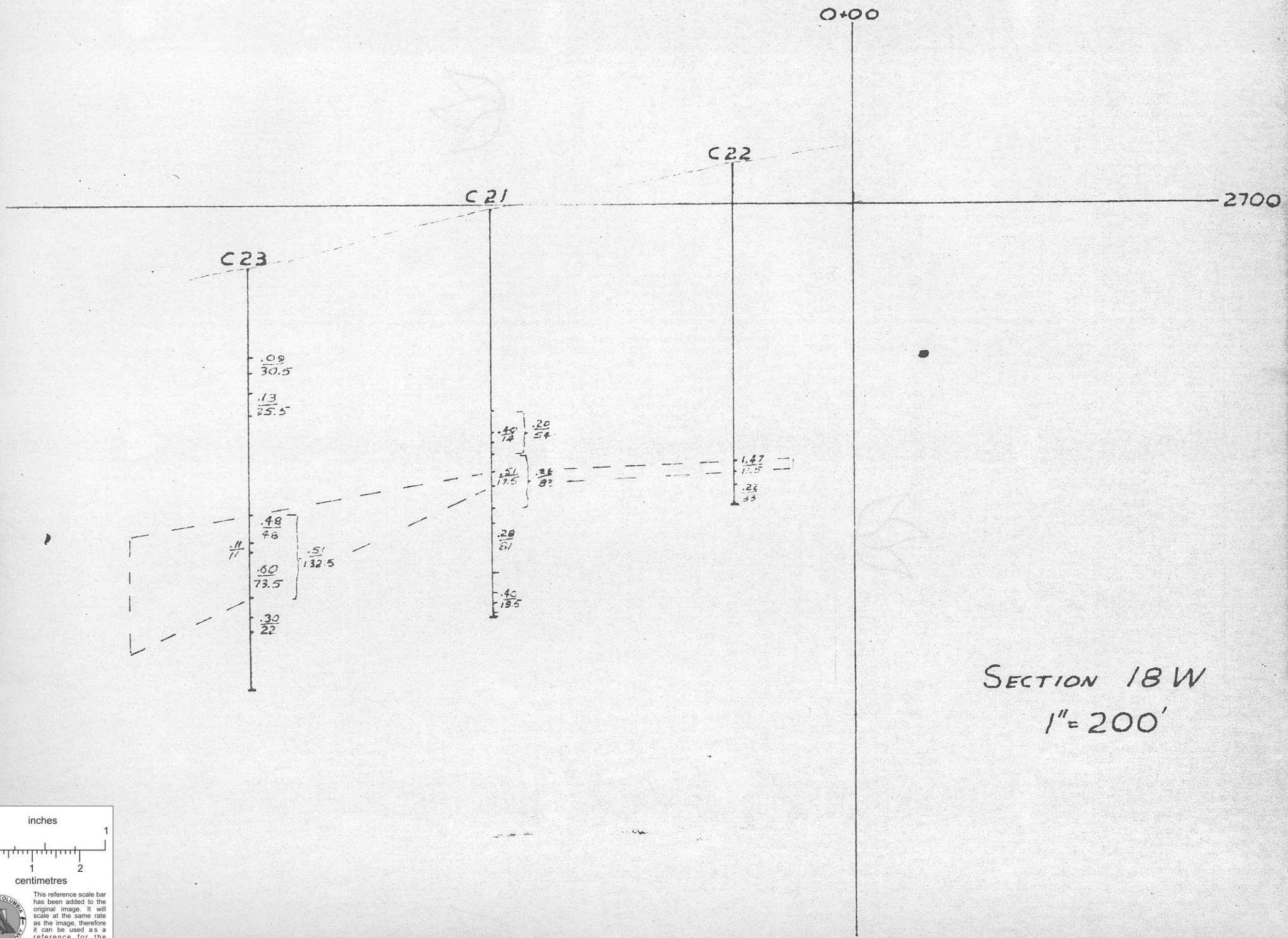

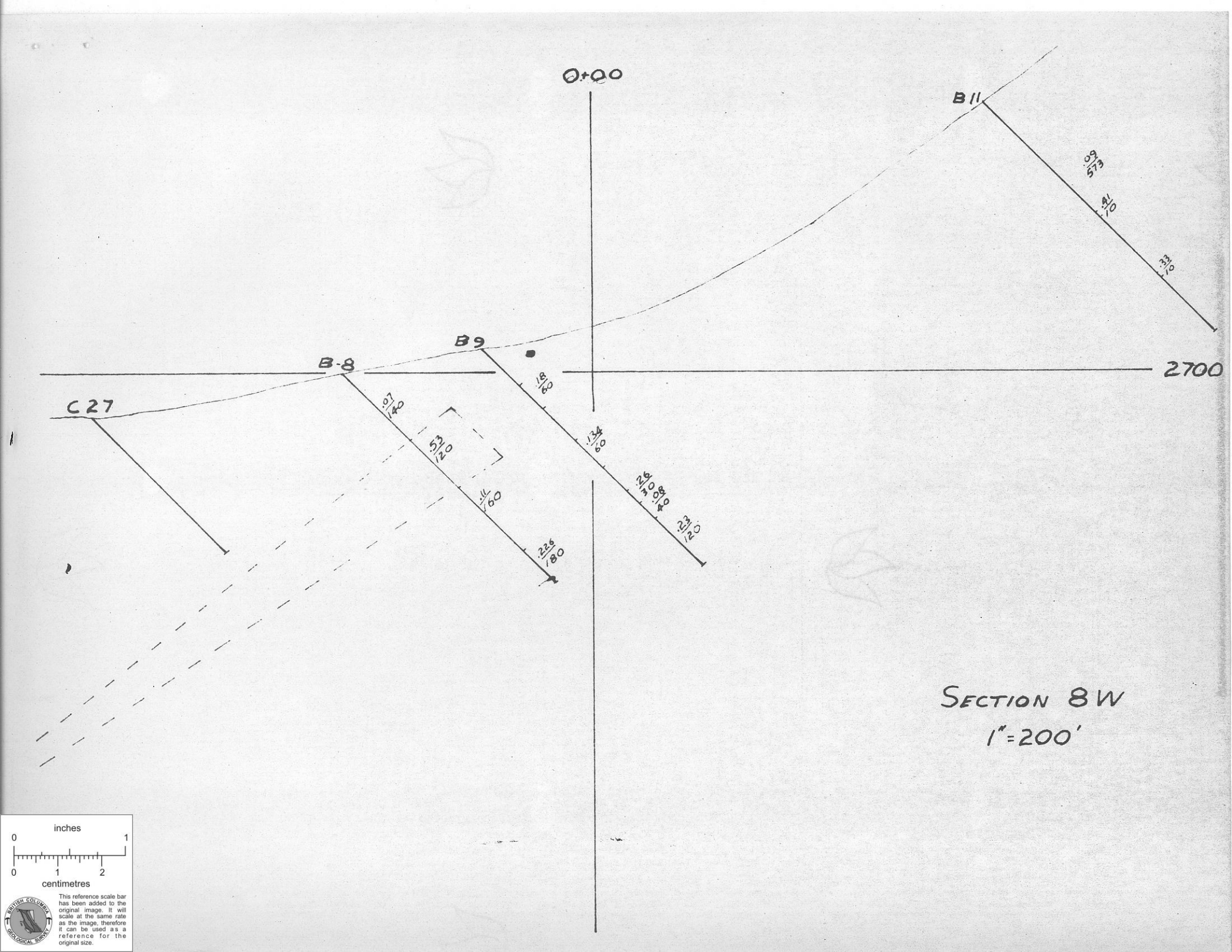

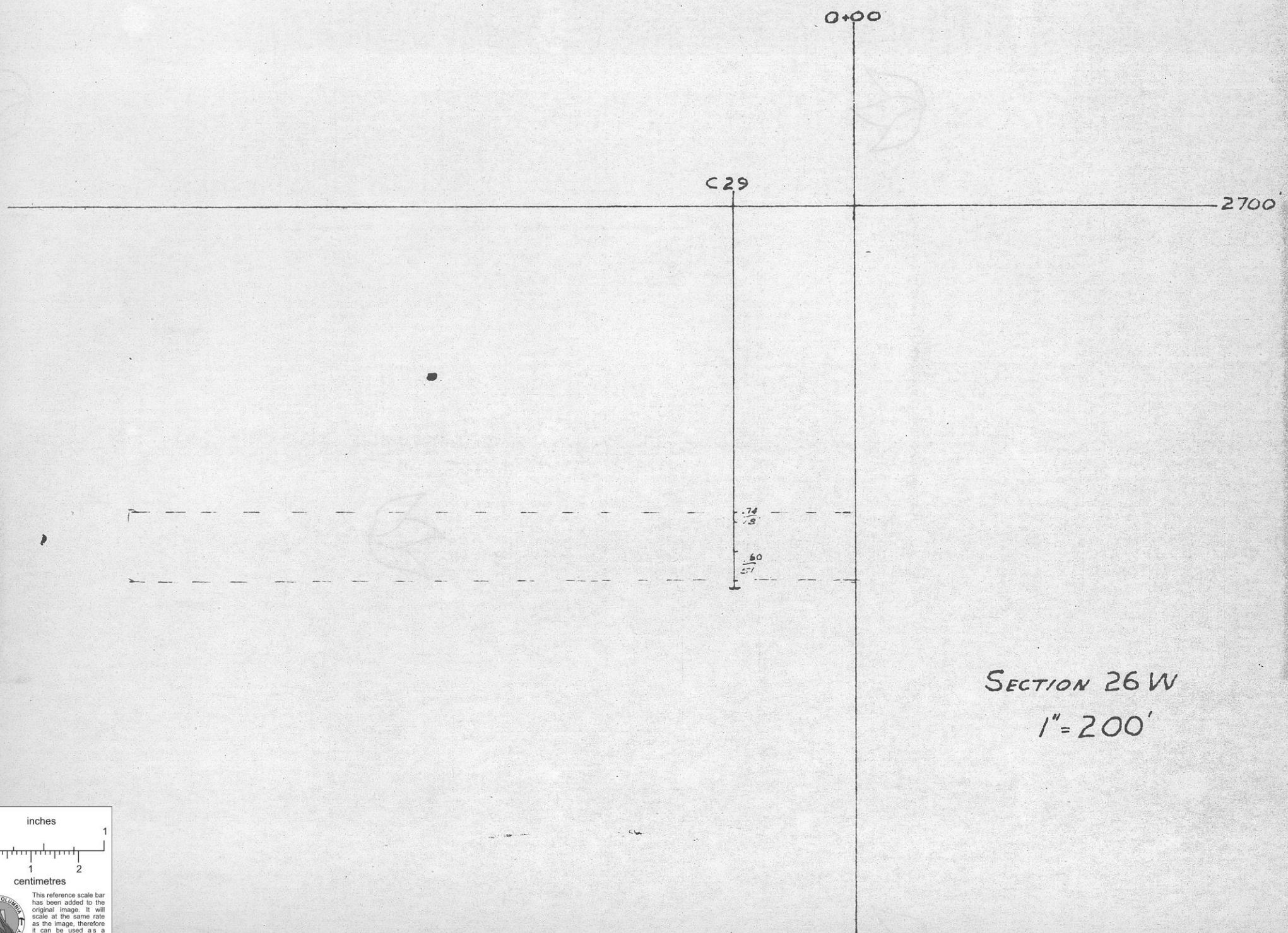

SECTION 26 W

1" = 200'

SUNSET 10
SUNSET 14
SUNSET 15
SUNSET 17
COPPER CREEK
No 5-E
No 1-E -45°
No 2-E -55°
No 3-E -45°
No 6-E -45°
No 7-E Vert 90°
No 8-E -45°
No 9E Vert 480'
Core {11.0 - 139.5 : 128.5' - 0.7 Cu
138.5 - 166.5 : 28.0' - 1.0 Cu
166.5 - 250.5 : 84.0' - 0.3 Cu
250.5 - 480.0 : 229.5' - Tr
Sludge 70.0 - 260.0 : 190.0' - 0.6 Cu
Core 41.5 - 460.0'
Sludge 10.0 - 460.0
(uniformly low assays)
Hole caved poor ground
General attitude of schistosity
Continuous Ad+ Sampling 1.37 % Cu
65-1 Vert Depth 151' 0.57 % Cu with chalcocite
65-2 Porph Dike?
65-3 Porph Dike?
Core 55-105 50' 0.6
Sludge 55-105 50' 0.7
M-1 M-2 M-3 M-4 M-5 M-6 M-7 M-8 M-9 M-10 M-12 M-13 M-17 M-18 M-19 M-20 M-24 M-25
Extremely heavy pyrite
Extremely heavy Py.
Lake (Swamp)
Base Line 1965 S 37° E
No sampling
LEGEND
Drilling
Major Mines 1959-60 Diamond Drilling
Malabar 1963
1964
Gibraltar 1965 Percussion Drilling
1965 Diamond Drilling
Assays % Cu
Note: Map compiled from various plans of Major Mines, Malabar Mining Co. and Gibraltar Mines Ltd
The Consolidated Mining and Smelting Company of Canada Limited
DRAWN BY: DWH   TRACED BY: RAS
REVISED BY RAS Aug. 1965
Oct 1965
93B/9
COPPER CREEK PROPERTY
GIBRALTAR MINES LTD
Plan of Adit and 1959, 1963, 1964, 1965 Drilling
SCALE: 1" = 40 ft   DATE: August 1965   PLATE: G1B-1
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.
BRITISH COLUMBIA GEOLOGICAL SURVEY

Z 7
PAN 5
Z 5
Z 8
PAN 4
Z 3
Z 15
Z 6
PAN 3
Z 1
Z 4
Z 13
Z 16
Z 14
Z 1
PAN 1
Z 2
Z 12
AL 19
Z 9
AL 21 FR
AL 17
AL 20
AL 1
PAN 2
A
Z 10
XAIRE 2
AL 2
AL 3
XAIRE 1
AL 15
AL 18
AL 4
B
AL 5
AL 20 FR
AL 13
AL 16
AL 6
AL 7
D
C
AL 9
AL 14
AL 8
AL 10
AL 11
AL 12

inches
0 1
0 1 2
centimetres

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.

MALABAR- GIBRALTAR

COPPER CREEK PROPERTY

PLAN SHOWING

SOIL SAMPLING ANOM'S

A B C & D

Sept 64 scale 1" = 1000'