CANEX AERIAL EXPLORATION LTD.

DIVISION OF CANADIAN EXPLORATION LIMITED

700 BURRARD BUILDING VANCOUVER 5, B. C. CANADA

800591

PROGRESS REPORT
KRAIN PROPERTY - VENTURE 82
KAMLOOPS MINING DIVISION
BRITISH COLUMBIA

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Senior Geologist.

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Senior Geologist.

CED/ETL/nf
March 1966
Vancouver, B.C.

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SUMMARY:

Mr. E. T. Lonergan's ore calculations, based on an open-pit operation, are summarized as follows:-

5190 Datum Elevation:

(A) Cut off grade at 0.30% Cu
8.67 million tons of milling ore with an average grade of 0.52% Cu.

13,053,625 million tons of leach ore with an average grade of 0.216% Cu.

The upper portion of the 8.67 million tons of milling ore would not be available until 3.5 million tons of waste and 2.17 million tons of leach ore had been removed.

(B) No cut off grade defined.
Measured ore (within 200 feet of drill holes) - 7.48 million tons with an average grade of 0.298% Cu.

Indicated ore (greater than 200 feet of drill holes and partly on projections based on geologic evidence) - 23.35 million tons with an average grade of 0.203% Cu.

The copper equivalent factor of 0.150% is an arithmetic average and can not be added to any of the average grades referred to above. The specific recoverable equivalent factor is both unknown and untested.

RECOMMENDATIONS:

The Krain property in the writer's opinion is considered to embrace a large tonnage of copper mineralization that is submarginal under present day conventional milling procedures. There is little evidence to indicate that additional diamond drilling would intersect better grade material that would up-grade the area tested by diamond drilling to date. Continued studies into the possibility of recovering copper values by bacterial and chemical leaching may produce some encouragement.

PROPERTY:

The Krain property, consisting of 32 mineral claims, is located in the Highland Valley area of Southern British Columbia. The claims are 15 miles southeast of Ashcroft and in the Kamloops Mining Division at approximately 50° 35' N latitude and 121° 00' W longitude. The registered owner is Estey Agencies Ltd. of Suite 404 - 510 West Hastings Street, Vancouver, B. C. The claims are detailed as follows:-

Name of Claim	Group	Record No.	Expiry Date
Krain Copper	BOSE	5298	13 July 1981
Krain Nos. 1,2,3,14	"	14939,40,41,52	13 June 1971
Krain No. 5	"	14943	13 June 1978
Krain Nos. 4,6,7,9,10	"	14942,4,5,7,8	13 June 1969
Krain Nos. 8,11	"	14946,9	13 June 1970
Krain No. 12	"	14950	13 June 1973
Krain No. 13	"	14951	13 June 1980
D. W. Nos. 1,2,4,5	"	23810,11,13,14	11 June 1967
D. W. No. 3	"	23812	11 June 1968
D. W. No. 6	"	26318	11 June 1966 Soon to expire
D. W. No. 1 Fr.	"	23840	8 June 1967
Krain Nos. 1,3,6,Fr.'s	"	20504,6,9	20 Feb. 1970
Krain Nos. 2 & 5 Fr.'s	"	20505,8	20 Feb. 1971
" " 4 Fr		20,507	20 Feb 1980

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Name of Claim	Group	Record No.	Expiry Date
Krain No. 4 Fr..	BOSE	20507	20 Feb. 1980
F. 17 to 20 Fr.'s Inc.	"	43728/31	26 June 1966

* * *

Salmo Prince Mines Limited of Room 211, 615 West Pender Street, Vancouver 2, B.C., are the registered owners of the Prince Lake 3 to 8 mineral claims, formerly the Ann Nos. 3 to 8. The Ann mineral claims may have been recorded prior to the D.W. 2, 4, 5, and the D. W. No. 1 Fr. that form part of the Krain property. Should this new group be in good standing, then the area they overlap does not belong to the Krain property.

REGIONAL GEOLOGY:

The Krain, Bethlehem, Trojan, and Skeena Silver (Lornex) properties are located in the Guichon Batholith. The mass of the batholith is a quartz diorite that has undergone repeated intrusions of later igneous rocks. The quartz diorite has been dated as early Mesozoic (Lower Jurassic) and occupies an area of approximately 350 square miles. Remnants of the Kamloops Group volcanics of Miocene age cover portions of the area.

Several bodies of younger quartz diorite were first emplaced in the older quartz diorite mass of the batholith and were followed by later intrusions of porphyry dykes. The latter occur as dyke swarms and tend to be aligned in a Northsouth direction along the long axis of the batholith. A breccia consisting of porphyry fragments, although not located on the Krain property, forms part of the mineralized zones in the Trojan and Bethlehem properties.

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GEOLOGY OF THE KRAIN PROPERTY:

The volcanic cap rock on the Northern fringe of the area drilled on the Krain Copper Mineral Claim has a thickness of 265 feet as defined by drill hole No. 4 (completed February 1956). The older quartz diorite, which is referred to as the Guichon quartz diorite in this report, embraces the mineralized area. The Guichon is intruded by younger quartz diorite and dyke rocks containing appreciable amounts of copper mineralization.

Guichon Quartz Diorite:

In drill core specimens, the Guichon quartz diorite is medium to coarse grained rock and occasionally has a granular or porphyritic texture. The colour is whitish or light grey. In thin-section, Mr. D. A. Barr defines the composition as, "60% plagioclase, 10% orthoclase, 15% quartz, 15% hornblende and biotite, and minor magnetite and sphene."

Younger Quartz Diorite: (Bethlehem quartz diorite)

The younger quartz diorite was designated as younger porphyry in the recent drill logs and is finer grained and more basic than the older Guichon quartz diorite. Considerable difficulty was encountered during the recent core logging in defining gradations between the older and younger quartz diorites. The younger quartz diorite tends to be slightly schistose and have a green spotted appearance due to propylitic (chlorite) alteration. In thin-section, Dr. J. A. Gower defines the constituents of the younger quartz diorite as, "35% plagioclase, 35% orthoclase, 15% quartz, 10% hornblende and biotite, and 1% opaques."

Porphyry Dykes:

The term "Porphyry Dyke" groups nomenclature as crowded porphyries, dacite, metadiorites, and finally the recent term - "Birdseye porphyry". The porphyry dykes usually have chilled edges, and flow structure near the contacts is apparent. In drill holes 11 and 13, where the porphyry dyke reached a thickness of 100 feet, a gradational change to quartz diorite was evident.

Structure:

No major fault structures have been defined with certainty in the mineralized zone. A strong fault, occupying the gulley between section lines 130,000 and 129,832 trends North 20° East and dips Northwest. The line of drill holes, Nos. 3, 5, 7, on the 129,832 section are in the footwall of this fault and suggest the latter is premineral.

The brecciation and faulting intersected in drill holes 13 and 21 are associated with the Birdseye porphyry dyke that trends Northerly and has been traced on the surface for a length of 350 feet.

The mineralized fractures in the drill core have dips varying from 45° to the vertical. Kennco Explorations postulate a strike of North 40° West as the most frequent fracture trend observed in the surface outcrops in the mineralized area.

Mineralization:

It is not possible to relate assay values to any specific rock type, as all intrusive rocks in the mineralized zone contain varying amounts of copper. The copper mineralization in the "ore zone" occurs more frequently along fractures than as random disseminations; a frequency ratio of 3:1 is suggested.

The copper mineralization of interest to date occupies an area 850 feet long by 800 feet wide and in drill hole 2 is mineralized to a depth of 1,516 feet. The potential large tonnage and low grade permits the Krain property to enter the category of the "Porphyry Copper Type Deposits".

Copper values in the mineralized area occur in a shallow saucer-shaped oxidized zone and in an immediate underlying primary zone.

The copper minerals in the oxide zone in order of predominance are chalcocite, chrysocolla, malachite, native copper, and melaconite. Pyrite is not present. The oxide zone is not limonitic although minor skims of limonite occur along fracture planes. The ratio between sulphide copper and copper oxide in the oxide zone is 1:1.

Pyrite is the predominant sulphide mineral in the primary zone, but would not exceed o.50 per cent of the rock mass. Lesser amounts of chalcopyrite, molybdenite and bornite are present. The chalcopyrite, when disseminated, is very fine grained. Bornite grains are seldom recognized in the drill core. The presence of molybdenite is likewise seldom detected in the core and the overall average MoS_2 percentage in the rock mass is 0.0338%. The silver content averages approximately 0.18 oz./ton.

Alteration:

The action of propylitic alteration in the younger quartz diorite was noted earlier in this report and was used solely as a guide in identifying the rock type.

Argillic alteration is intense in the oxidized zone. No attempt was made to identify any of the clay minerals resulting from the argillic alteration. The relative importance of this alteration in the oxidized zone is not known.

DIAMOND DRILLING:

Introduction:

The original diamond drilling on the Krain property was completed during the period 1955 - 1957 and consisted of 28 drill holes for a total of

10,194 feet. Although the results were inconclusive due to poor core recovery, they did signify that a large sub-marginal copper deposit was present on the Krain Copper Mineral Claim. The calculations by Kennco Explorations Ltd. for the mineralized zone at that date gave 5,500,000 tons of secondary copper in excess of 0.20% copper and 1,716,000 tons of primary copper. 28

North Pacific Mines diamond drilled eight drill holes for a total footage of 7,707 feet during the period January to June 1965. The emphasis during this program was to explore the mineralized zone to depth. A Canadian Longyear NX wire line drill was employed and excellent core recovery was obtained by using drill mud. The drill results indicated that copper mineralization persisted to the bottom of all drill holes; drill hole No. 2 was stopped at 1,516 feet and the lower 800 feet averaged 0.3755 per cent copper.

Canex Aerial Exploration Ltd. obtained an option on the property on 15 September 1965 from North Pacific Mines and drilled 5,872 feet of BQ series wireline during the period October 22 to December 10, 1965. Hence, the total footage drilled to the latter date totals 23,773 feet.

Diamond Drilling - Canex:

Canadian Longyear Drilling Company crews and two Diesel 4400 drill units were used during the recent drilling on the Krain property. BQ series wireline core was recovered with the use of drilling mud. The core recovery exceeded 90 per cent. The approximate daily rate of drilling with the two machines was 119 feet per day.

The outside diameter of the drill hole was 1-23/32 inches and the diameter of the core was 1-7/16 inches. The drill core was divided into 10 foot intervals and was split longitudinally into two halves; one portion was sent for assay and the remaining half was stored in core racks at the property. All of the core sent out for assay was run for total copper and only the oxidized zone was assayed for copper oxide. A composite assay sample was compiled for every 50 feet of core in each drill hole and the composite assayed for gold, silver, and molybdenite.

Drilling Costs:

The direct drilling costs paid to Canadian Longyear Drilling Co. including the latest Invoice, dated 14 January 1966, equalled $54,288.69 for 5,872 feet of drilling. The direct average cost was $9.235 per foot and includes mud costs. The specific mud costs are difficult to define and are included in the figure $1.635 per foot which represents additional costs above the basic contract price of $7.60 per foot.

(See Page 8 (a) for Table Re Drill Hole Data)

DRILL HOLE DATA:

Hole No.	North	East	Elevation	Length	Oxid. Depth
D.D.H. # 1	130,224.92	118,857.77	5,555.66	585	?
D.D.H. # 2	130,006.78	118,671.94	5,569.87	1,516	250
D.D.H. # 3	129,841.93	118,837.39	5,593.97	1,113	Nil
D.D.H. # 4	130,116.10	118,738.33	5,560.20	605	215
D.D.H. # 5	129,925.65	118,950.32	5,577.53	997	Nil
D.D.H. # 6	130,210.48	118,823.96	5,564.33	930	132
D.D.H. # 7	130,020.38	119,040.88	5,568.58	750	Nil
D.D.H. # 8	129,888.25	118,626.97	5,573.35	1,211	180
	North Pacific Total		7,707 feet		
D.D.H. # 9	129,787.16	118,476.22	5,651.70	500	157
D.D.H. #10	129,771.40	119,084.09	5,537.77	502	Nil
D.D.H. #11	130,057.58	118,470.38	5,682.35	511	450
D.D.H. #12	129,952.21	119,284.70	5,474.85	342	Nil
D.D.H. #13	130,191.04	118,615.58	5,664.03	500	440
D.D.H. #14	130,220.08	119,508.32	5,456.40	324	Nil
D.D.H. #15	130,193.80	118,344.77	5,723.03	494	332
D.D.H. #16	129,489.07	119,134.96	5,510.69	320	Nil
D.D.H. #17	130,071.97	118,190.97	5,674.22	755	240
D.D.H. #18	130,700.58	118,249.51	5,705.85	152	152
D.D.H. #19	130,378.85	117,980.04	5,773.58	290	Nil
D.D.H. #20	129,922.48	118,325.39	5,698.71	519	252
D.D.H. #21	130,467.30	118,560.72	5,697.08	500	205
D.D.H. #22	129,739.99	118,214.98	5,701.54	163	163
	Canex Aerial Total		5,872 feet		

ORE RESERVES:

The ore reserves were calculated from 40 scale vertical cross sections using assay results as controls to direction and extent of mineralization and applied to an open-pit operation extending in depth to the 5,200 elevation datum.

Summary of Calculations from Vertical Cross Sections:

1. Open Pit (5200 Datum)

Section	Measured (Tons)	Projection (Horizontal)	% Copper
(A) Waste			
129,832	Nil		
130,000	480,000	225 feet	0.0574
130,120	1,996,372	185 "	0.1059
130,240	965,200	195 "	0.7043
	3,441,572	Average	0.0902% Cu
(B) Oxide			
129,832	Nil		
130,000	1,725,000	225 feet	0.514
130,120	1,117,700	185 "	0.390
130,240	1,415,500	190 "	0.449
	4,258,200	Average	0.459% Cu
(C) Sulphide			
129,832	2,745,000	225 feet	0.2647
130,000	893,048	185 "	0.4866
130,120	Nil		
130,240	1,649,375	195 "	0.490
	5,287,423	Average	0.372% Cu

Combined Oxide - Sulphide 9,545,623 Tons av. 0.411% Cu

2. Calculations (Below 5200 to 4050 Datum)

The following calculations simply give the average copper content of the mass as indicated by the deep drill holes put down by North Pacific Mines below the 5200 elevation and probably too deep for an open pit operation.

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Section	Measured (Tons)	Projection	% Copper
129,832	4,028,800	230 feet	0.383
129,832	1,613,800	230 "	0.206
130,000	4,972,500	225 "	0.403
130,000	4,522,500	225 "	0.309
130,240	1,817,600	190 "	0.324
	16,955,200	Average	0.346% Cu

Overall Combined Tonnage:-

Open Pit 5200 Datum	9,545,623 at 0.411%
Underlying Mass (5200 - 4050 Datum)	16,955,200 at 0.346%
	26,500,000 Tons @ 0.369%

The above method used in calculating ore reserves did not provide for specific cut-off grades and selective mining in an open pit mine operation. Mr. E. Lonergan of the Placer Staff calculated a more applicable method in which he used thirty foot mining benches and a cut-off grade of 0.30 per cent copper with material grading 0.30 per cent copper or better going to a concentrator and material grading less than 0.30 per cent copper being transferred to a heap leaching stock pile. Mr. E. Lonergan's report is attached and was used as the basis for the final economic analysis.

Copper Equivalent Data:

Reference to the 40 scale assay sections illustrates the location and assay results of the 50 foot composite assays. All composite assay results obtained during the North Pacific Mines drilling program for holes Nos. 1 - 8 plus the recent fourteen drill holes drilled by Canex are listed on the assay sections. An arithmetic average of 0.0338% MoS_2 and 0.18 oz. Ag per ton was obtained from all the composite assays. Gold values are TRACE.

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The molybdenite and silver content at thirty-cent copper would add a grade factor of 0.15 per cent copper in copper equivalents. However, the reliability of adding any factor is dependent on what amounts are recoverable in the milling process and this important factor is unknown and untested at this time.

ORE POTENTIAL:

The present known mineralized zone can be projected 1,350 feet Southeast of Drill Hole No. 3 on Section Line 129,832. A width of 430 feet is suggested as reasonable along the 1,350 foot extension. The seven percussion drill holes to an average depth of 205 feet in this area showed mineralization varying between 0.09 and 0.18 per cent copper. The potential tonnage available in the 430 x 1,350 area would equal approximately 48,375 tons per vertical foot or 14.5 million tons to the 300 foot depth.

The recent diamond drilling was restricted to the margin of the volcanic cap rock in the Northern portion of the mineralized zone. Drill holes 6 and 4 were drilled in 1956 through the overlying volcanics and each penetrated 147 and 288 feet of volcanics before entering the underlying mineralization in the granites. Thus no ore projection has been estimated to the North and under the volcanics.

The ore potential in summary is estimated to approach 50 million tons with an average grade estimated at 0.20% copper.

LEACH TESTS:

A 50 lb. sample of oxide material and a 50 lb. sample of sulphide material was composited from the assay rejects of drill holes Nos. 15 - 11, and 17. The drill holes were collared in the oxide zone and continued down into the underlying primary zone and represent a cross section of the two zones.

Each of the 50 lb. samples was split in two with one half of each going to Duval Corporation and the other going to the B.C. Research Council for leach tests.

Duval Corporation received 26 lbs. of oxide material that assayed 0.42% copper and 0.01% MoS_2 (No. 17806) and 25.5 lbs. of sulphide material that assayed 0.36% copper and 0.02% MoS_2 (No. 17808).

The B.C. Research Council received 26 lbs. of oxide material that assayed 0.48% copper and 0.01% MoS_2 and had a sulphur content of 0.09% (No. 17807). The 25.5 lbs. of sulphide material assayed 0.40% copper and 0.01% MoS_2 and had a sulphur content of 0.49% (No. 17809).

The samples were composited as follows:-

OXIDE		SULPHIDE	
D.D.H. #15	D.D.H. #11	D.D.H. #15	D.D.H. #17
19785 - 3 lbs.	19606 - 3 lbs.	19806 - 3 lbs.	19933 - 2 lbs.
6 - 1 "	7 - 3 "	7 - 3 "	4 - 2 "
7 - 2 "	8 - 3 "	8 - 3 "	6 - 2 "
8 - 1 "	9 - 3 "	9 - 3 "	19941 - 2 "
9 - 5 "	10 - 3 "	10 - 3 "	3 - 2 "
19790 - 4 "	12 - 3 "	1 - 4 "	5 - 3 "
1 - 3.5"	15 - 3 "	2 - 3 "	6 - 3 "
2 - 1 "	17 - 4 "	3 - 3 "	9 - 3 "
3 - 2 "			19950 - 3 "
5 - 2.5"			1 - 3 "

17806 - 26 lbs. - Duval Corp.	17808 - 25.5 lbs. - Duval Corp.
17807 - 26 lbs. - B.C. Research	17809 - 25.5 lbs. - B.C. Research

Preliminary Leach Tests:

Mr. Evans Lowe of the B.C. Research Council provided the following information to Mr. E. A. Scholz on 25 February 1966, "The columnar flask tests on the sulphide ore (No. 17809) were quite encouraging. After 500 hours of shake flask leaching extraction from the sulphide ore, was 43.6% of the copper and from the sterile control was 10% of the copper. This indicates very good bacterial leaching. With regard to the oxide ore sample (No. 17807), total extraction by a combination of bacterial and geochemical action was 42.7% of the copper. Chemical leaching only recovered 30% of the copper so the balance could be attributed to bacterial action. This particular sample contained only .09 sulphide sulphur. This sample used only 2½% H_2SO_4, so it is apparent that the gangue is non-reactive."

The results of the leach tests by the B.C. Research Council may be summarized as follows:-

I. Chemical Leaching

Sulphide ore sample (No. 17809), containing 8 lbs. copper per ton of rock, yielded 10% of the copper or 0.80 lbs. copper.

Oxide ore sample (No. 17807), containing 9.6 lbs. copper per ton of rock, yielded 30% of the copper or 2.78 lbs. copper.

II. Bacterial Leaching

Sulphide ore sample (No. 17809), containing 8 lbs. copper per ton of rock, yielded 43.6% minus 10% of the copper or 2.68 lbs. copper.

Oxide ore sample (No. 17807), containing 9.6 lbs. copper per ton of rock, yielded 42.7% minus 30% of the copper or 1.21 lbs. copper.

III. Acid Consumption

Sulphur ore sample (No. 17809) required 4.85% pure H_2SO_4 to leach the sample, plus an additional 1.5% H_2SO_4 to change the sulphur content (0.49%) to the sulphate form. Thus acid consumption totalled 127 lbs. pure H_2SO_4 per ton of rock or 130.5 lbs. of commercial grade acid. At $30.00 per ton or 1.5 cents per lb. the acid costs equalled $1.95 for 0.80 lbs. copper recovered.

Oxide ore sample (No. 17807) required 2.50% pure H_2SO_4 to leach the sample, plus an additional 1.5% H_2SO_4 to change the sulphur content (0.09%) to the sulphate form. Thus acid consumption totalled 80 lbs. pure H_2SO_4 per ton of rock or 88 lbs. of commercial grade acid. At $30.00 per ton or 1.5 cents per lb.. The acid costs equalled $1.20 for 2.78 lbs. copper recovered.

Dr. Duncan of the B.C. Research Council advised that the acid consumption calculated above simply suggests what the acid consumption might be under the most adverse conditions and is therefore, a maximum consumption. He suggested that ten per cent of the acid consumption could be estimated as normal.

Respectfully submitted,

C. E. Dunn

C. E. Dunn,
Senior Geologist.

CED/nf

7 March 1966

APPENDIX
(1).

Sample Description of Leach Test Material

by: Mr. A. A. Morris

I. D.D.H. #11 - Quartz Diorite

Ore Minerals	%	Association Frac. fill	Dissem.	Grain Size
Chalcopyrite	+	+	+	< 1.0 m.m.
Bornite	+			< 1.0 m.m.
Malchite	+			Coarse
Cuprite	+			< 0.5 m.m.
Native Copper	+			< 0.5 m.m.
Pyrite	< 2.0	+	+	

II. D.D.H. #15 - Quartz Diorite

Ore Minerals	%	Association Frac. fill	Dissem.	Grain Size
Chalcopyrite	+	+	+	< 1.0 m.m.
Bornite	+	+	+	< 1.0 m.m.
Chalcocite	+		+	< 1.0 m.m.
Chrysocolla	+		+	> 1.0 m.m.
Malachite	+	+	+	Coarse
Cuprite	+	+	+	< 0.5 m.m.
Native copper	+			
Pyrite	+		+	< 0.5 m.m.

III. D.D.H. #17 - Quartz Diorite

Ore Minerals	%	Association Frac. fill	Dissem.	Grain Size
Chalcopyrite	+	+	+	< 1.0 m.m.
Chrysocolla	+		+	> 1.0 m.m.
Malachite	+		+	Coarse
Cuprite	+		+	< 0.5 m.m.
Native Copper	+		+	< 0.5 m.m.
Pyrite	2.0	+	+	

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APPENDIX (2)

FINANCIAL STATEMENT

Month January 1966 | Project Venture 82 - Krain

	Actual Costs		Budgeted Costs			Variances	
	For Month	To Date	For Month	To Date	Total	For Month	To Date
Geology and Engineering	13	94					
Geochemistry							
Geophysics							
Surface Prospecting							
Road Building							
Sampling and Assaying	264	2,734					
Diamond Drilling	28,016	57,763					
Underground Development							
Salaries and Wages	879	18,025					
Camp Op. and Field Expense	97	7,594					
Transportation	96	1,825					
Property Expense							
Communications	14	26					
Administration		750					
TOTAL	29,379	88,811					

Accounts Paid Since 31/1/66	64
Accounts Payable	178
Total Committed	$ 89,053

CANEX AERIAL EXPLORATION LTD.
DIVISION OF CANADIAN EXPLORATION LIMITED
700 BURRARD BUILDING VANCOUVER 5, B. C. CANADA

ORE RESERVES CALCULATIONS

POLYGON METHOD

ETL/nf
Vancouver, B.C.
17 March 1966

E. T. Lonergan,
Senior Geologist.

ORE RESERVES CALCULATIONS - POLYGON METHOD

by E. T. Lonergan

DETERMINATION OF ORE AREAS:

Diamond drill holes 1 - 22 in the mineralized area were used as the basic data. Each hole was assigned an area of influence on the horizontal plane so that the area of influence extended to one half of the distance to the nearest adjoing hole. This was accomplished by drawing polygons around each hole and the area of each polygon determined by the use of a polar planimeter.

DETERMINATION OF TONNAGES:

After the areas of all the polygons were calculated, tonnages for each were obtained by multiplying the area by a constant height of 30 feet, which was the selected bench heighth in an open pit operation.

DETERMINATION OF GRADES:

Each drill core sample (ten foot increments) was assigned an elevation obtained from diamond drill logs. As an example, the values on a polygon on the 5190 bench represents the block of ore from the 5190 elevation to the 5220 elevation. The grade shown for each polygon represents the tonnages enclosed in the prisms of each polygon.

CLASSES OF ORE:

The ore reserves were classified into (1) Measured Ore, (2) Indicated Ore, and (3) Inferred Ore and are defined as follows:-

1. Measured ore is that which has been established by sufficient sampling of drill core and the ore represented is within a reasonable distance of the drill hole. Polygons surrounded by other polygons fall into this category.

2. Indicated ore is that which is based on geologic information and wide spacing at drill holes. The outer polygons not surrounded by other polygons are in this category.

3. Inferred ore is ore which can be projected on a basis of geology and limited assay information.

TABLE I

This table illustrates the calculated overall tonnage and grades of the mass of Primary Ore in and adjacent to the area diamond drilled during 1965. No cut off grade was defined or used. The table divides the mass in three. The uppermost portion terminates at the 5190 datum, the central portion terminates at the 4620 datum, and finally the lower portion terminates at the bottom of the deepest drill hole at the 4380 elevation.

(See following page for Table I)

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TAbLE I

MASS OF PRIMARY ORE

	Measured			Indicated			Inferred
Bench	Tons	Tons Copper	% Copper	Tons	Tons Copper	% Copper	No Grade
5670	50,250	30.2	0.06	44,500	26.7	0.06	
5640	55,250	16.6	0.03	631,000	261.1	0.04	
5610	256,500	288.9	0.11	984,000	496.7	0.05	
5580	351,250	589.4	0.17	1,212,250	448.4	0.04	
5550	351,250	651.3	0.19	1,211,500	635.9	0.05	
5520	640,750	1,461.4	0.23	1,137,500	1,281.1	0.11	236,000
5490	599,000	1,700.4	0.28	1,129,000	1,569.2	0.14	392,250
5460	536,500	1,520.7	0.28	1,605,000	2,822.1	0.18	624,500
5430	536,500	1,497.0	0.28	1,605,000	3,830.4	0.24	624,500
5400	471,500	1,428.7	0.30	1,743,000	4,495.1	0.26	624,500
5370	536,500	1,329.5	0.24	1,743,000	4,118.0	0.24	624,500
5340	417,500	1,946.3	0.47	1,743,000	4,288.2	0.25	624,500
5310	536,500	2,015.4	0.38	1,743,000	4,375.0	0.25	624,500
5280	536,500	2,004.8	0.37	1,743,000	4,324.8	0.25	624,500
5250	536,500	1,774.1	0.33	1,743,000	4,675.4	0.27	624,500
5220	536,500	1,898.6	0.35	1,743,000	5,360.1	0.31	624,500
5190	536,500	2,158.4	0.40	1,593,000	4,462.2	0.28	774,500
Sub Total	7,485,250	22,311.7	0.298%	23,353,750	47,470.4	0.203	7,023,250
To - 4620	5,626,500	19,678.5	0.349%	10,094,750	29,780.1	0.295	41,752,250
To - 4380	Nil	Nil	Nil	2,006,000	5,220.7	0.26	17,476,000
Total - 4380	13,111,750	41,990.2	0.320%	35,454,500	82,471.2	0.232%	66,251,500

. . .4

TABLE II

Table II illustrates the amount of Measured Ore within the confines of an open pit operation and down to the sill of the 5190 Bench. Milling ore is defined as sulphide ore containing 0.30 per cent copper or better and would be processed in a concentrator. Material grading less than the 0.30 cut off would be stock piled on leach dumps regardless if the copper content was in the form of oxide or sulphide copper. The upper portion of the pit would contain 2,525,500 tons of waste and it is assumed that out of the 1,608,500 tons on the 5580 Bench a 608,500 tons of 0.20% copper would be selected and the remaining 1 million tons removed as waste. Hence the total waste to the 5580 Bench would equal 3,525,500 tons.

The internal strip ratio, in relation to the amount of measured ore consigned to the concentrator and the amount designated as leach ore, is 2:1. (Two thirds of the ore is less than 0.30% Cu).

The external strip ratio, in relation to the measured ore within the confines of the open pit to the 5190 datum, would be two waste to one ore.

(See following page for Table II)

TABLE II

MEASURED ORE

	Milling Ore > 0.30% Cu			Leach Ore < 0.30%			Combined Milling and -		
Bench	Tons of Primary Ore	% Copper	Tons Copper	Tons of Leach Ore	% Copper	Tons Copper	Tons of Leach Ore	% Copper	Tons Copper
5670				153,500	.04	68.6			
5640				828,750	.06	467.8			
5610				1,543,250	.09	1,426.2	3,525,500		
5580				1,000,000	.14				
5580				608,500	.20	1,317.0	608,500	.20	1,317.0
5550				1,562,750	.22	3,377.8	1,562,750	.22	3,377.8
5520	132,500	1.21	1,606.5	1,601,000	.26	4,223.9	1,733,500	.33	5,840.4
5490	318,500	.65	2,059.0	1,600,000	.22	3,547.7	1,918,500	.29	5,606.7
5460	626,500	.66	4,144.7	1,443,000	.20	2,887.4	2,069,500	.34	7,032.1
5430	316,750	.76	2,413.1	1,732,250	.30	5,366.4	2,049,000	.38	7,779.5
5400	899,000	.54	4,886.0	1,072,250	.18	1,954.5	1,971,250	.34	6,840.5
5370	1,022,500	.48	4,968.2	890,000	.14	1,295.2	1,912,500	.32	6,263.4
5340	1,092,000	.50	5,455.0	710,250	.16	1,188.3	1,802,250	.37	6,643.3
5310	1,127,000	.48	5,440.3	509,000	.11	575.4	1,636,000	.36	6,015.7
5280	1,107,000	.40	4,427.4	290,125	.22	657.8	1,397,125	.36	5,085.2
5250	853,500	.46	3,931.2	379,500	.13	506.5	1,233,000	.36	4,437.7
5520	649,250	.51	3,360.1	399,750	.18	732.8	1,049,000	.39	4,092.9
5190	535,250	.47	2,558.9	255,250	.22	562.9	790,500	.39	3,121.8
	8,679,750	.52	45,250.4	13,053,625	.216	28,193.6	21,733,375	.338	73,454.0

. . . 6

TABLE III

Open Pit Operation, 2.6 Million tons per year (10,000 t.p.d.), all tonnage to Heap Leach Piles, No concentrator.

Year	Bench	Tons	% Copper	Total Tons Copper	Portion Tons Oxide	Portion Tons Sulphide
I	5580	608,500	0.20	1,370.0	431.1	938.9
	5550	1,562,750	0.22	3,378.0	2,116.8	1,261.0
	5520	430.250	0.33	1,419.8	786.9	659.6
		2.6 M	0.237	6,167.8	3,334.8	2,858.5
II	5520	1,303,250	0.33	4,300.7	2,384.8	1,991.1
	5490	1,296,750	0.29	3,760.5	1,376.1	2,413.4
		2.6 M	0.31	8,061.2	3,760.9	4,404.5
III	5490	621,750	0.29	1,803.0	659.9	1,157.3
	5460	1,978,250	0.34	6,726.0	1,568.0	5,147.6
		2.6 M	0.33	8,529.0	2,227.9	6,304.9
IV	5460	91,250	0.34	310.2	73.9	242.6
	5430	2,049,000	0.38	7,786.2	1,995.9	5,783.6
	5400	459,750	0.34	1,563.1	114.7	1,479.1
		2.6 M	0.371	9,659.5	2,184.5	7,505.3
V	5400	1,511,500	0.34	5,139.1	377.6	4,869.1
	5370	1,088,500	0.32	3,483.2	313.5	3,250.3
		2.6 M	0.33	8,622.3	691.1	8,119.4
VI	5370	824,000	0.32	2,636.8	237.5	3,462.1
	5340	1,776,000	0.37	6,571.2	211.0	6,332.5
		2.6 M	0.354	9,208.0	448.5	9,794.6
VII	5340	26,250	0.37	97.1	3.3	97.5
	5310	1,636,000	0.36	5,889.6	125.6	5,890.1
	5280	937,750	0.36	3,375.9	14.4	3,426.5
		2.6 M	0.36	9,362.6	143.3	9,414.1

. . . 7

TABLE III (con't.)

Year	Bench	Tons	% Copper	Total Tons Copper	Portion Tons Oxide	Portion Tons Sulphide
VIII	5280	459,375	0.36	1,653.7	7.2	1,637.1
	5250	1233,000	0.36	4,438.8		4,437.7
	5220	907,625	0.39	3,539.7		3,266.1
		2.6 M	0.37	9,632.2	7.2	9,340.9
IX	5220	142,325	0.39	1,171.6		1,171.6
	5190	790,500	0.39	3,121.8		3,121.8
		932,825	0.39	4,293.4		4,293.4

. . . 8

TABLE IV

This Table illustrates an open pit operation at the rate of 3,000 tons per day or 1 million tons per year through a concentrator. As in Table III, the pit would eventually bottom in the ninth year of operation at the 5190 elevation. A cut off grade of 0.30 per cent copper, designated as milling ore, in the form of sulphide copper would have to be maintained. The material grading less than 0.30 per cent copper and destined for the heap leach piles would exceed the average yearly production of milling ore and would create difficulty in establishing a mining cycle.

The external strip ratio of two waste to one ore applies to this set of figures.

(See following page for Table IV)

TABLE IV

OPERATING LIFE AT 3,000 t.p.d. THROUGH CONCENTRATOR

		MILLING ORE (> 0.30% Cu)			LEACH ORE (< 0.30% Cu)		
Year	Bench	Tons	% Copper	Tons Copper	Tons	% Copper	Tons Copper
I	5520	132,500	1.21	1,603.2			
	5490	318,500	0.65	2,070.2	1,600,000	0.22	3,547.7
	5460	549,000	0.66	3,623.4	1,000,000	0.20	2,000.0
		1 M.	0.73	7,296.8	2,600,000	0.21	5,547.7
II	5460	77,500	0.66	511.5	443,000	0.20	886.0
	5430	316,750	0.76	2,407.3	1,732,250	0.30	5,366.4
	5400	605,750	0.54	3,271.0	400,000	0.18	720.0
		1 M	0.62	6,189.8	2,575,250	0.27	6,972.4
III	5400	293,250	0.54	1,583.5	672,250	0.18	1,210.0
	5370	706,750	0.48	3,392.4	500,000	0.14	700.0
		1 M	0.49	4,975.9	1,172,250	0.16	1,910.0
IV	5370	315,750	0.48	1,515.6	390,000	0.14	595.0
	5340	684,250	0.50	3,421.2	500,000	0.16	800.0
		1 M	0.49	4,936.8	890,000	0.15	1,395.0
V	5340	407,750	0.50	2,038.7	210,250	0.16	336.4
	5310	592,250	0.48	2,842.8	250,000	0.11	275.0
		1 M	0.49	4,881.5	460,250	0.13	611.4
VI	5310	534,750	0.48	2,566.8	259,000	0.11	284.9
	5280	465,250	0.40	1,861.0	150,000	0.22	330.0
		1 M	0.44	4,427.8	409,000	0.15	614.9
VII	5280	641,750	0.40	2,567.0	140,125	0.22	308.3
	5250	358,250	0.46	1,647.9	200,000	0.13	260.0
		1 M	0.42	4,214.9	340,125	0.17	568.3
VIII	5250	495,250	0.46	2,278.1	179,500	0.13	233.4
	5220	504,750	0.51	2,574.2	199,750	0.18	360.0
		1 M	0.48	4,852.3	379,250	0.16	593.4
IX	5220	144,500	0.51	736.9	200,000	0.18	360.0

. . . 10

TABLE IV (con't.)

		Milling Ore			Leach Ore		
Year	Bench	Tons	% Copper	Tons Copper	Tons	% Copper	Tons Copper
IX	5190	535,250	0.47	2,515.6	255,250	0.22	561.6
		679,750	0.48	3,252.5	455,250	0.20	921.6
		8,679,750	0.52	45,028.3	9,281,375	0.206	19,134.7

STATISTICAL ANALYSIS OF KRAIN SAMPLE DATA

SUMMARY AND CONCLUSIONS:

Drill Core Assays were analyzed by statistical methods and the following was concluded:-

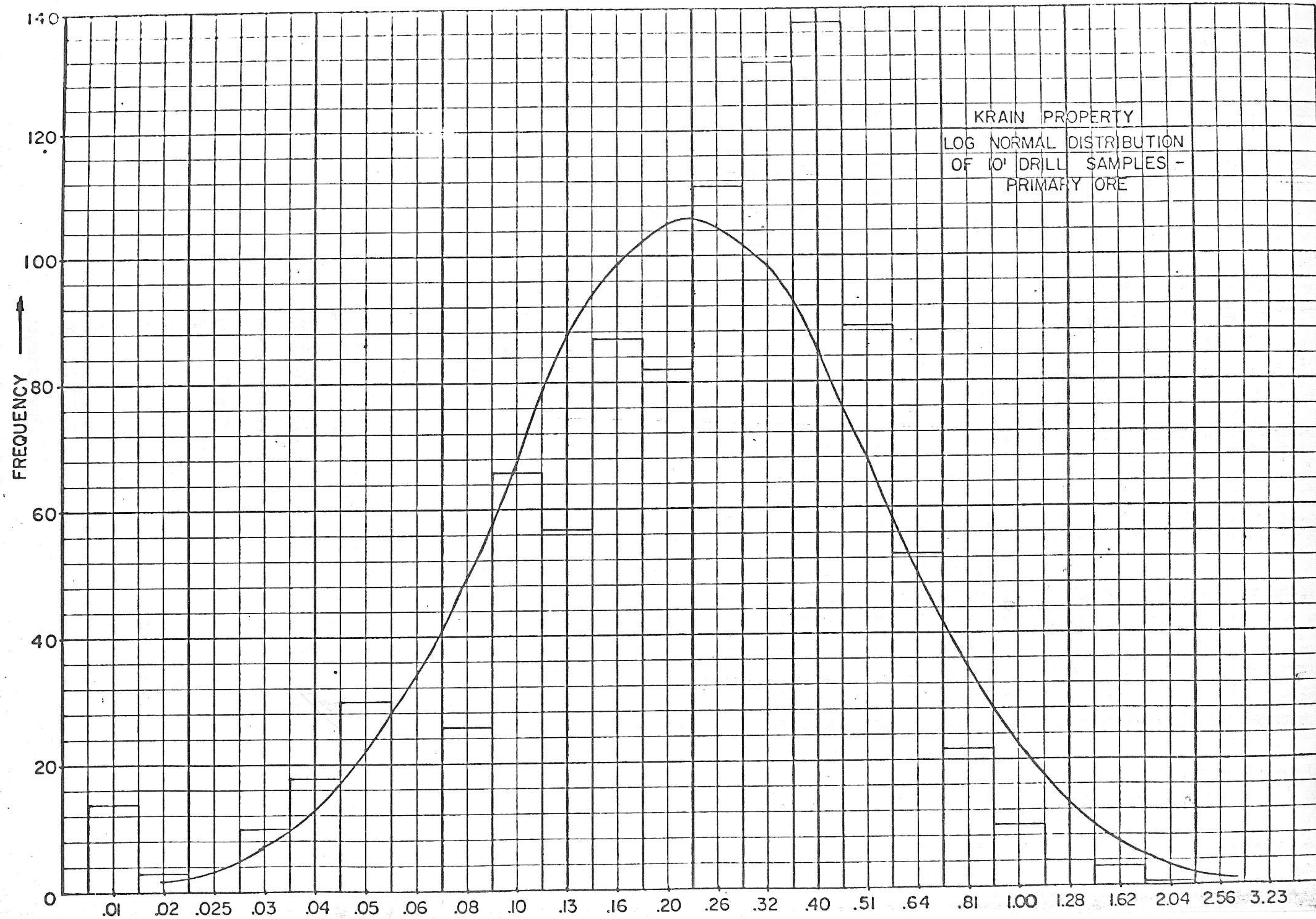
1. Oxide Ore showed a different distribution pattern and so was analyzed separately.

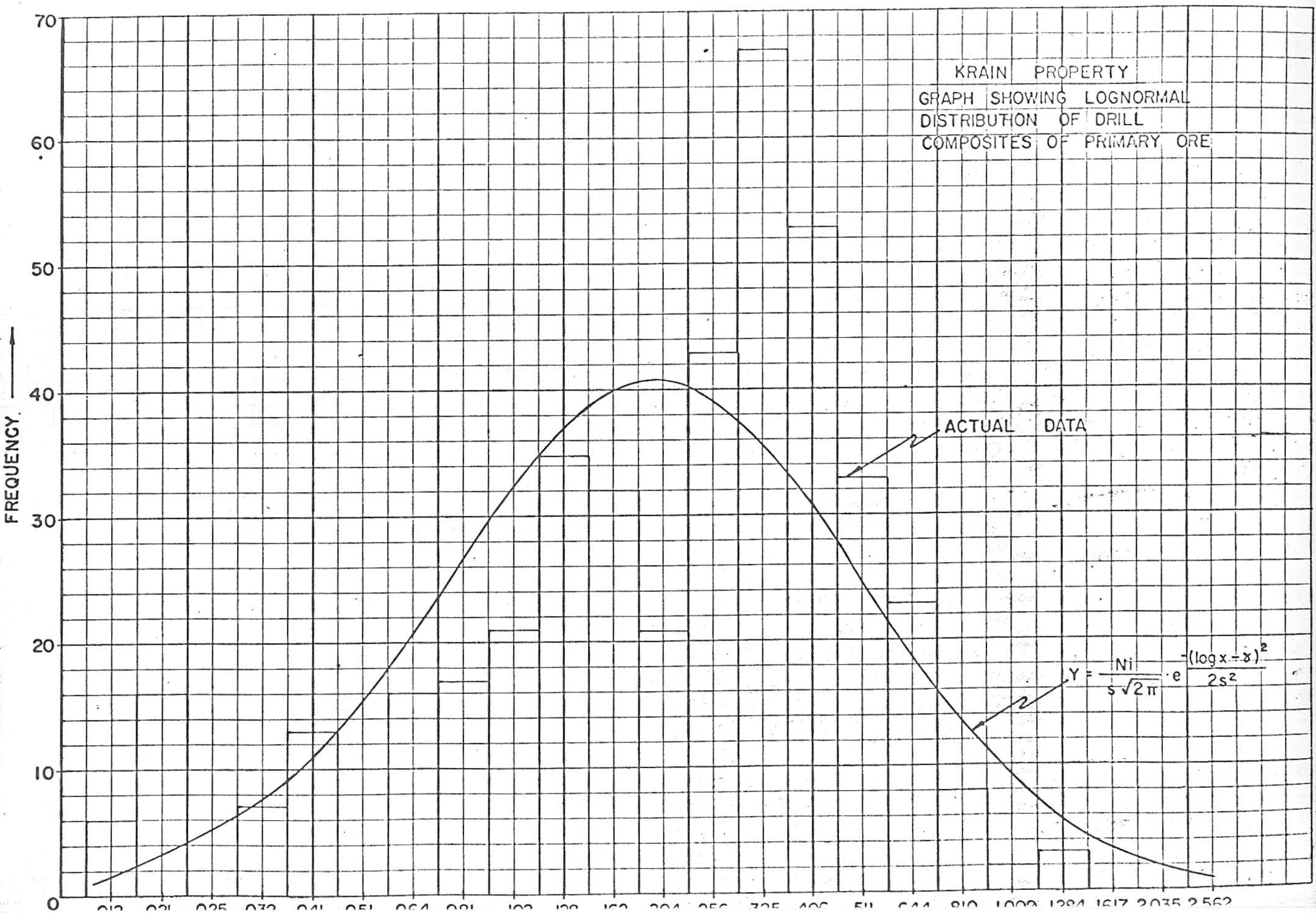
2. Primary Ore was essentially the same nature at various depths. The distribution of grades and averages showed very little change. There was a slight decrease in average grade below the 5190 elevation. Ninety-five per cent of values of the ore zone as explored by all diamond drilling ranged between 0.03 to 1.23% Cu.

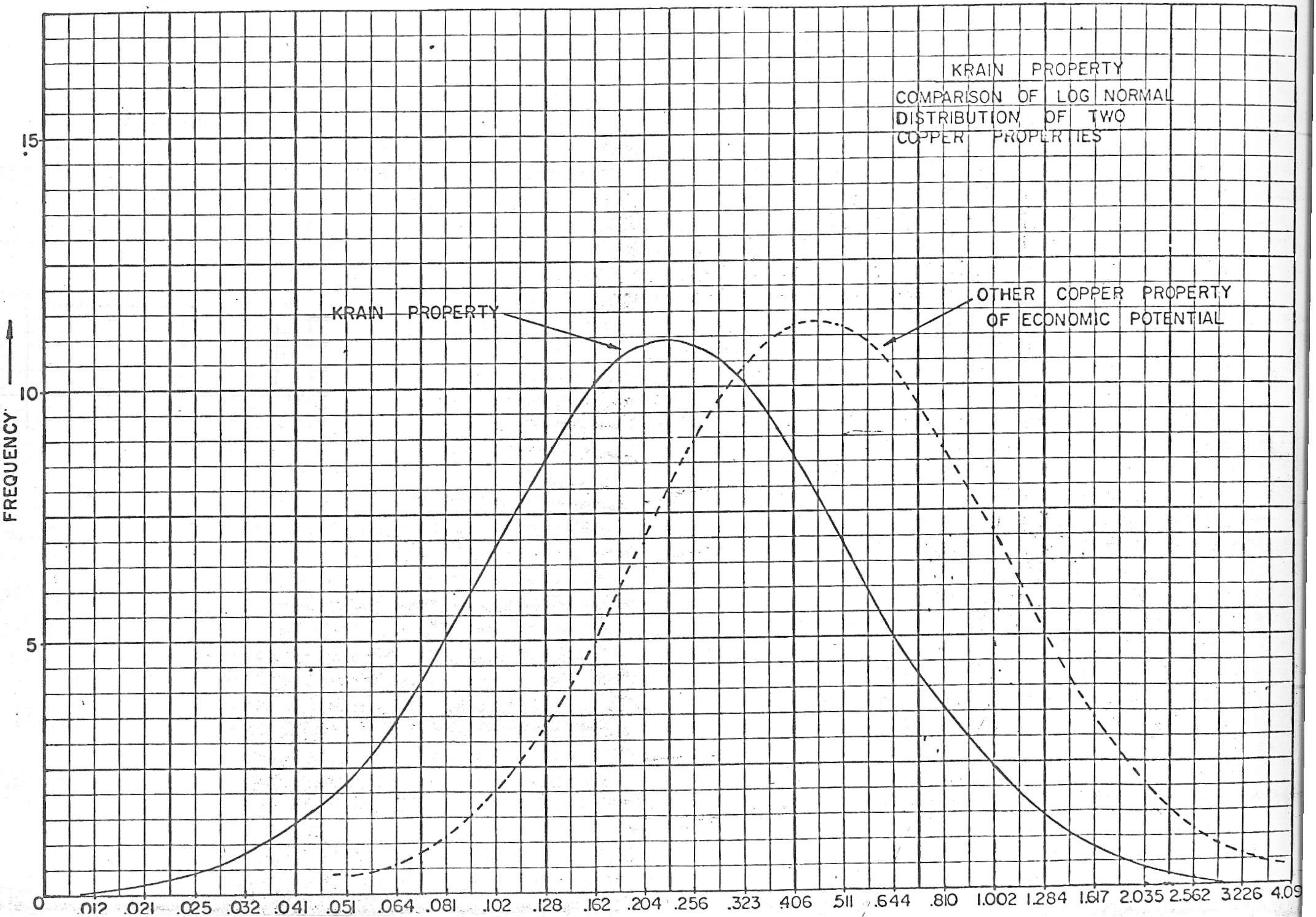
3. The Arithmetic Average of the drill hole assays of the Primary Ore was 0.26% Cu and the Statistical Average was 0.30. There is 95% confidence that the Average Grade will lie between 0.26 and .32% Cu.

4. Distribution of Grades shows that ore selection is possible. A study of Figures 1, 2, 4, and 5 showing the Log Normal Distribution of the Grades, reveals that a cut-off grade of 0.30% Cu, one-third of the ore would be taken as milling ore and the balance, presumably would be leached. The most prevalent value is 0.23% Cu.

5. Comparison with the distribution curve of an economic potential prospect shows that Krain property values are significantly lower. A study of the mathematical models of the two properties reveals at once that one property is more attractive than the other. See Figure 3.


KRAIN PROPERTY
LOG NORMAL DISTRIBUTION
OF 10' DRILL SAMPLES -
PRIMARY ORE
FREQUENCY
140
120
100
80
60
40
20
0
.01 .02 .025 .03 .04 .05 .06 .08 .10 .13 .16 .20 .26 .32 .40 .51 .64 .81 1.00 1.28 1.62 2.04 2.56 3.23


KRAIN PROPERTY
GRAPH SHOWING LOGNORMAL DISTRIBUTION OF DRILL COMPOSITES OF PRIMARY ORE
ACTUAL DATA
$Y = \frac{Ni}{s\sqrt{2\pi}} \cdot e^{-\frac{(\log x - \bar{x})^2}{2s^2}}$
FREQUENCY
70
60
50
40
30
20
10
0


KRAIN PROPERTY
COMPARISON OF LOG NORMAL DISTRIBUTION OF TWO COPPER PROPERTIES
KRAIN PROPERTY
OTHER COPPER PROPERTY OF ECONOMIC POTENTIAL
FREQUENCY
15
10
5
0
.012 .021 .025 .032 .041 .051 .064 .081 .102 .128 .162 .204 .256 .323 .406 .511 .644 .810 1.002 1.284 1.617 2.035 2.562 3.226 4.09

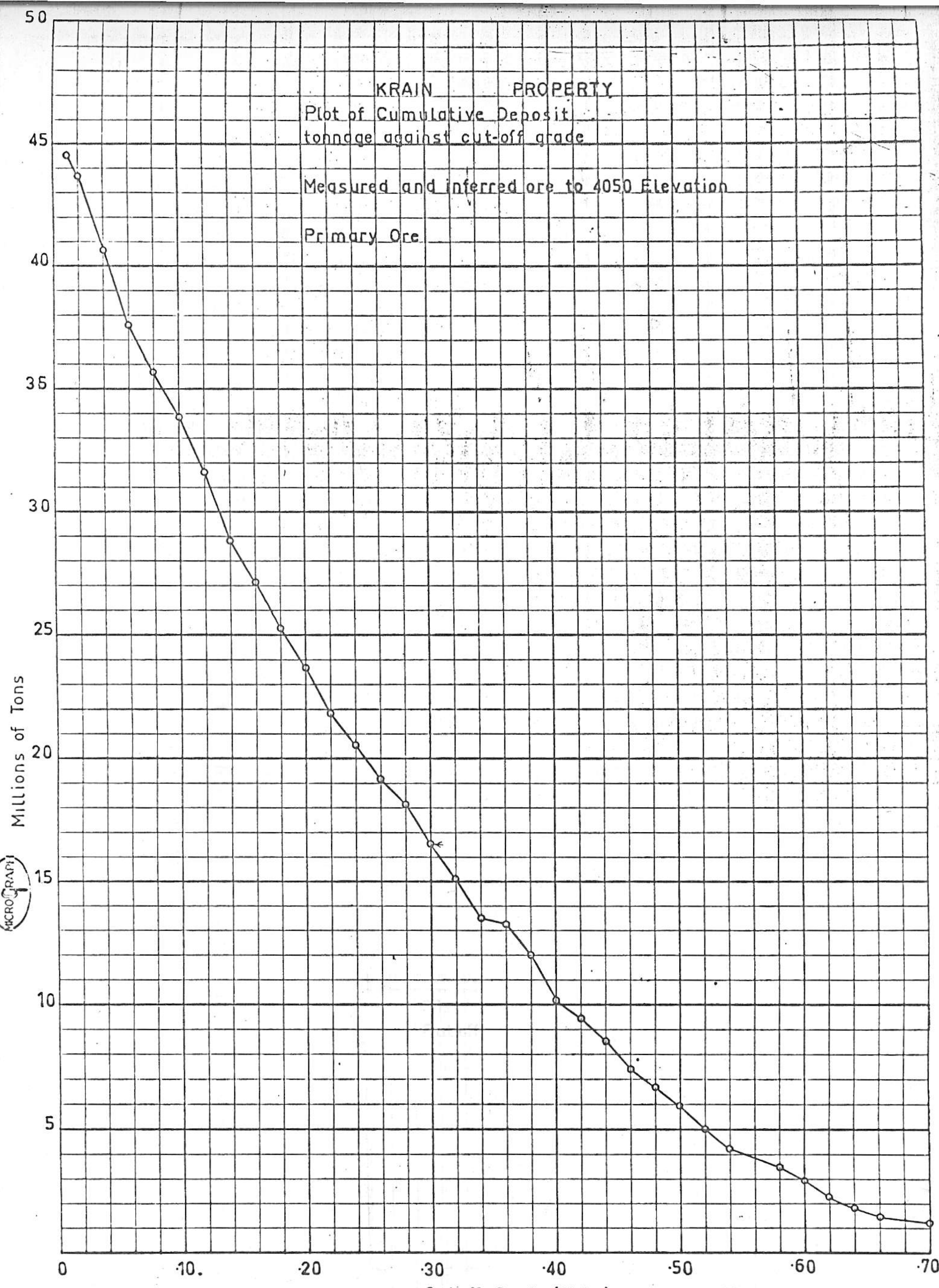
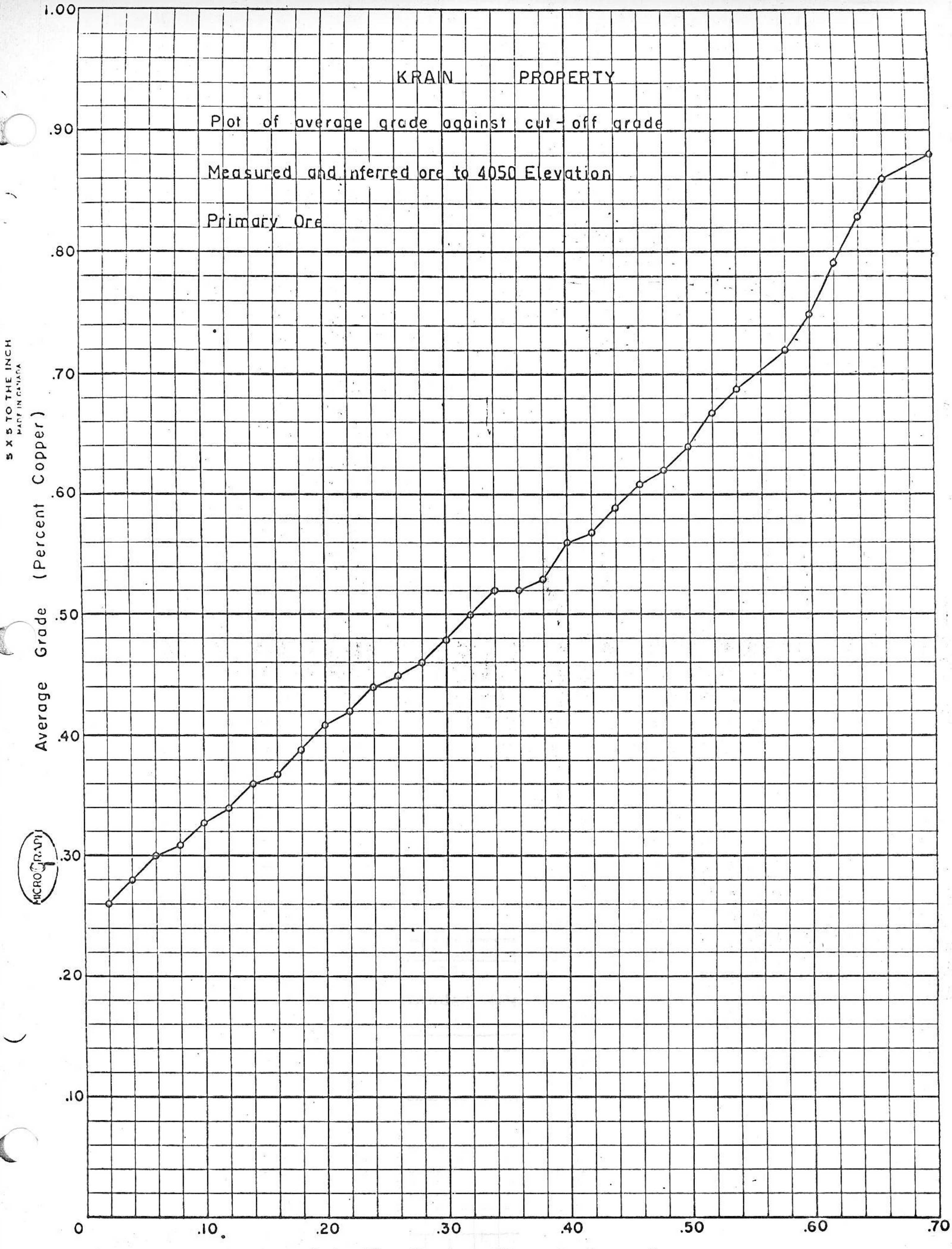


Fig 4

5 X 5 TO THE INCH
MADE IN CANADA
MICROGRAPH


KRAIN PROPERTY
Plot of average grade against cut-off grade
Measured and inferred ore to 4050 Elevation
Primary Ore
Average Grade (Percent Copper)
Cut-off Grade (Percent Copper)
1.00
.90
.80
.70
.60
.50
.40
.30
.20
.10
0
.10
.20
.30
.40
.50
.60
.70
5 X 5 TO THE INCH
MADE IN CANADA
MICROGRAPH
Fig 5

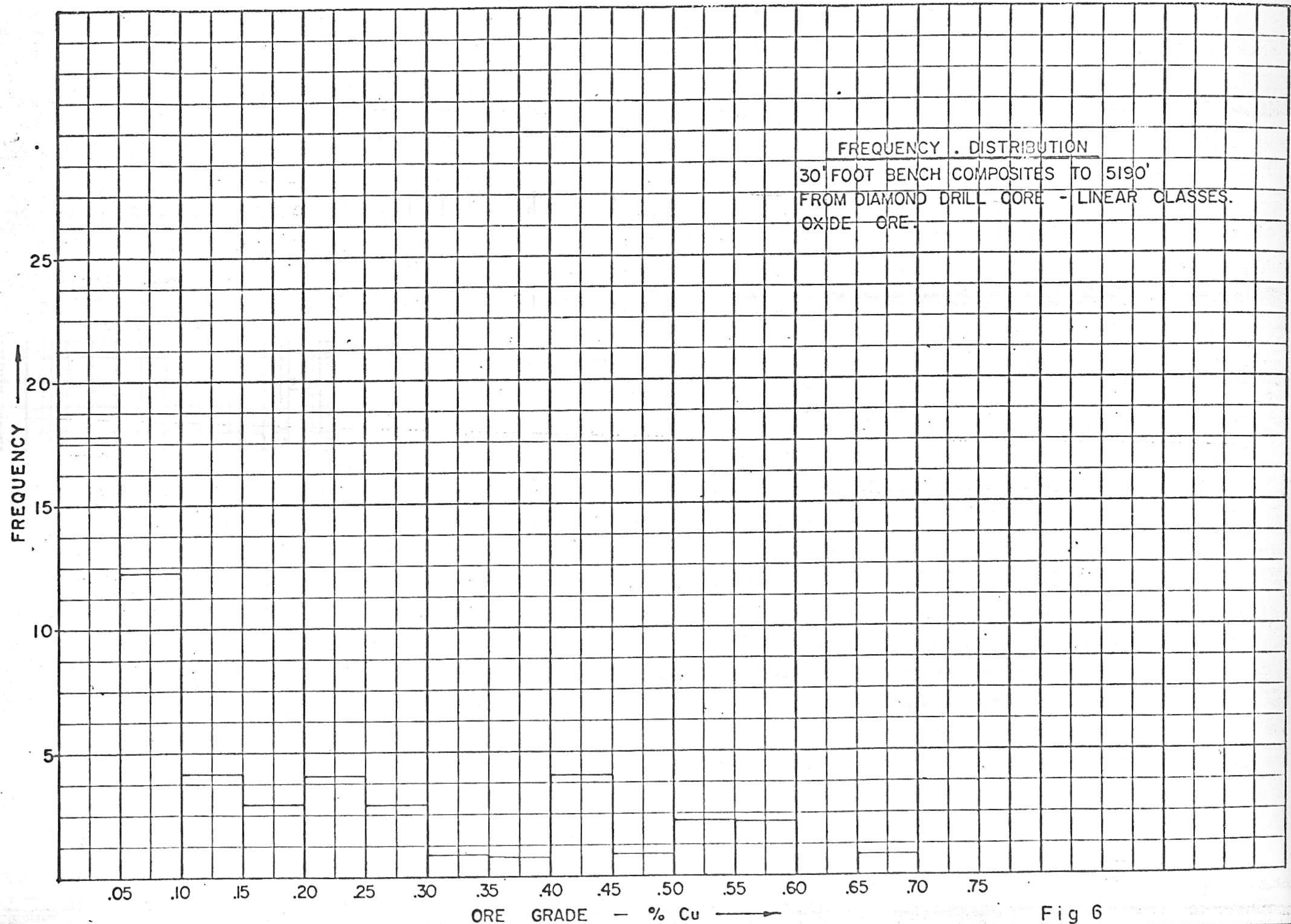
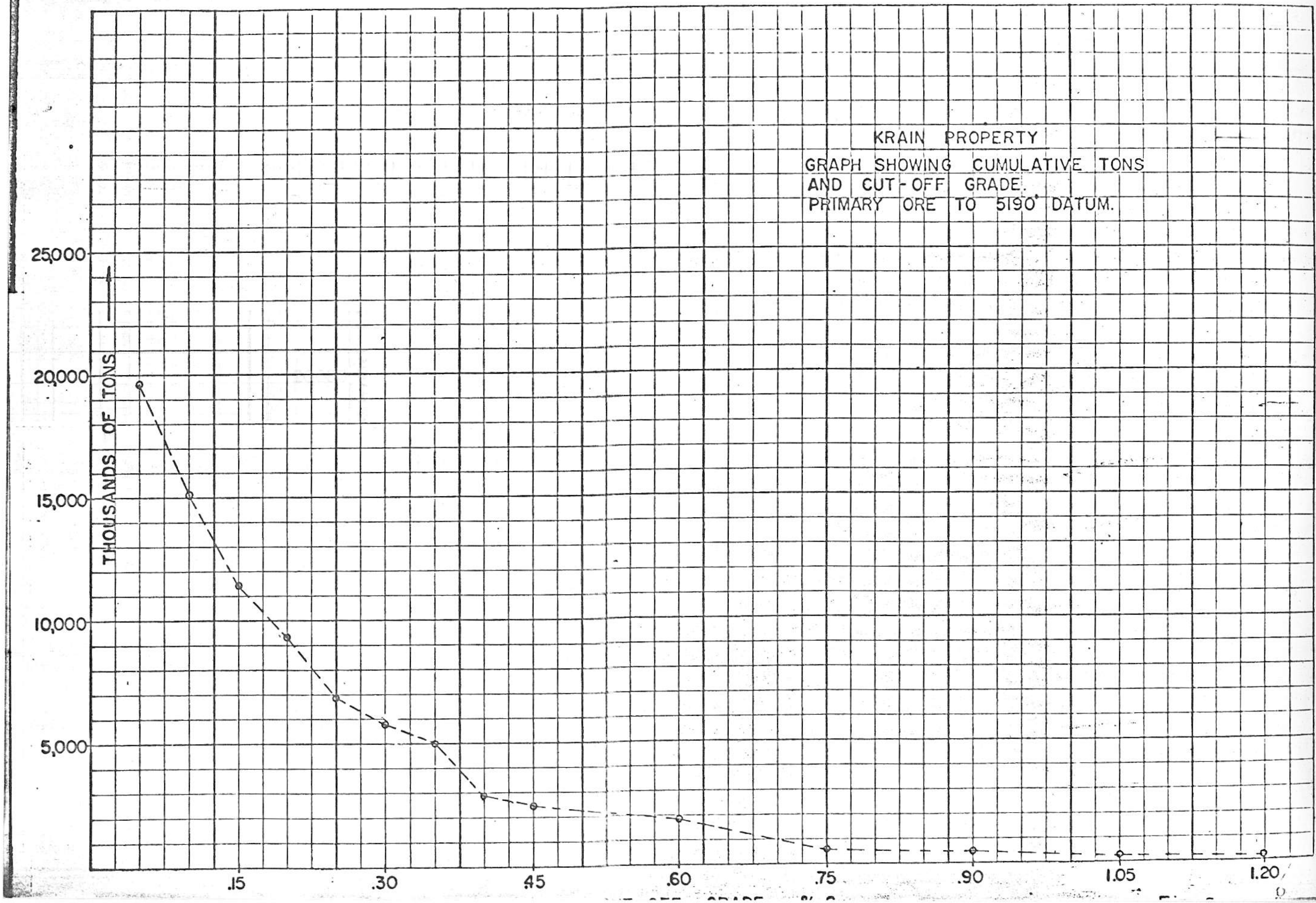

FREQUENCY . DISTRIBUTION
30' FOOT BENCH COMPOSITES TO 5190'
FROM DIAMOND DRILL CORE - LINEAR CLASSES.
OXIDE ORE.
FREQUENCY
25
20
15
10
5
.05
.10
.15
.20
.25
.30
.35
.40
.45
.50
.55
.60
.65
.70
.75
ORE GRADE — % Cu

Fig 6



KRAIN PROPERTY
GRAPH SHOWING CUMULATIVE TONS
AND CUT-OFF GRADE.
PRIMARY ORE TO 5190' DATUM.
THOUSANDS OF TONS
25,000
20,000
15,000
10,000
5,000
.15
.30
.45
.60
.75
.90
1.05
1.20

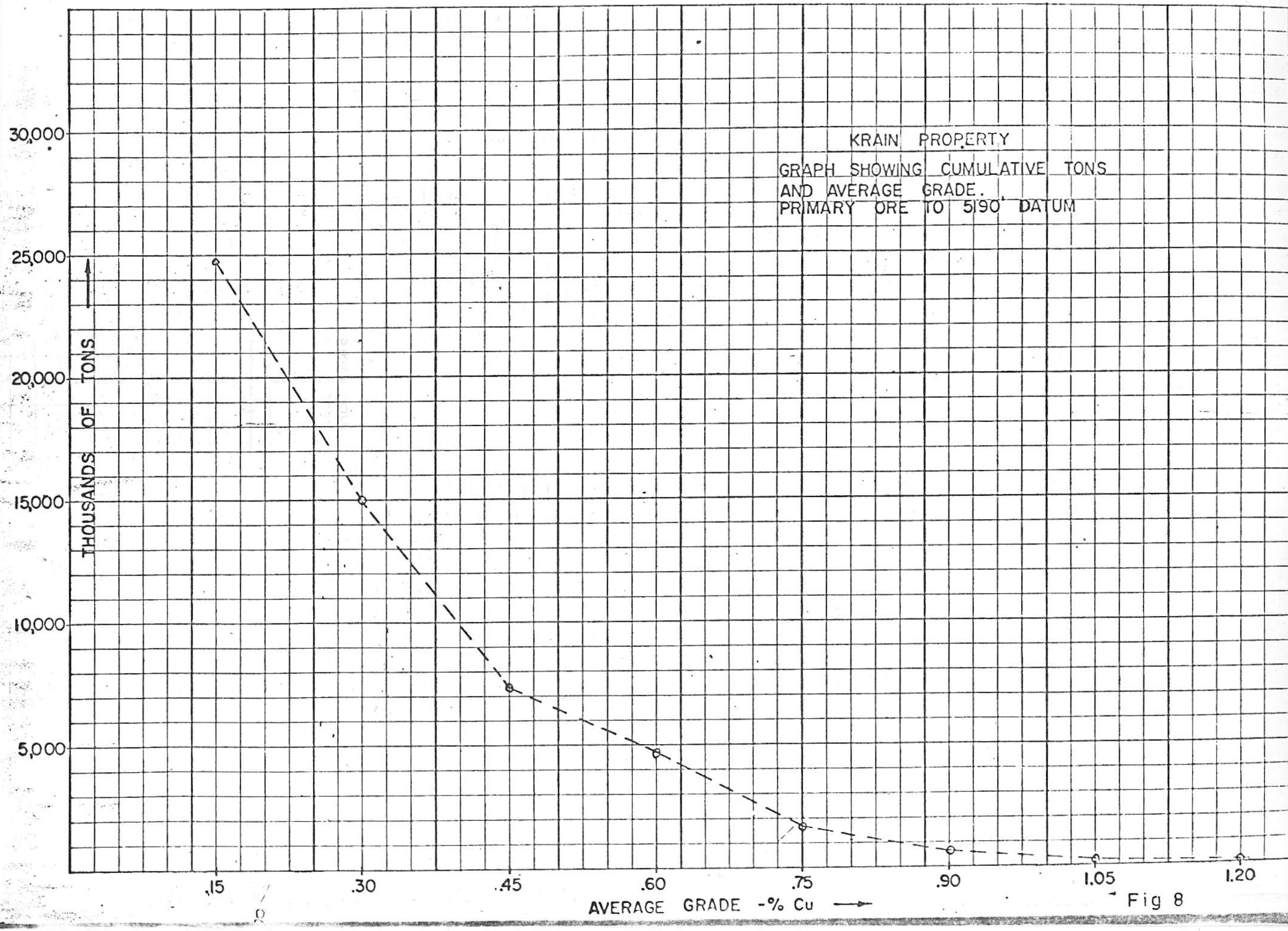
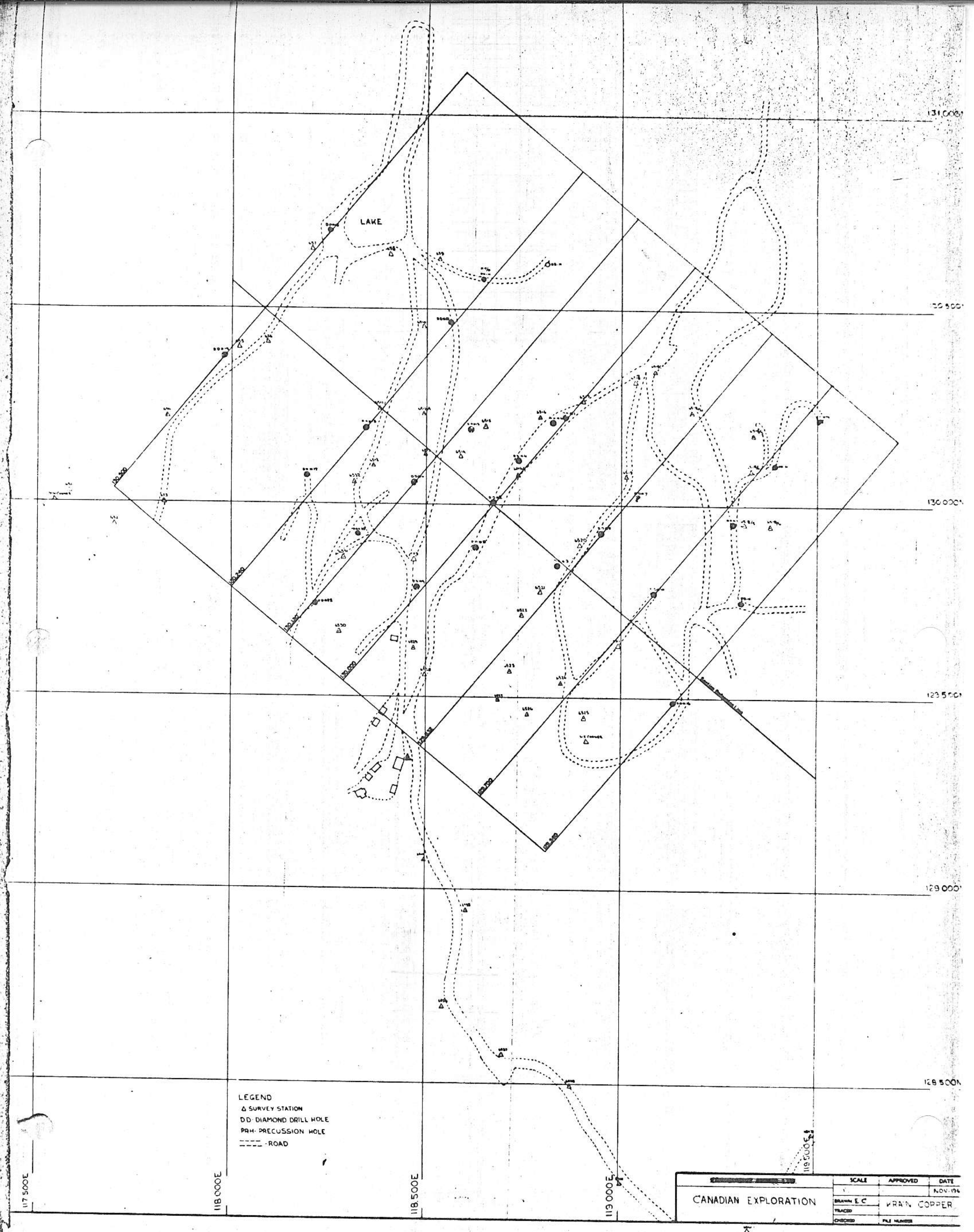
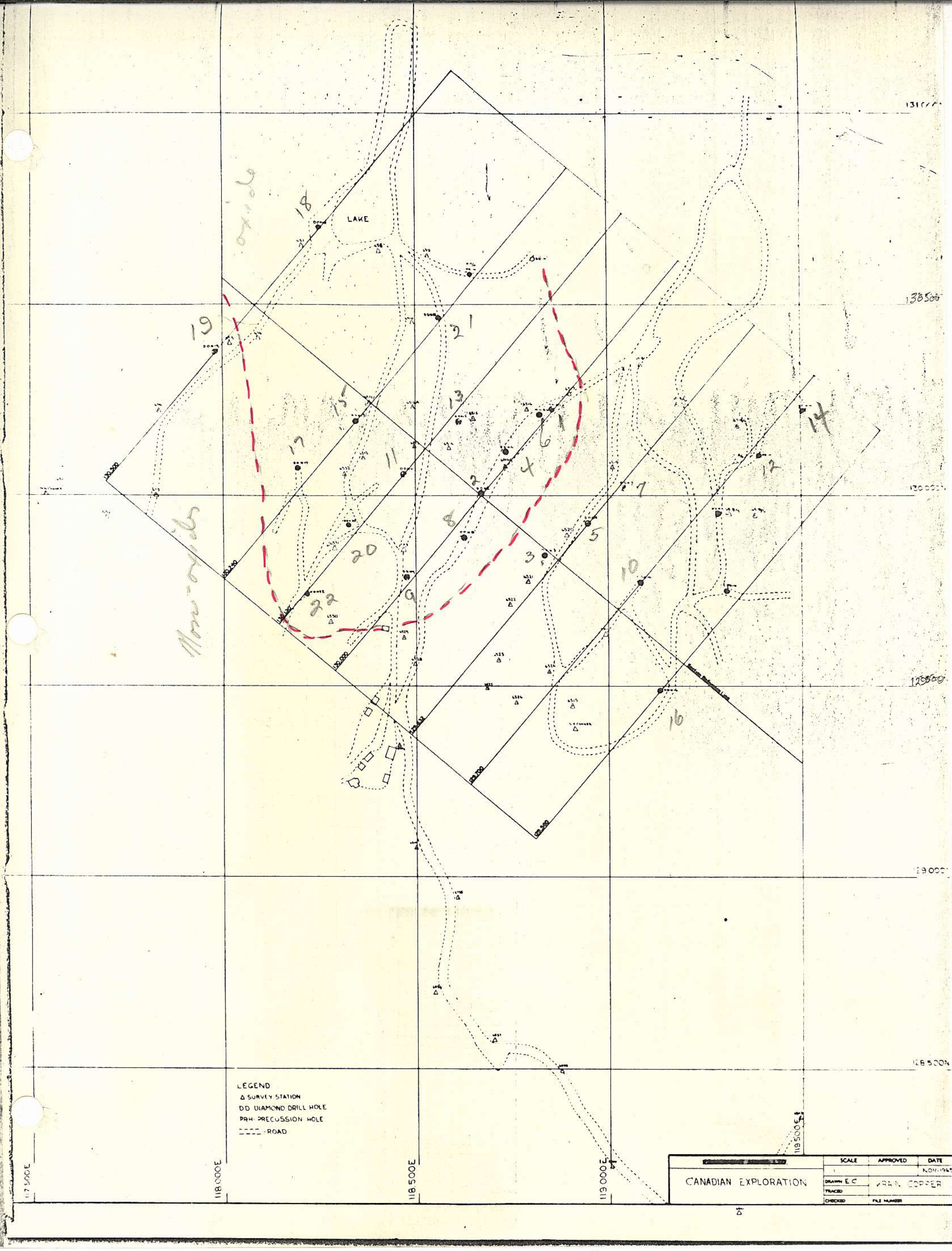
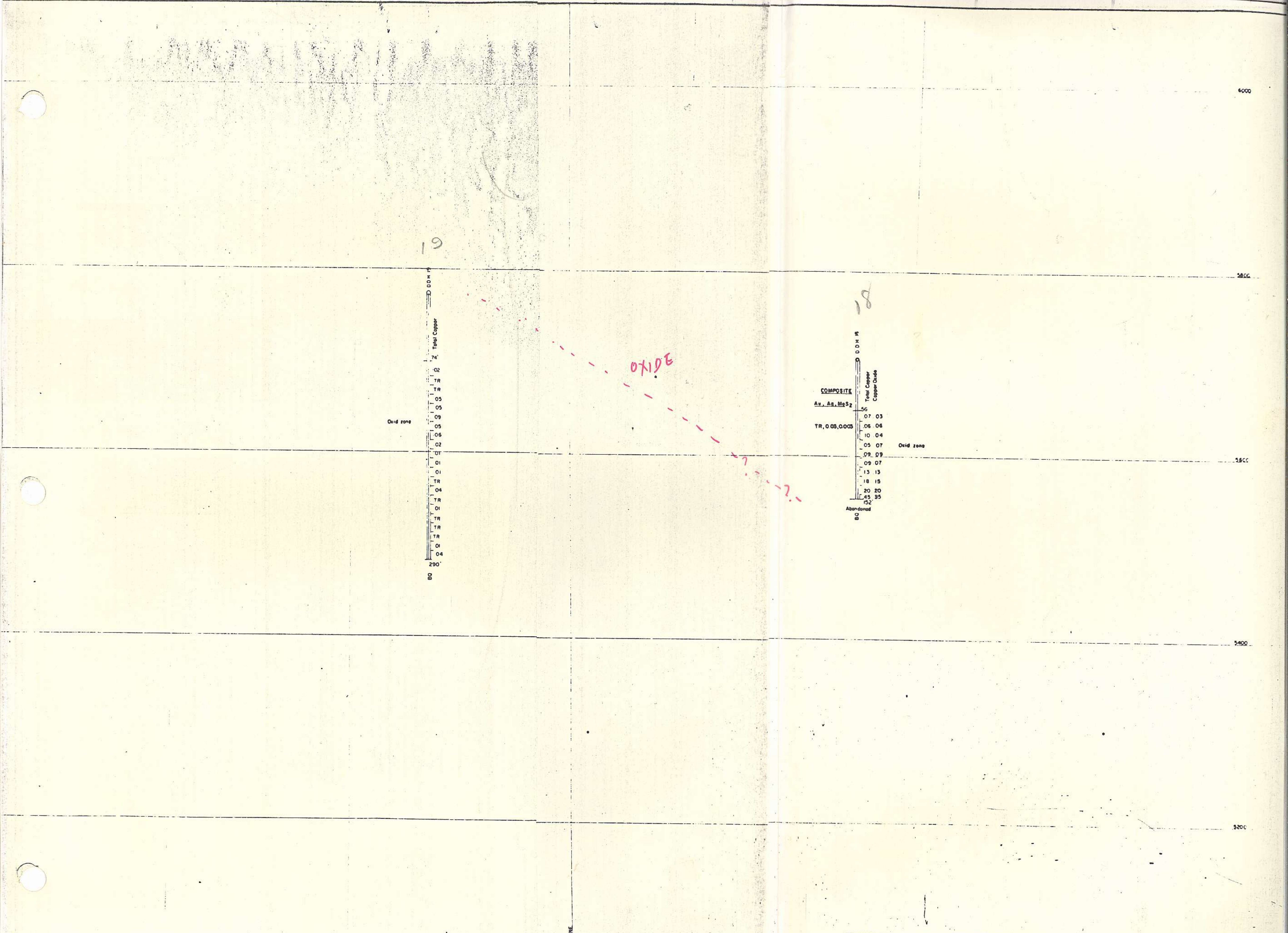

KRAIN PROPERTY
GRAPH SHOWING CUMULATIVE TONS
AND AVERAGE GRADE.
PRIMARY ORE TO 5190' DATUM
THOUSANDS OF TONS
30,000
25,000
20,000
15,000
10,000
5,000
.15
.30
.45
.60
.75
.90
1.05
1.20
AVERAGE GRADE -% Cu

Fig 8


131,000N
130,500N
130,000N
129,500N
129,000N
128,500N
117,500E
118,000E
118,500E
119,000E
119,500E
LAKE
LEGEND
Δ SURVEY STATION
D.D. DIAMOND DRILL HOLE
PRH. PRECUSSION HOLE
---- ROAD
[redacted]
CANADIAN EXPLORATION
SCALE
APPROVED
DATE
NOV. 196
DRAWN E.C.
TRACED
CHECKED
KRAIN COPPER
FILE NUMBER


LAKE
oxide
Non-oxide
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
130,500
130,250
130,000
129,750
129,500
131,000
130,500
130,000N
129,500
129,000N
128,500N
117,500E
118,000E
118,500E
119,000E
119,500E
LEGEND
Δ SURVEY STATION
DD DIAMOND DRILL HOLE
PRH PRECUSSION HOLE
- - - - ROAD
[redacted]
CANADIAN EXPLORATION
SCALE
APPROVED
DATE
NOV-1965
DRAWN E.C.
TRACED
CHECKED
KRAIN COPPER
FILE NUMBER



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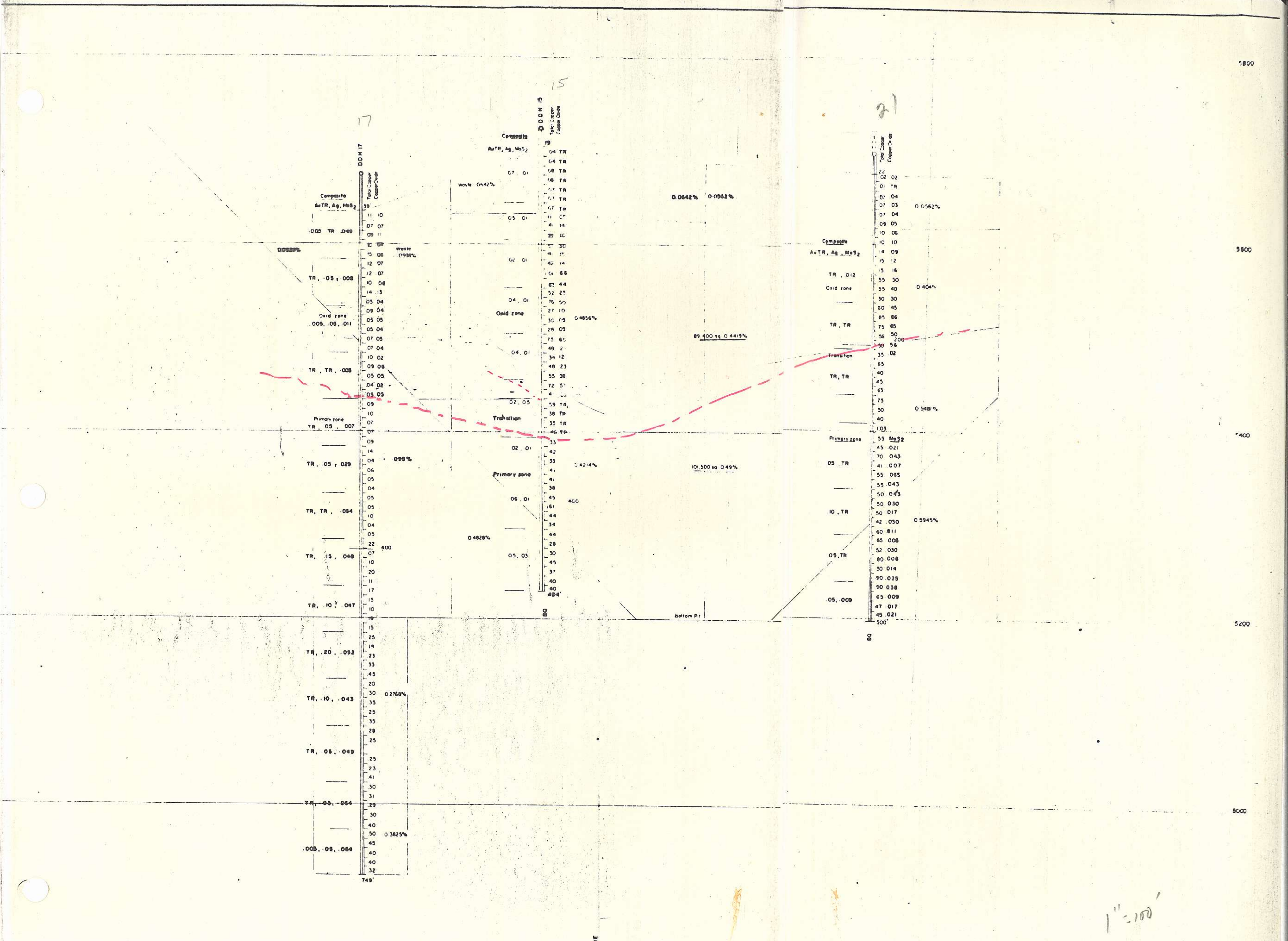
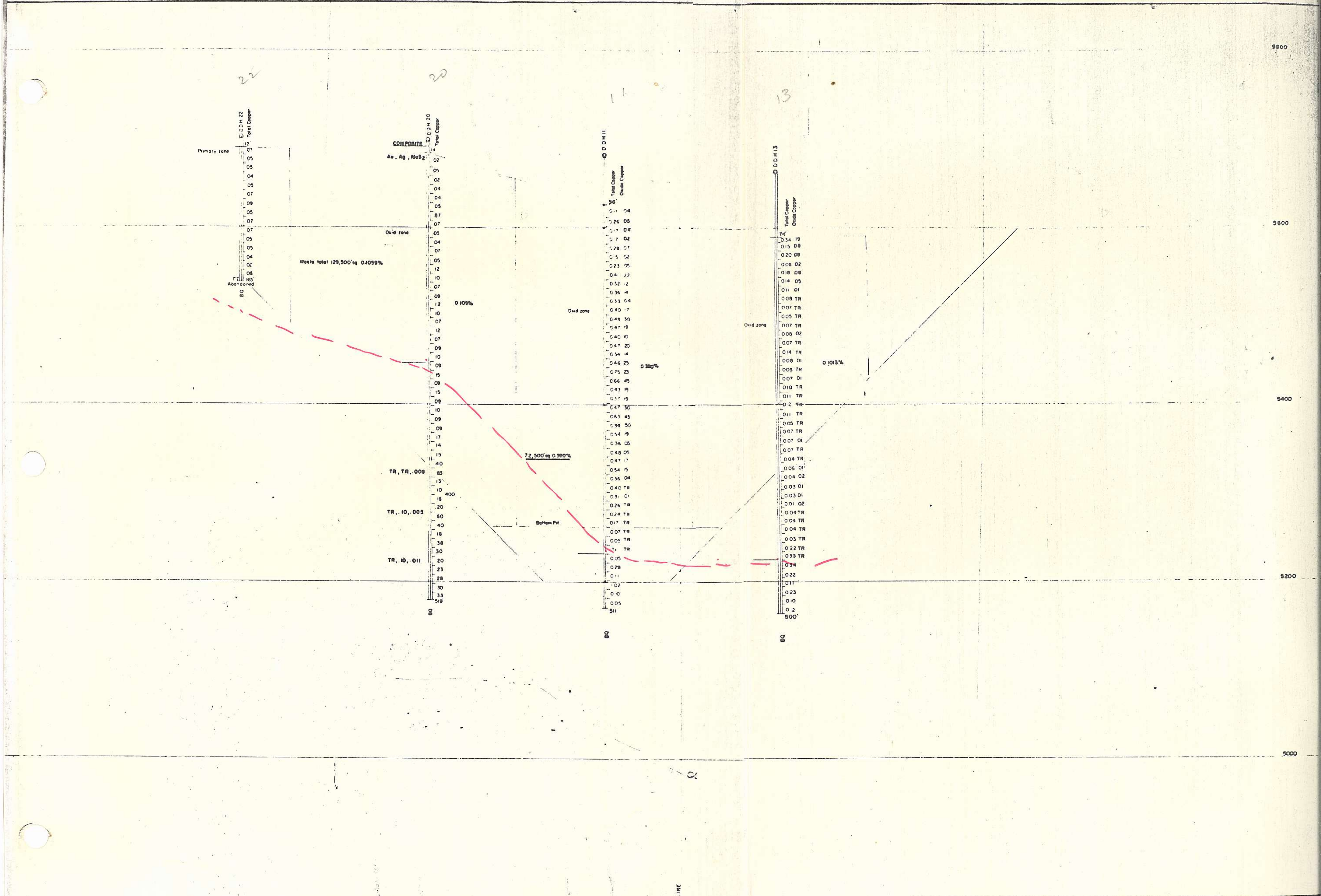
TRACED		
APPROVED	SCALE: 1" DATE	



DRAWN C.E. Dunn	VENTURE 82 - KRAIN
TRACED	
APPROVED	
SCALE	DATE

SECTION 130,240 NORTH



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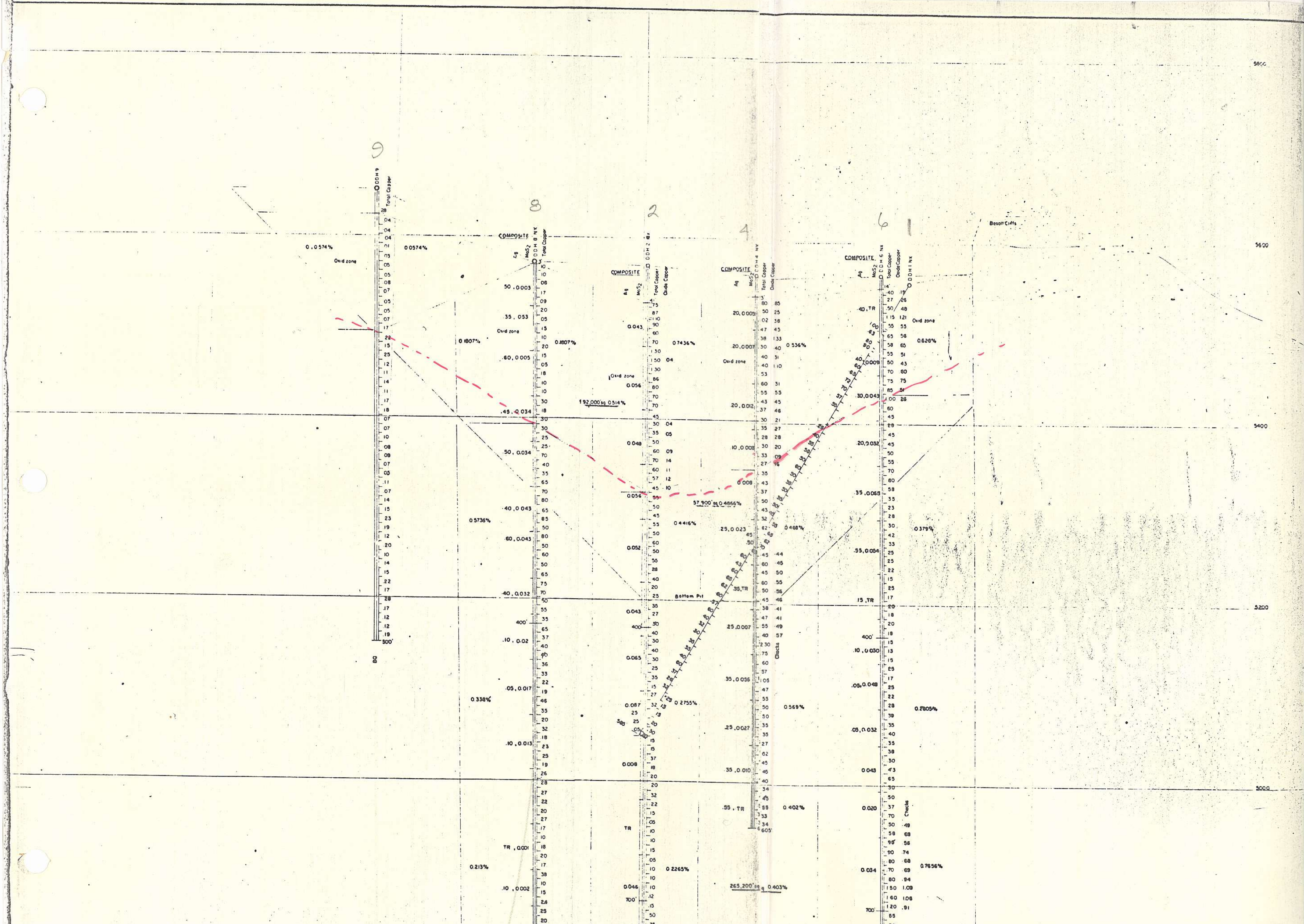
APPROVED	SCALE: 1" DATE	



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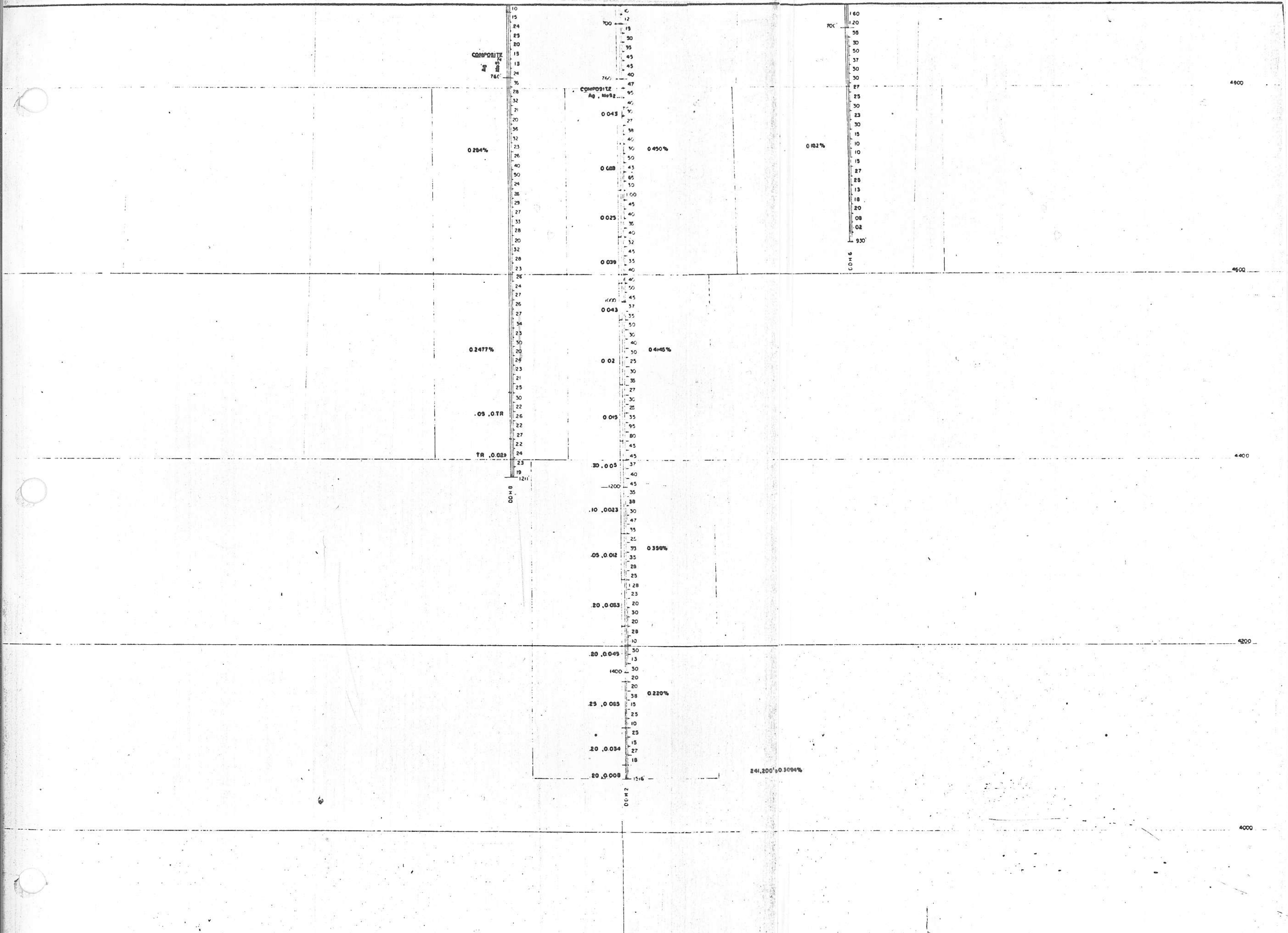
TRACED			
APPROVED		SCALE 1"	DATE



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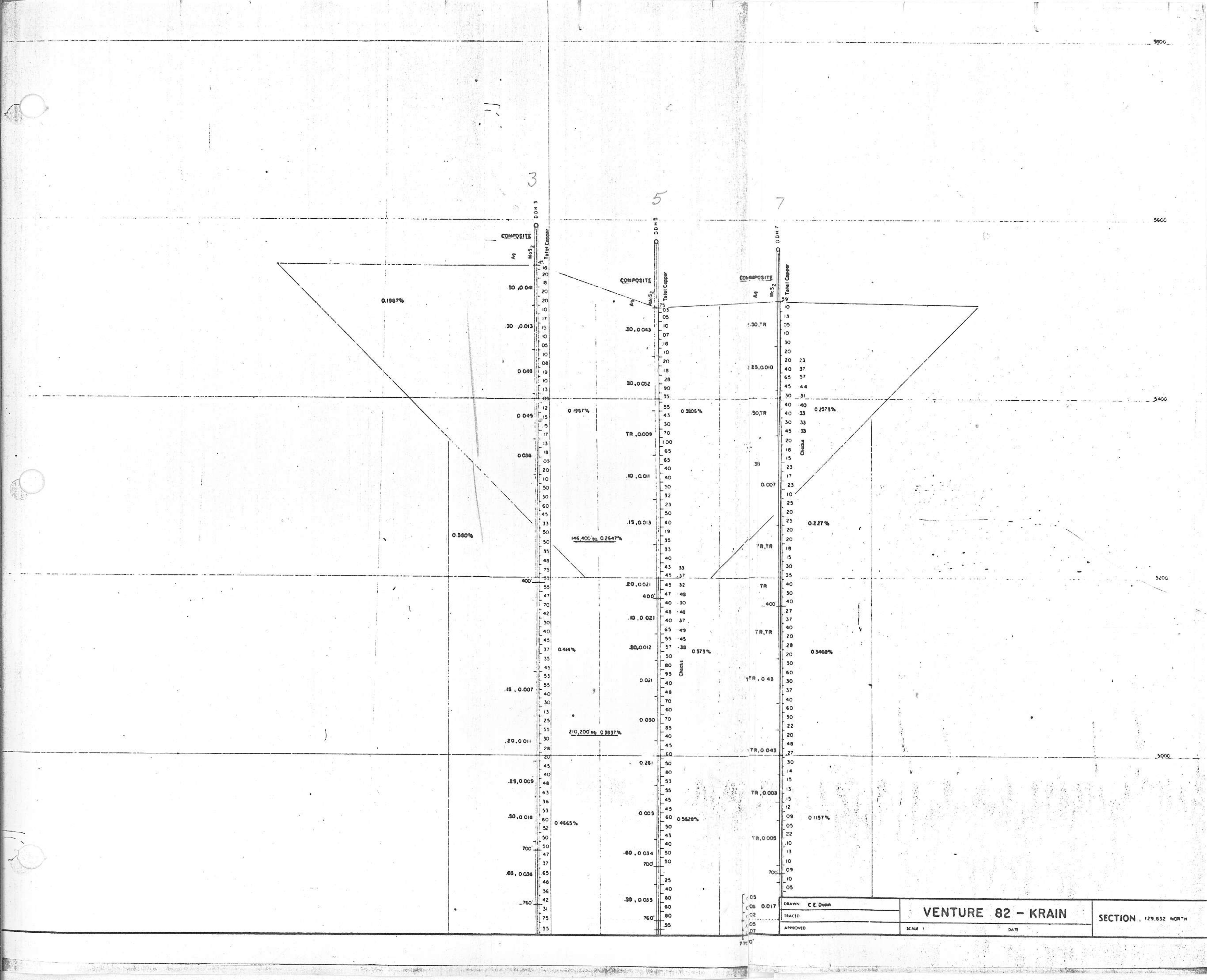
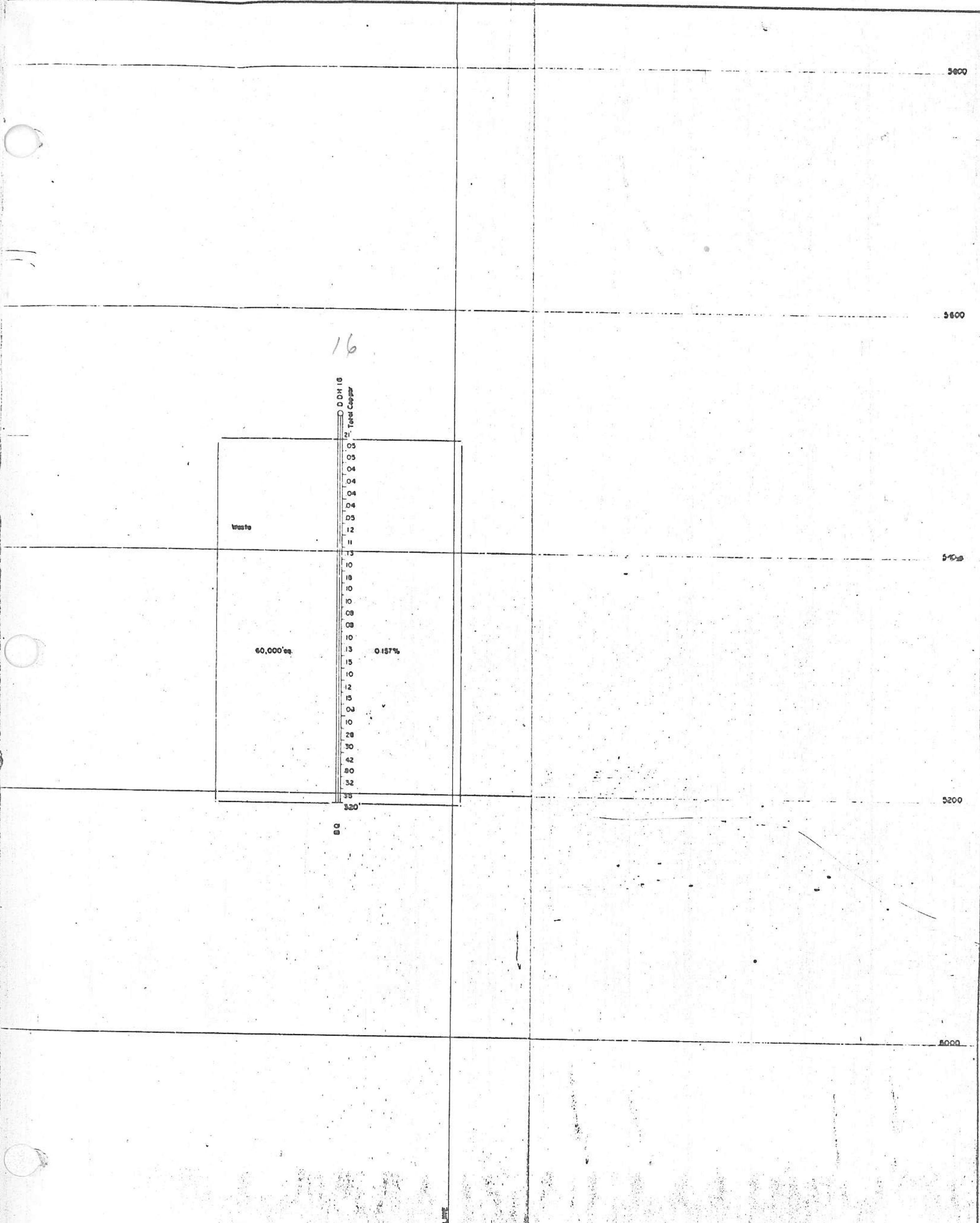
TRACED		
APPROVED	SCALE 1" DATE	



DDH 3
DDH 5
DDH 7
COMPOSITE
Ag
MoS_2
Total Copper
Checks
0.1967%
0.380%
0.414%
0.4665%
146,400 sq. 0.2647%
210,200 sq. 0.3837%
0.3805%
0.573%
0.5628%
0.2575%
0.227%
0.3468%
0.1157%
5600
5400
5200
5000
400
700
760
DRAWN C.E. Dunn
TRACED
APPROVED
VENTURE 82 - KRAIN
SCALE 1
DATE
SECTION, 129,832 NORTH



VENTURE 82 - KRAIN

SECTION 129,560 NORTH

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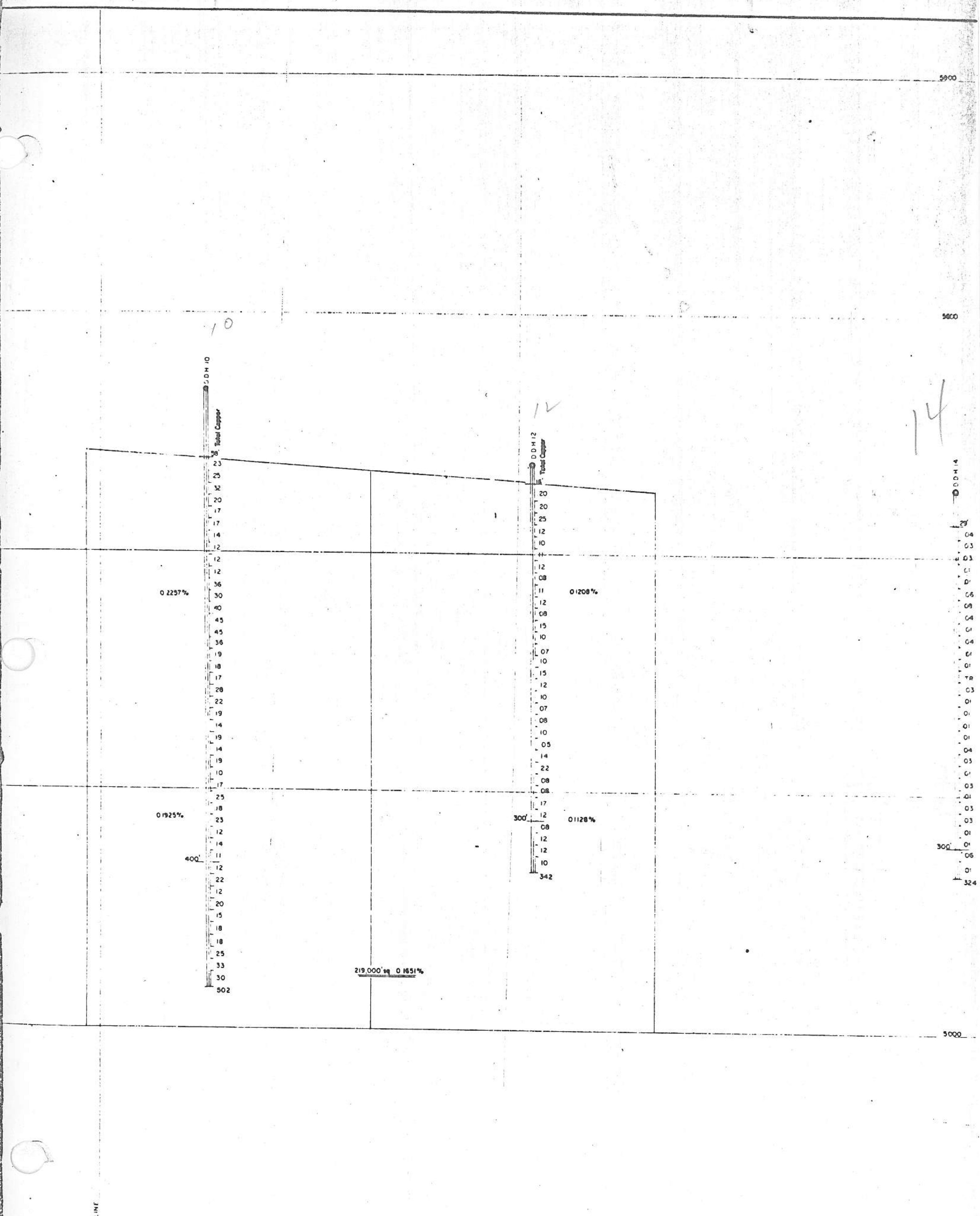

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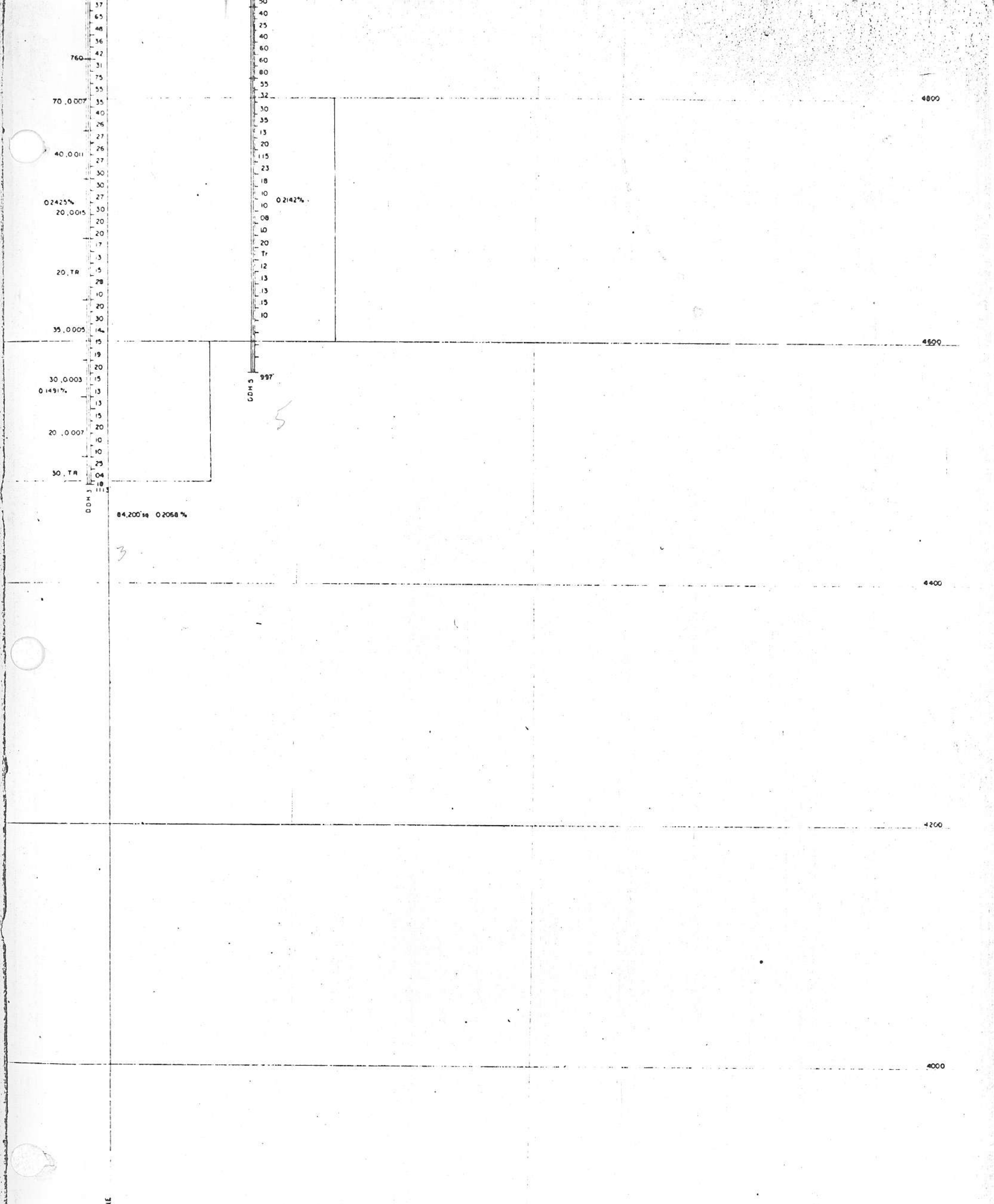
TRACED		
APPROVED	SCALE: 1" DATE:	



DRAWN: C.E. Dunn	VENTURE 82 - KRAIN	SECTION 129,832 NORTH
TRACED:		
APPROVED:	SCALE: 1 DATE	