

WASTON - HIGHLAND BEAL MINES CO.
RED CLAIM GROUP

REPORT ON TRENCHING

May, 1966

92-K

673286

M.F. Cowan

RED CLAIM GROUP

Report on Trenching

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Introduction:

Initial geological, geochemical, and geophysical work was carried out on the Red claim group on West Redonda Island during May of 1965, as outlined in the report by W.R. Bacon.

During May of 1966, further investigation was made of the chalcopyrite and molybdenite mineralization. The principal effort was directed toward trenching across mineralized zones and obtaining chip samples, each sample representing 10 foot sections in plan. Muck sampling was carried out along a mineralized section of highly fractured diorite where a logging road cut through the rock. A bulldozer was used to strip overburden in a number of places where preliminary hand mucking for blasting preparations would not have been feasible.

Trench locations are given on the accompanying location map (back pocket). Included in the report are detailed trench maps showing copper and molybdenum assays, and trench logs.

Results:

Zone 'A': Trenches 4 and 9 were bulldozed across the zone of fresh jointed diorite. Sulfide mineralization in this zone is confined principally to closely spaced joint planes in the diorite; only rarely does it occur in disseminated form and in these instances it occurs locally near the joints. Pyrite is the dominant sulfide mineral and is sometimes accompanied by chalcopyrite and very minor molybdenite.

The highest Cu assay for trench 4 is 0.22% and most of the 10 foot sections have Cu assays of less than 0.1%. MoS₂ assays are all very low. The highest Cu assay for trench 9 is 0.05% and here, also, MoS₂ assays are low.

Zone 'B': Zone 'B' consists of a hornblende porphyry dike mineralized with chalcopyrite and molybdenite. Assays for both Cu and MoS₂ are the highest obtained for all the zones that were trenched but most are still below ore grade.

Trench 1 has one high Cu assay of 0.53% but a number are in the range of 0.3% - 0.5%. MoS₂ assays are generally low, the highest being 0.07%. Trench 2 has a high Cu assay of 0.60% but all others are below 0.40%. The high MoS₂ assay is 0.03%. Trench 5 has a high Cu assay of 0.26% and a high MoS₂ assay of 0.03%. Trench 6 gives a Cu assay of 0.69% but most are below 0.40%. MoS₂ assays are low, the highest being 0.04%. Trench 8 gives a high Cu assay of 0.53% but the remainder are below 0.2%. The high MoS₂ assay is 0.16% over the same section as the high Cu. All the other MoS₂ assays are low, being 0.2% or less.

Zone 'C': Zone 'C' consists of fractured and jointed diorite near the contact with the hornblende porphyry dike. Trench 7, which cuts across this zone, shows a maximum Cu assay of 0.36%, but most are very low. MoS₂ assays are low except for one 10 foot section which shows 1.21%, and an adjacent one which shows 0.57%.

Zone 'D': Zone 'D', which consists of highly fractured diorite, was muck sampled along a logging road, the samples being taken at 50 foot intervals along the road. Each sample represents about 50 pounds of rock. Cu assays are extremely low, none being greater than 0.1%. The maximum MoS₂ assay is 0.02%.

Discussion:

Assay results from trench samples of Zone 'A', 'C', and 'D' of the Red claim group indicate non-economic concentrations of copper and molybdenum. While several Cu and MoS₂ assays from trenches on the 'B' zone are interesting, two factors militate against the economic potential of this zone. One factor is that the few relatively high grades obtained are those in the range of low grade, large tonnage, copper deposits. The second factor is that the 'B' zone, which shows the best grades, consists of a vertically dipping hornblende porphyry dike of very limited areal extent, having a strike length of about 1200 feet and an average width of about 150 feet. It is evident, then, that on the basis of size and grade, the 'B' zone could not, at present be considered as ore.

The hornblende porphyry dike of the 'B' zone may have formed by the filling of a large-scale gash fracture adjacent to a major fault zone just to the north of it. This would explain its relatively limited strike length.

There remains the possibility that fracturing of the hornblende porphyry or diorite near the contact has formed locii for ore concentrations but this is not evident from surface investigation. The sulfide mineralization in the hornblende porphyry occurs as disseminations and disseminated clots in the rock and its concentration in fractures would seem unlikely, unless late hydrothermal solutions were associated with the intruding hornblende porphyry.

Conclusions:

Chip sample assays indicate that the 'A', 'C', and 'D' zones of the Red claim group contain too low concentrations of copper and molybdenum to be considered potentially economic. The highest assays were obtained for samples from the 'B' zone but only several reach what can be considered ore grade and no ore tonnage is evident.

October, 1966

M. F. Cowan.

MASTODON-HIGHLAND BELL MINES LTD.

May 21st, 1966 - REDONDA "B" ZONE
 TRENCH NO: 2

Going West 0 - 10W	Hornblende porphyry, disseminated pyrite, chalcopyrite, sulphides ^{formed} found from partially altered hornblende phenocrysts. Rock well fractured in places, and weathered along fractures.
10 - 20	Same, leaner in sulphides.
20 - 30	Same.
30 - 40	Hornblende porphyry relatively fresh, sulphides more abundant.
40 - 50	Same.
50 - 60	Same. Joints, E-W 90. Prominent hornblende phenocrysts. Abundant pyrite, chalcopyrite.
60 - 70	Same, with strongly brecciated portions.
70 - 80	Lean in sulphides, strongly brecciated portions - deeply weathered.
80 - 90	Abundant pyrite, chalcopyrite in fresh portions.
90 - 100	Abundant pyrite, chalcopyrite and molybden ^{ite} um. Moly in siliceous portion of breccia, adjacent to quartz-filled fractures.
100 - 110	Abundant pyrite and chalcopyrite.
110 - 120	Weathered, sporadic molybden ^{ite} um.
120 - 130	Pyrite, chalcopyrite in hornblende phenocrysts.
130 - 140	Same.
140 - 150	Same - Chalcopyrite predominant over pyrite in places.
150 - 160	Abundant pyrite, chalcopyrite and some moly along fractures. Pyrite and chalcopyrite as disseminations. Rounded dark breccia fragments - prominent.
160 - 170	Same.

May 21st, 1966 - REDONDA "B" ZONE
TRENCH NO: 3

0 - 10W	Fresh hornblende porphyry, prominent hornblende phenocrysts, lean in sulphides, chalcopyrite and moly along fractures. Magnetite disseminated - as discrete grains and with hornblende.
10 - 20	Disseminated pyrite, chalcopyrite very lean.
20 - 30	Disseminated pyrite, chalcopyrite fairly abundant. At 30, jointing N70E, 90; N25W, 80E. Few or no hornblende phenocrysts.
30 - 40	Fresh rock - disseminated pyrite, chalcopyrite, lean.
40 - 50	Fresh rock - abundant chalcopyrite along quartz filled fractures.
50 - 60	Disseminated pyrite, chalcopyrite, lean in sulphides.
60 - 70	Chalcopyrite and moly along small fractures, hornblende phenocrysts prominent.
70 - 80	Hornblende and plagioclase phenocrysts prominent, quartz eyes; very lean in sulphides.
80 - 90	Same.
90 - 100	Same, with chalcopyrite sporadically abundant.
100 - 110	Feldspar phenocrysts prominent, very lean in sulphides, sporadic minor moly in fractures filled with rotten quartz.
110 - 120	Hornblende phenocrysts prominent, very lean in sulphides.
140 - 170	Same - sporadic, minor moly.
170 - 175	Fractured and weathered with fairly abundant disseminated chalcopyrite; moly in places.
175	At 175 - Abundant moly and some chalcopyrite in fractures and brecciated portions filled with rotten quartz. Some bornite (?) also.

May 21st, 1966 - REDONDA "A" ZONE
CAT TRENCH 4

0 - 10W	Fresh diorite, abundant pyrite, chalcopyrite along fracture surfaces.
0 - 20E	Fresh diorite, abundant pyrite along fracture surface, trace of moly at 20E.
20 - 50	Diorite; pyrite, chalcopyrite along fractures. Pyrite greatly dominant over chalcopyrite. At 45, pyrite, chalcopyrite, moly in quartz filled fractures.
50 - 70	Some; possible trace bornite at 70 (?).
70 - 150	Diorite; pyrite along fractures, very lean in chalcopyrite.
150 - 200	Diorite; very lean in sulphides - pyrite lean along fractures.
200 - 210	Same, some chalcopyrite along fractures.
210 - 240	Same. Some chalcopyrite at 240.
240 - 270	Diorite. Sulphides very lean at 270 - some disseminated pyrite.
270 - 280	Some disseminated pyrite and minor chalcopyrite.
280 - 300	Pyrite along fractures, with chalcopyrite abundant in some.

May 22nd, 1966 - REDONDA "A" ZONE
TRENCH 4 (SHADOZE)

- 300 - 320 Pyrite along fractures. Chalcopyrite sporadically abundant along fractures.
- 320 - 340 Pyrite and chalcopyrite along fractures, disseminated in places, minor moly in places.
- 340 - 420 Pyrite and minor chalcopyrite along fractures. Minor moly at 350.
- At 420 - Quartz filled fracture with prominent clots of chalcopyrite and moly. Chalcopyrite very minor relative to pyrite almost everywhere.
- 420 - 450 Pyrite along fractures, but very lean - very little chalcopyrite.
- 450 - 460 Pyrite along fractures, also chalcopyrite and moly in quartz filled fractures.
- 460 - 520 Fresh diorite, very little pyrite along fractures, negligible chalcopyrite.
- 520 - 543 Small amounts of chalcopyrite along fractures with minor pyrite. Minor moly also along some quartz-filled fractures.

COMMENTS: Some deep blue and violet coloured mineral associated with chalcopyrite, may be bornite or covellite but more likely only a tarnish due to weathering - produces(?) chalcopyrite coloured streak.

May 27th, 1966 - REDONDA "B" ZONE
TRENCH 5

Going East

0 - 10	Hornblende porphyry, minor pyrite, chalcopyrite where these have partially replaced hornblende phenocrysts. Where brecciation was pronounced, relatively abundant pyrite and chalcopyrite.
10 - 20	Brecciated, lean in chalcopyrite, minor moly.
20 - 50	Brecciated, pyrite abundant, chalcopyrite lean, very little moly sporadically.
170 - 190	Brecciated, with abundant disseminated pyrite and very minor chalcopyrite. Negligible moly. Quartz eyes stand out on weathered surface.
190 - 200	Same, except chalcopyrite slightly more abundant.

May 27th, 1966 - REDONDA "B" ZONE
TRENCH NO. 6

- | | |
|------------|---|
| 0 - 37W | Diorite, fresh in places, with some fractured and brecciated portions. Pyrite along fractures and minor chalcopyrite. Abundant magnetite. |
| 0 - 4E | Same, at 4E, contact with hornblende porphyry di like. |
| 4 - 30 | Hornblende ^{porphyry} , hornblende phenocrysts prominent, and quartz eyes, apparently little brecciation; very minor pyrite and chalcopyrite. |
| 30 - 60 | Hornblende porphyry, negligible brecciation; minor pyrite, chalcopyrite disseminated, and at centers of partially altered hornblende phenocrysts. Veins of rotten quartz several inches in width with no sulphides. |
| 60 - 150 | Consistent rock character and tenor. Brecciated hornblende porphyry, fairly abundant chalcopyrite as disseminated clots. Chalcopyrite dominates over pyrite. Very sporadic minor moly associated with chalcopyrite and in proximity to quartz veinlets. |
| 150 - 190 | Same, except chalcopyrite clots smaller. Moly es sporadically occurring clots with chalcopyrite. |
| 190 - 250E | Hornblende porphyry - negligible brecciation, lean in chalcopyrite, pyrite. Negligible moly. Sulphides at centres of partially altered hornblende phenocrysts. |

May 30th, 1966 - REDONDA "C" ZONE
TRENCH NO: 7 (BULLDOZED)

to 56 & 75
57 & 30

Diorite, fresh, fractured. Some pyrite along fractures -
chalcopyrite also, but very minor.

to 58 & 20
58 & 90

Abundant moly along fractures at 58 & 40 and some chalcopyrite.
Diorite, fresh, fracture, minor pyrite along fractures.

to 58 & 90
59 & 70

More weathered and pitted diorite, with pyrite along fractures
and in pits. Some fresh portions. Minor chalcopyrite as at
59 & 30, along fractures. Negligible moly.

May 30th, 1966 - REDONDA "C" & "B" ZONES
TRENCH NO: 8 (BULLDOZED)

- | | |
|----------|--|
| 10 - 75E | Minor chalcopyrite and moly near 40E. All diorite, fresh in portions, fractured with pyrite along fractures. Pyrite mineralization is sporadic. Contact with hornblende porphyry at 75E. |
| 75 - 85 | Hornblende porphyry - brecciated on west side, gradational on east side into diorite. Some disseminated pyrite and minor chalcopyrite. |
| 85 - 210 | Very minor chalcopyrite at 155E. At 170E, narrow offshoot of hornblende porphyry (?) 1' across with some disseminated pyrite and minor chalcopyrite. |

GENERALLY: Diorite, fresh and weathered portions, pitted in place with pyrite in pits and along fractures.

May 31st, 1966 - REDONDA "A" ZONE
TRENCH NO: 9 (BULLDOZED)

0 - 90W

Diorite - well fractured with pyrite occurring sporadically along fractures. Pyrite abundant in several places. Chalcoppyrite very minor to negligible.

0 - 60E

At 10E, minor chalcoppyrite along fractures - at 20E, minor moly in quartz-filled fracture.

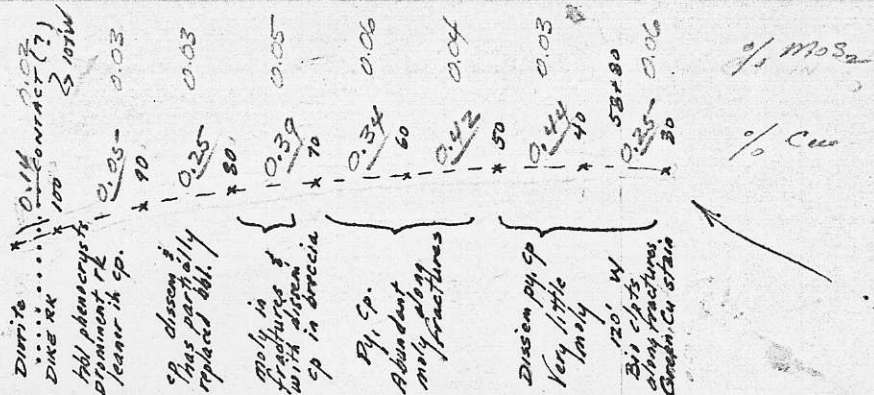
At 40E, chalcoppyrite fairly abundant in several places along fractures.

GENERALLY: Diorite, fractured and weathered near surface but fresh underneath. Pyrite along fractures but not consistent. Only minor, sporadic chalcoppyrite and negligible moly.

TRENCH LENGTH = 210'

MAY 19/66
 TR-1 REDONDA "B" ZONE
 SCALE: 1" = 20'
 MAP OF TRENCH # 1
 AND
 10' CHIP SAMPLES

TO 56E, 69+29N



DISTANCE	SAMPLE #'S
0-106E	99362 - 99372
0-107W	99376 - 99386

Abundant dissem py. sp in breccia, few qtz filled fractures and very little moly

Approx. Same type and amt of S mineralization from 0-107E
 Brecciation prominent
 Green / Cu stain sporadic

Lean in Sulphides

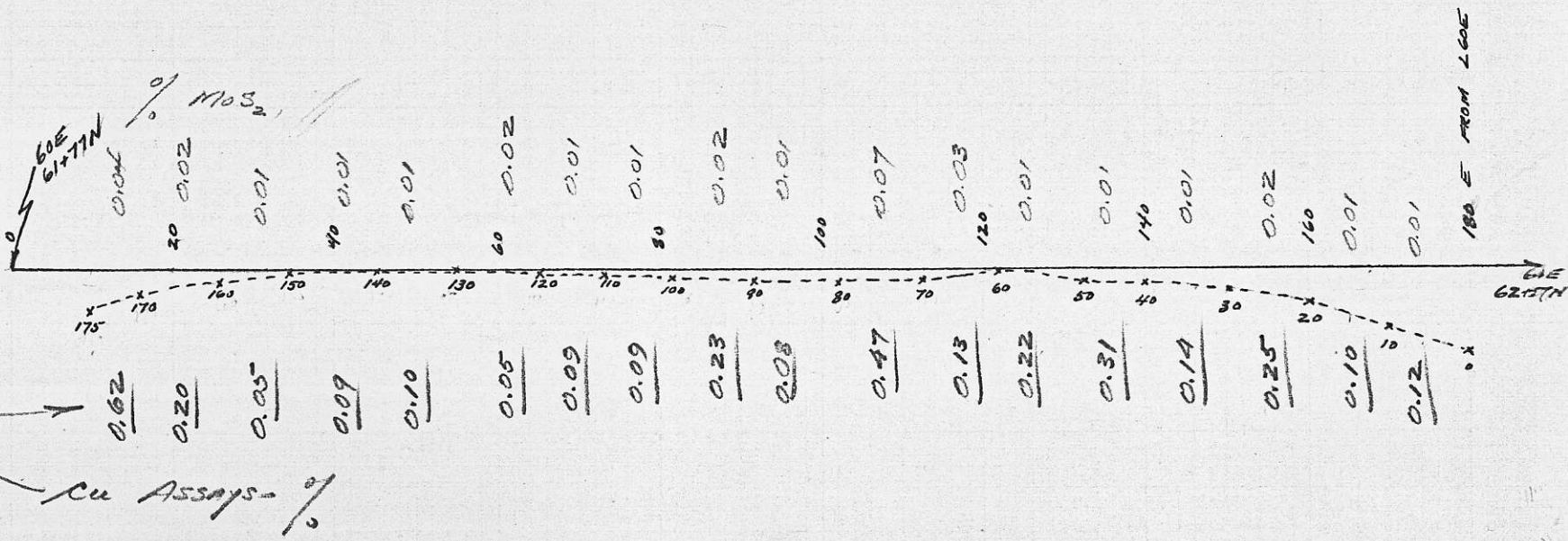
Same

Same - Abundant moly in small qtz filled fractures, qtz Cu staining fractures

Same - Same moly in qtz filled fractures as dissem in siliceous portion of breccia
 Recemented breccia(?) Abundant dissem py. sp. CuS 0.02 in both light and dark segments - Dark in portions with weathering most, giving pitted weathering surface
 sp. several % in places

DISTANCE	SAMPLE #'S
0-175 W	99404-99421

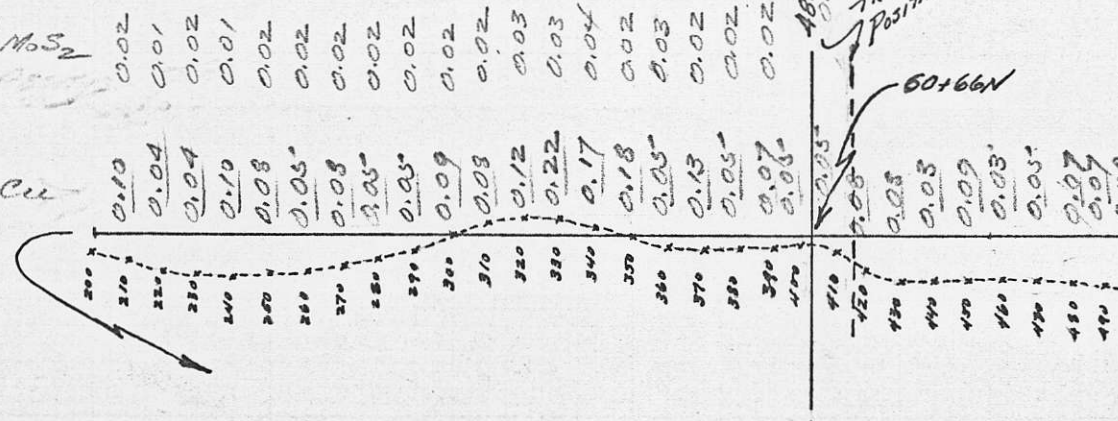
MAY 21/66
 REDONDA 'B' ZONE, TR-3
 1" = 20'
 MAP OF TRENCH 3
 AND
 10' CHIP SAMPLES.
 TOTAL LENGTH OF TRENCH - 170'



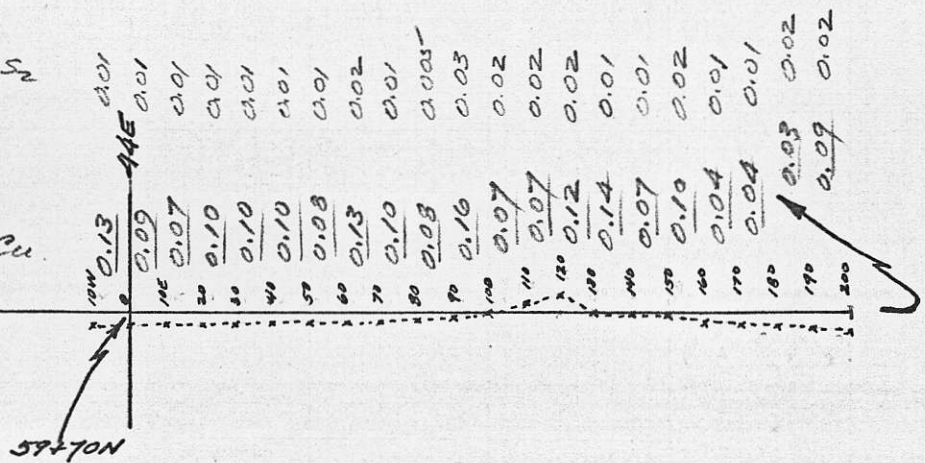
DISTANCE SAMPLE #'S
 0- 543'E 99422-99476

MAY 21/66
 REDONDA 'A' ZONE
 (CAT) TR-4
 MAP OF TRENCH AND SAMPLES
 1" = 50'
 TRENCH LENGTH = 535'

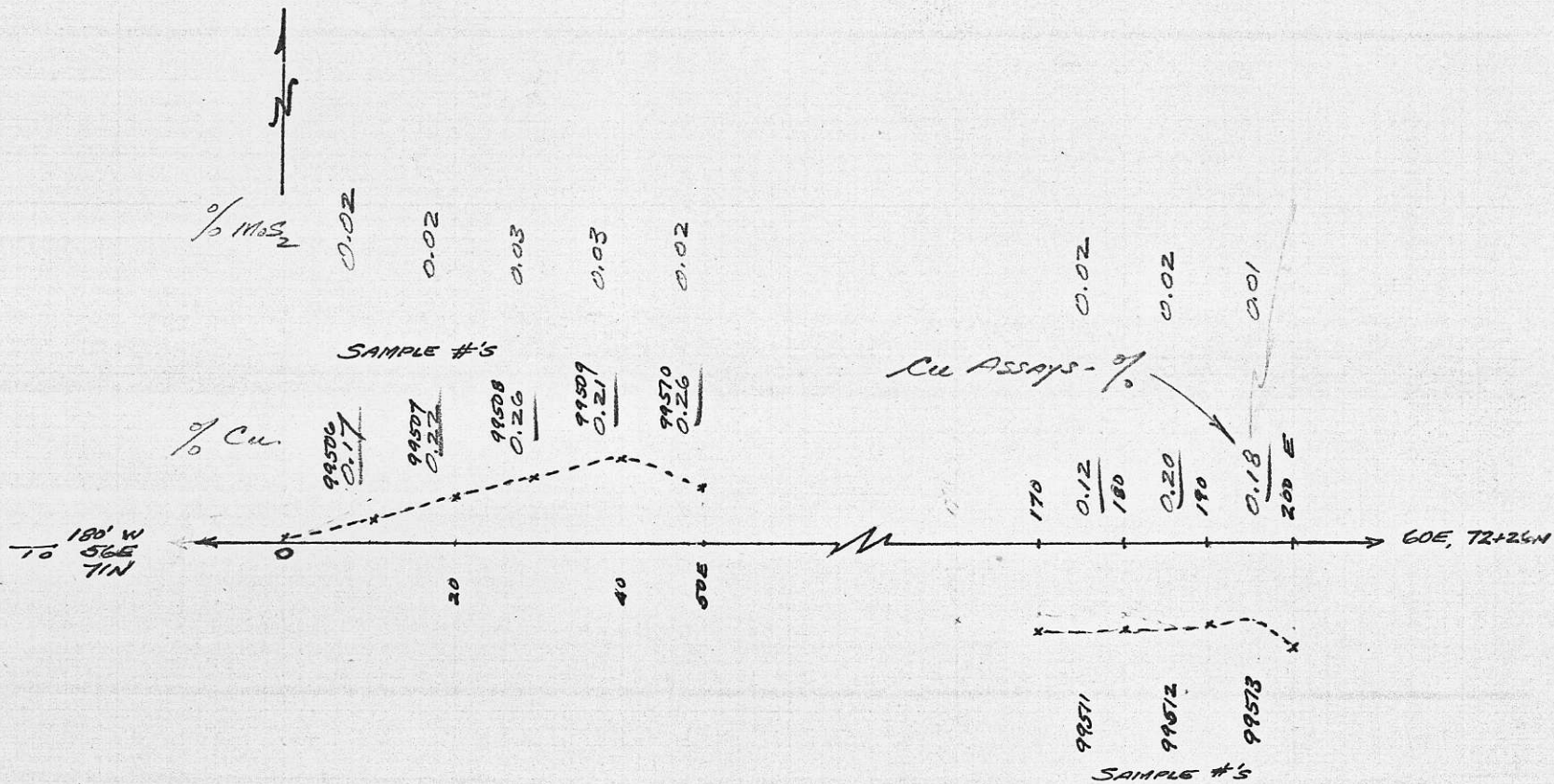
% MoS₂
 % Cu



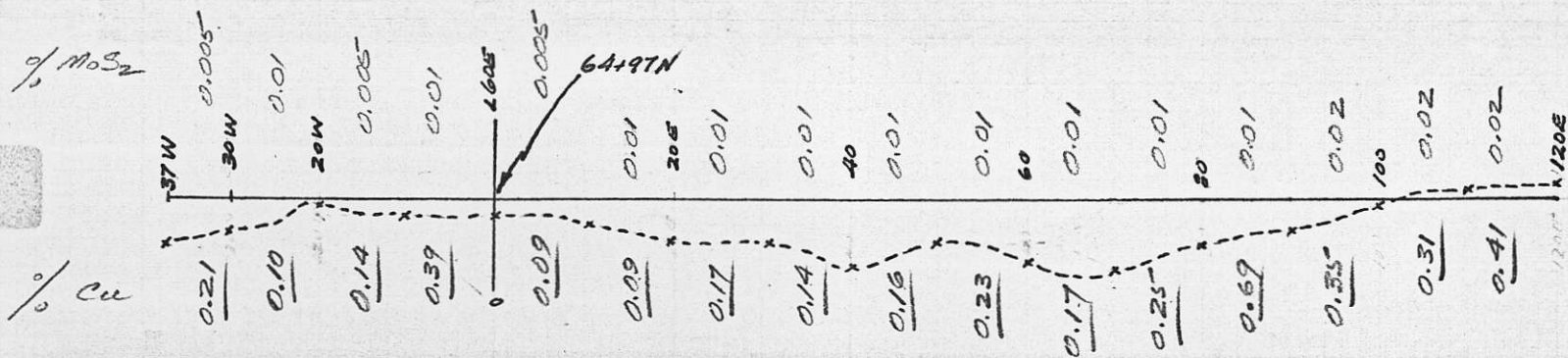
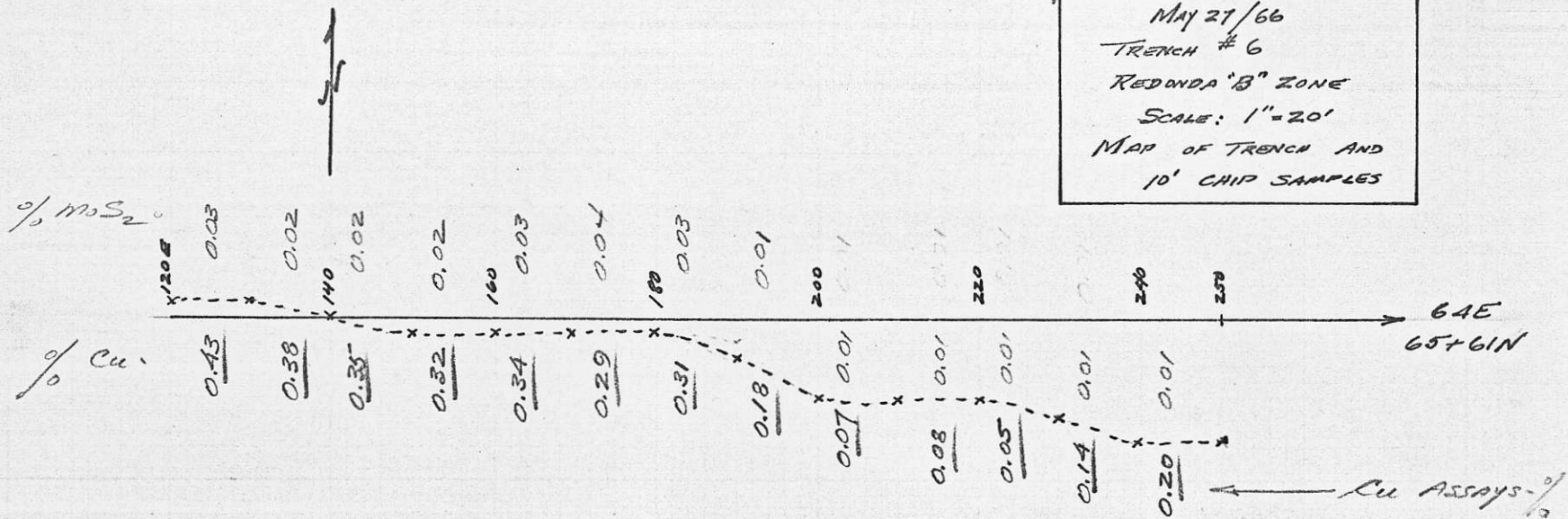
% MoS₂
 % Cu



May 27/66
 TRENCH #5
 REDONDA "B" ZONE
 SCALE: 1" = 20'
 MAP OF TRENCH AND
 10' CHIP SAMPLES

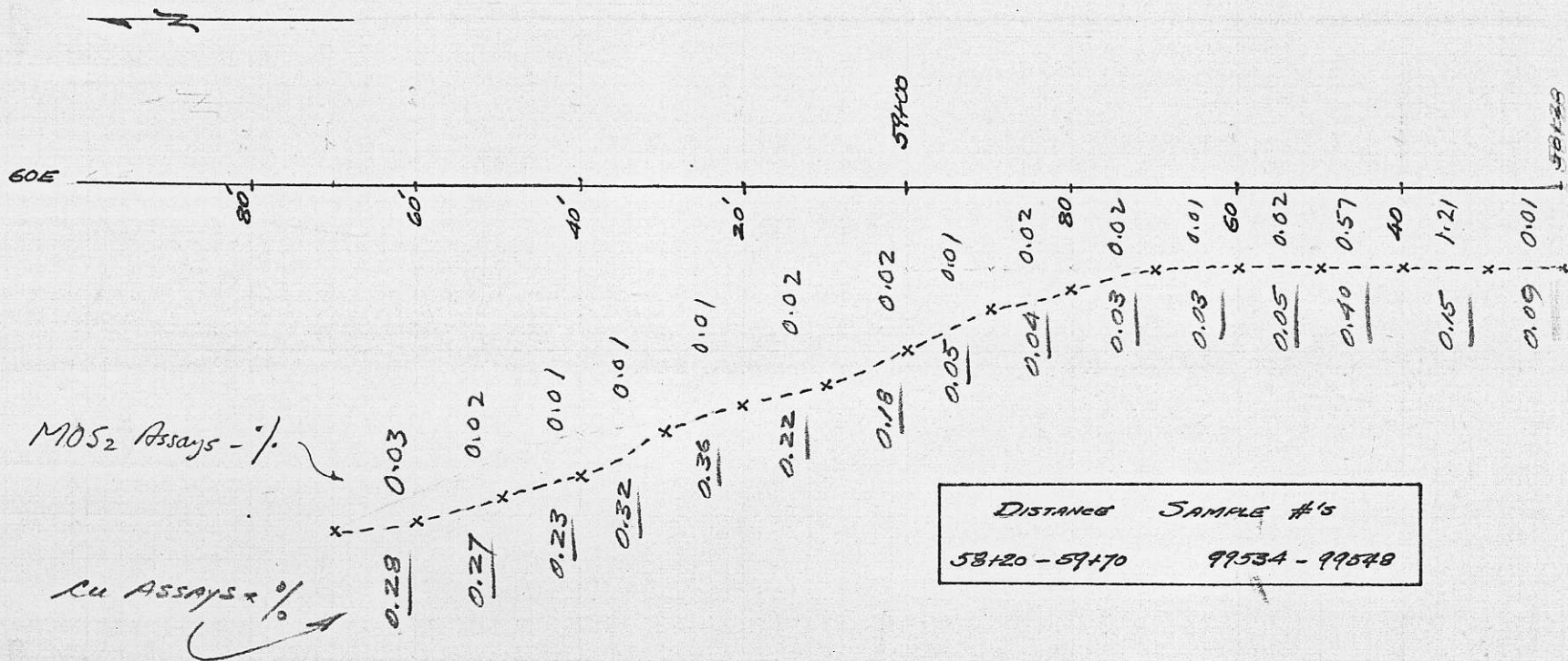


MAY 21/66
 TRENCH # 6
 REDONDA "B" ZONE
 SCALE: 1" = 20'
 MAP OF TRENCH AND
 10' CHIP SAMPLES



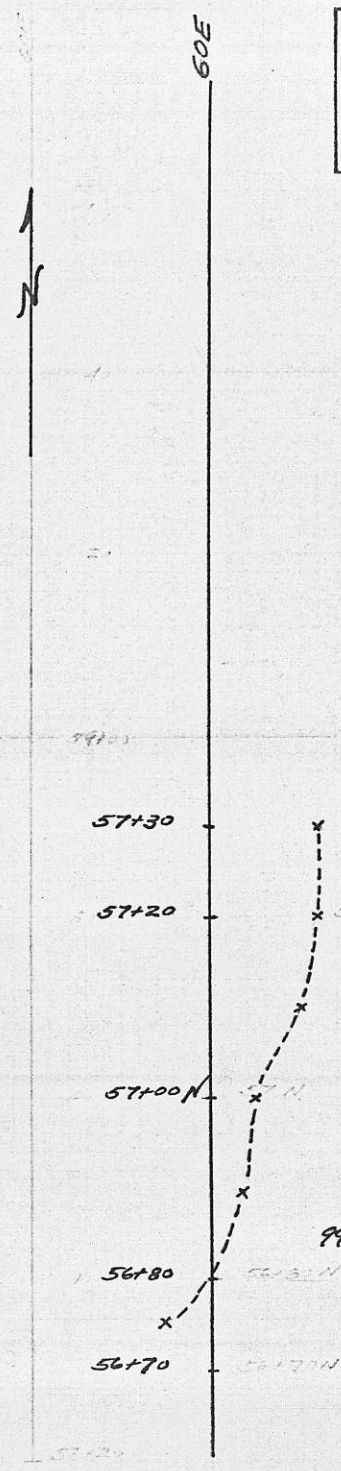
DISTANCE	SAMPLE #
37W-0	99477-99480
0-250E	99481-99505

MAY 30/66
 TRENCH # 7
 AND SAMPLE # LOCATION
 REDONDA "C" ZONE
 SCALE: 1" = 20'



DISTANCE SAMPLE #'S
 58120 - 59170 99534 - 99548

MAY 30/66
 TRENCH # 7, REDONDA 'C' ZONE
 AND SAMPLE # LOCATION
 SCALE: 1" = 20'



Cu Assays - %

SAMPLE #'S	Cu Assays - %	MoS ₂
99533	0.10	0.01
99532	0.04	0.01
99531	0.05	0.01
99530	0.03	0.01
99529	0.03	0.005

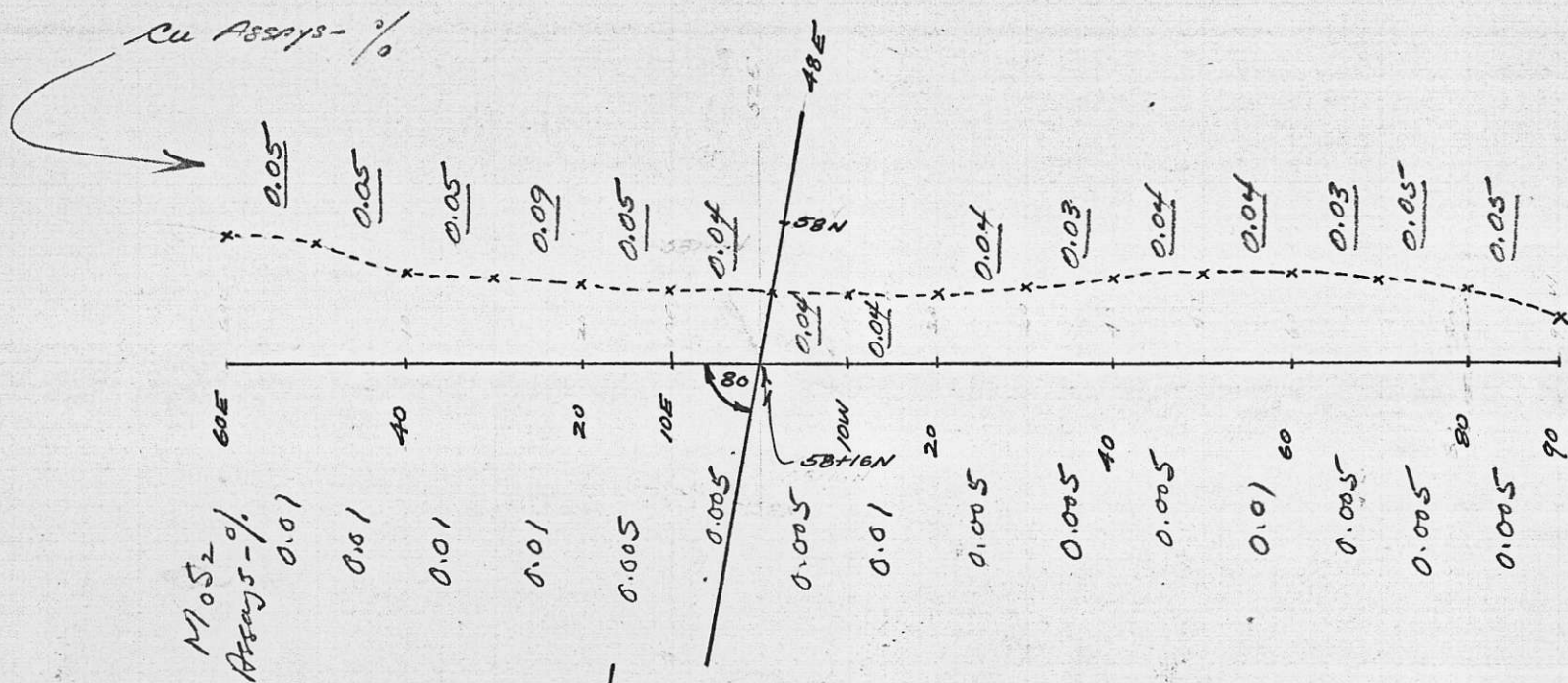
MoS₂



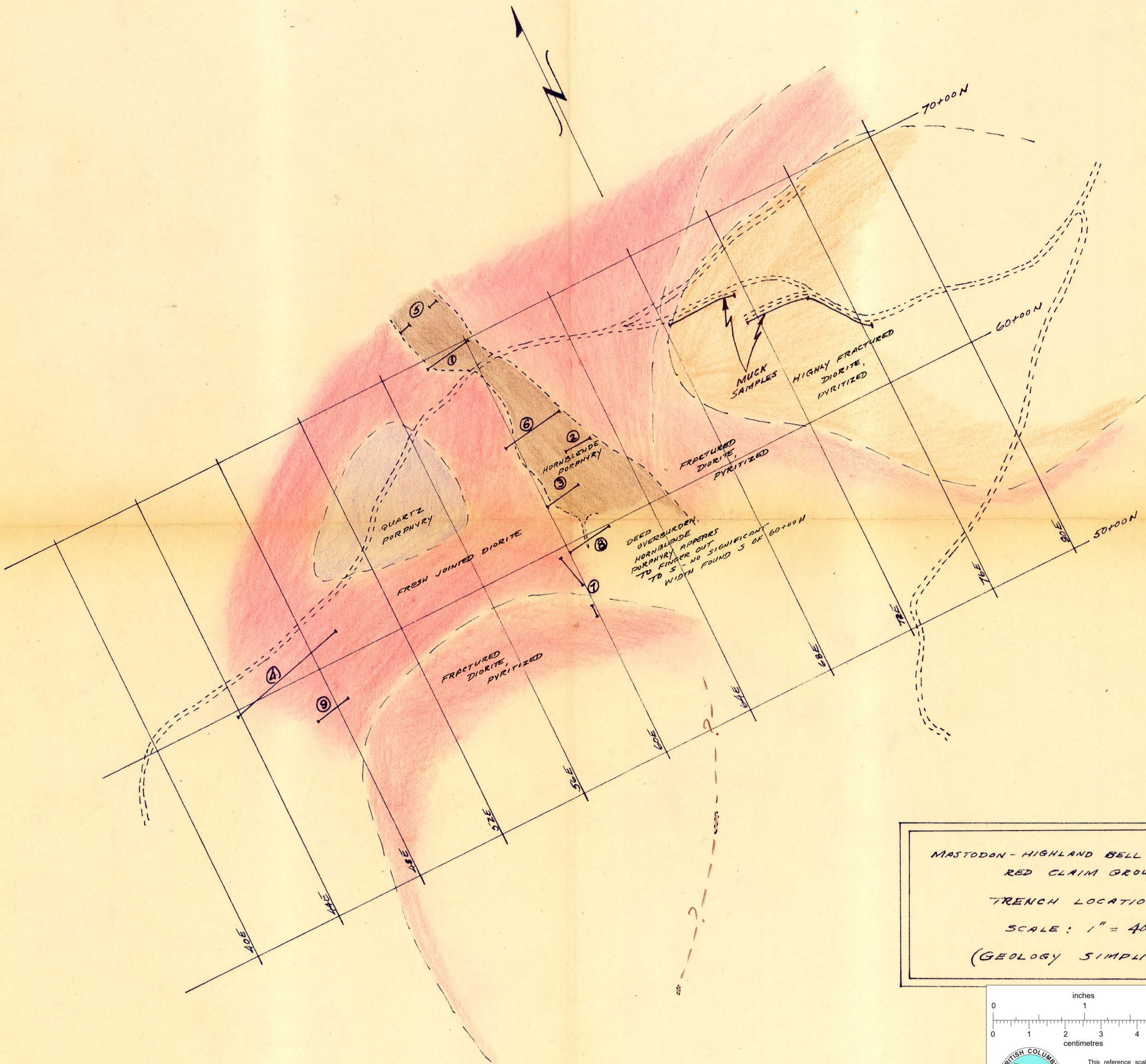
DISTANCE	SAMPLE #
10E-110E	94530, 93076-93084
120E-216E	93085-93094

MAY 30/66
 TRENCH # 8
 WITH SAMPLE # LOCATION
 REDONDA "C" AND "B" ZONE CONTACT
 SCALE: 1" = 20'

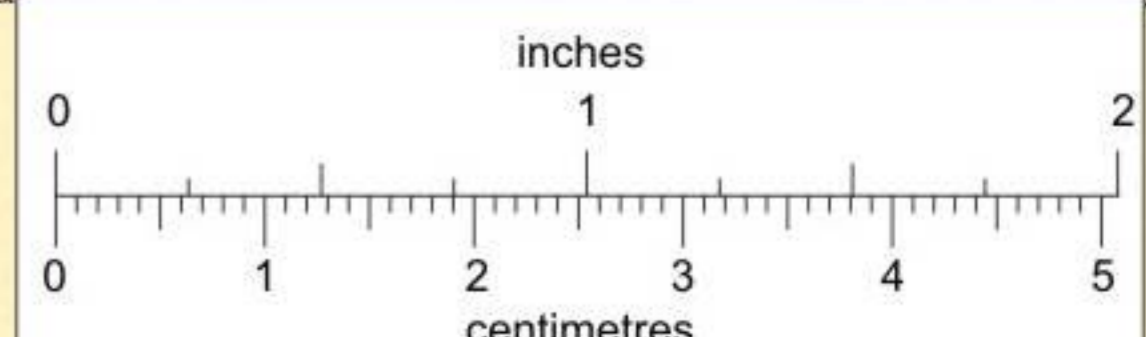
May 31/66
 MAP OF TRENCH #9
 AND SAMPLE #
 LOCATION
 REDONDA "A" ZONE
 SCALE: 1" = 20'



DISTANCE	SAMPLE #
0-60E	99514-99519
0-90W	99520-99528



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 RED CLAIM GROUP
 TRENCH LOCATION
 SCALE: 1" = 400'
 (GEOLOGY SIMPLIFIED)



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.