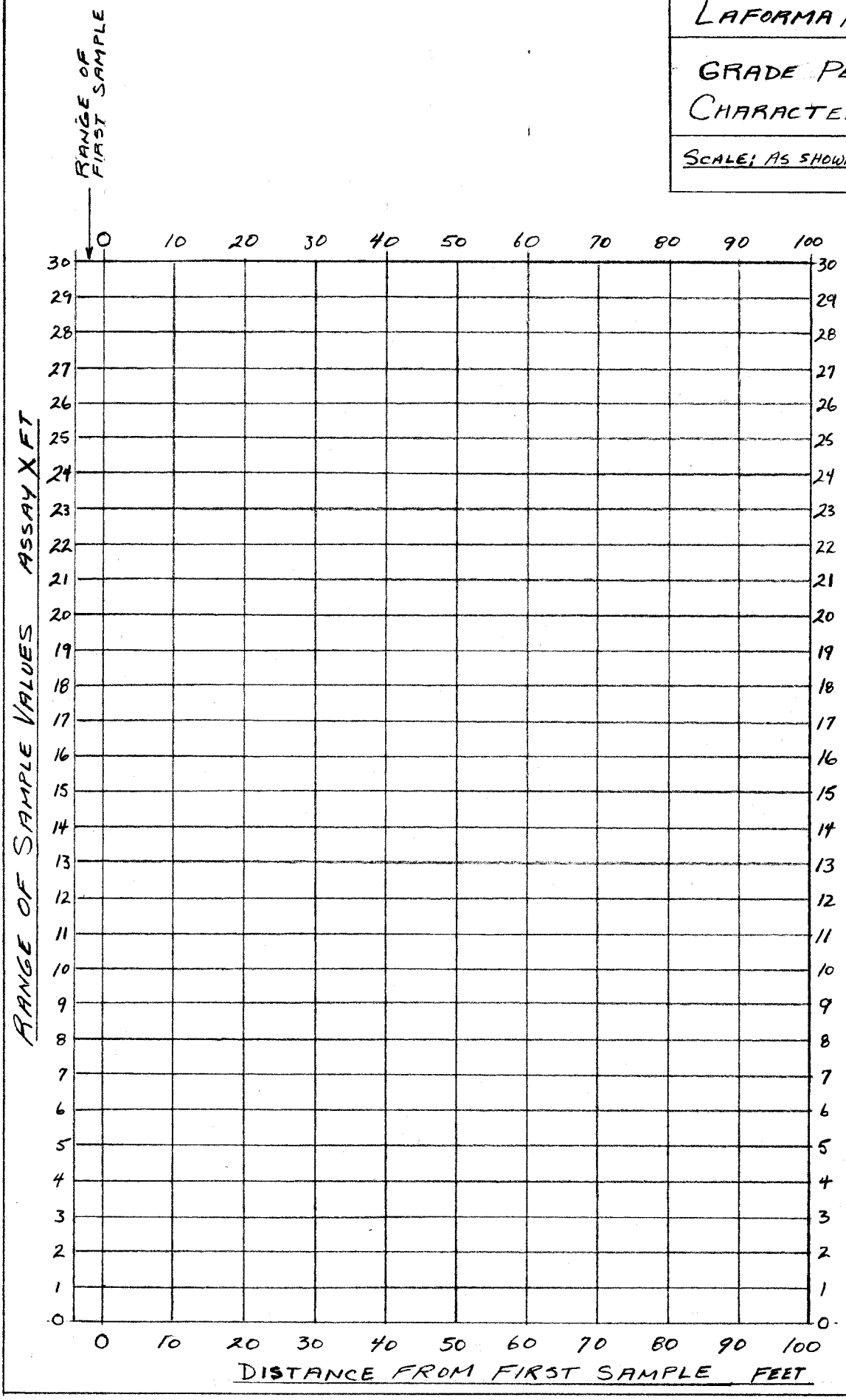
LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN OCT 6, 1965

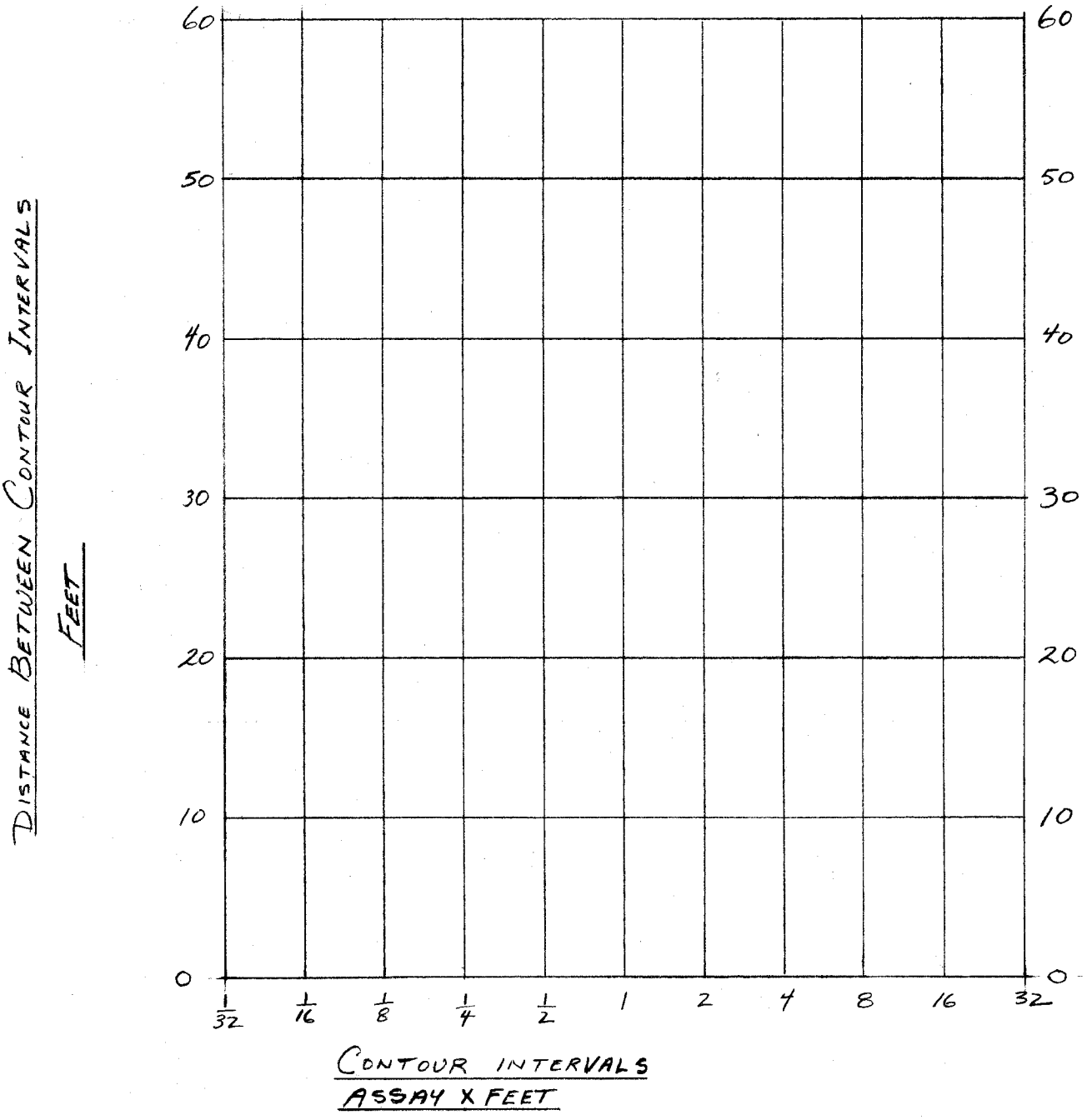


DATA INFORMATION

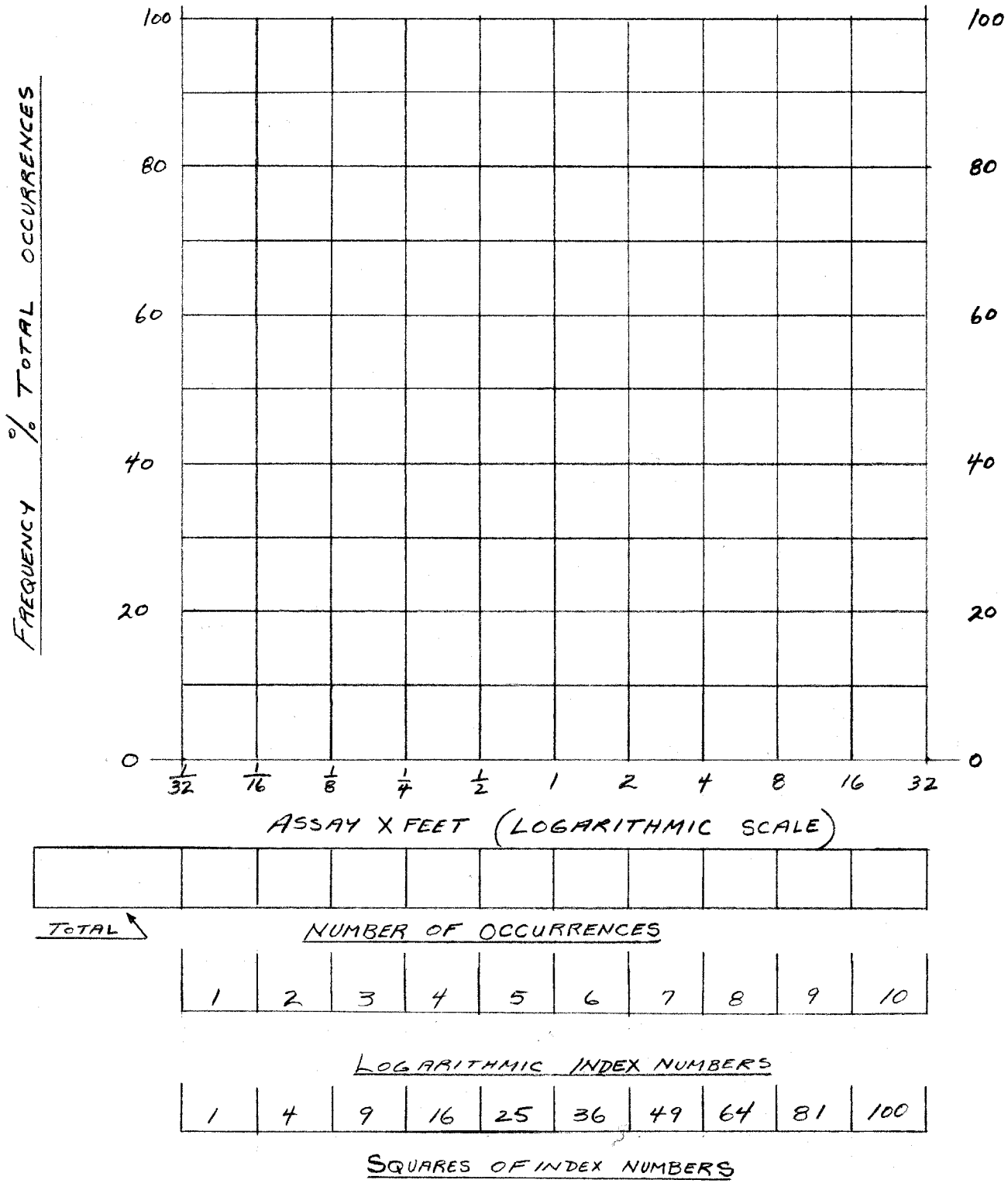
RANGE OF "FIRST SAMPLE" _____

DIRECTION OF "DISTANCE" _____

NO. OF SAMPLES IN "FIRST SAMPLE" _____



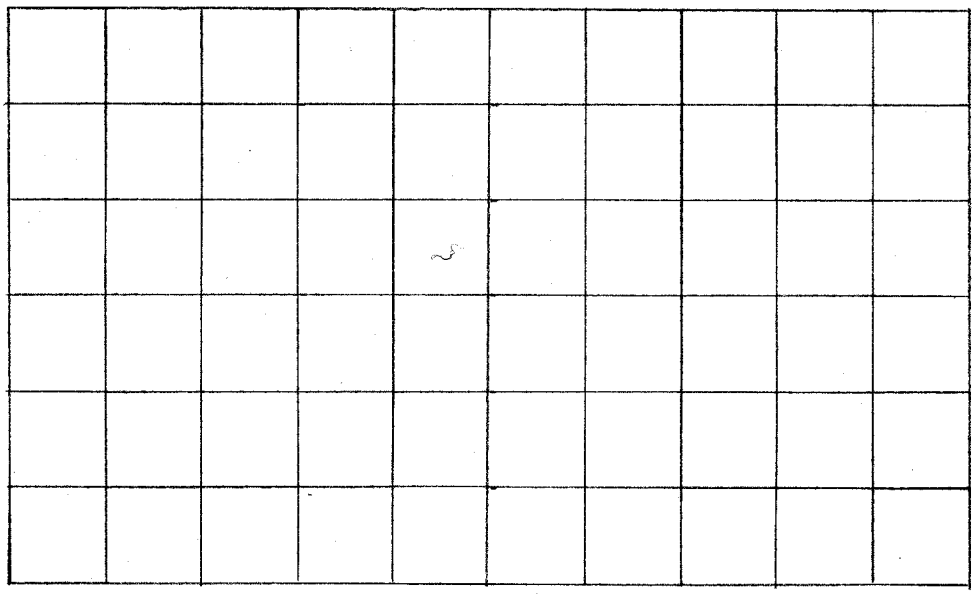
LAFORMA MINE
GRAPH SHOWING DISTRIBUTION OF DISTANCE INTERVALS BETWEEN CONTOURS
SCALE: AS SHOWN



LAFORMA MINE

FREQUENCY DISTRIBUTION CHART FOR FT-02 OF SAMPLES

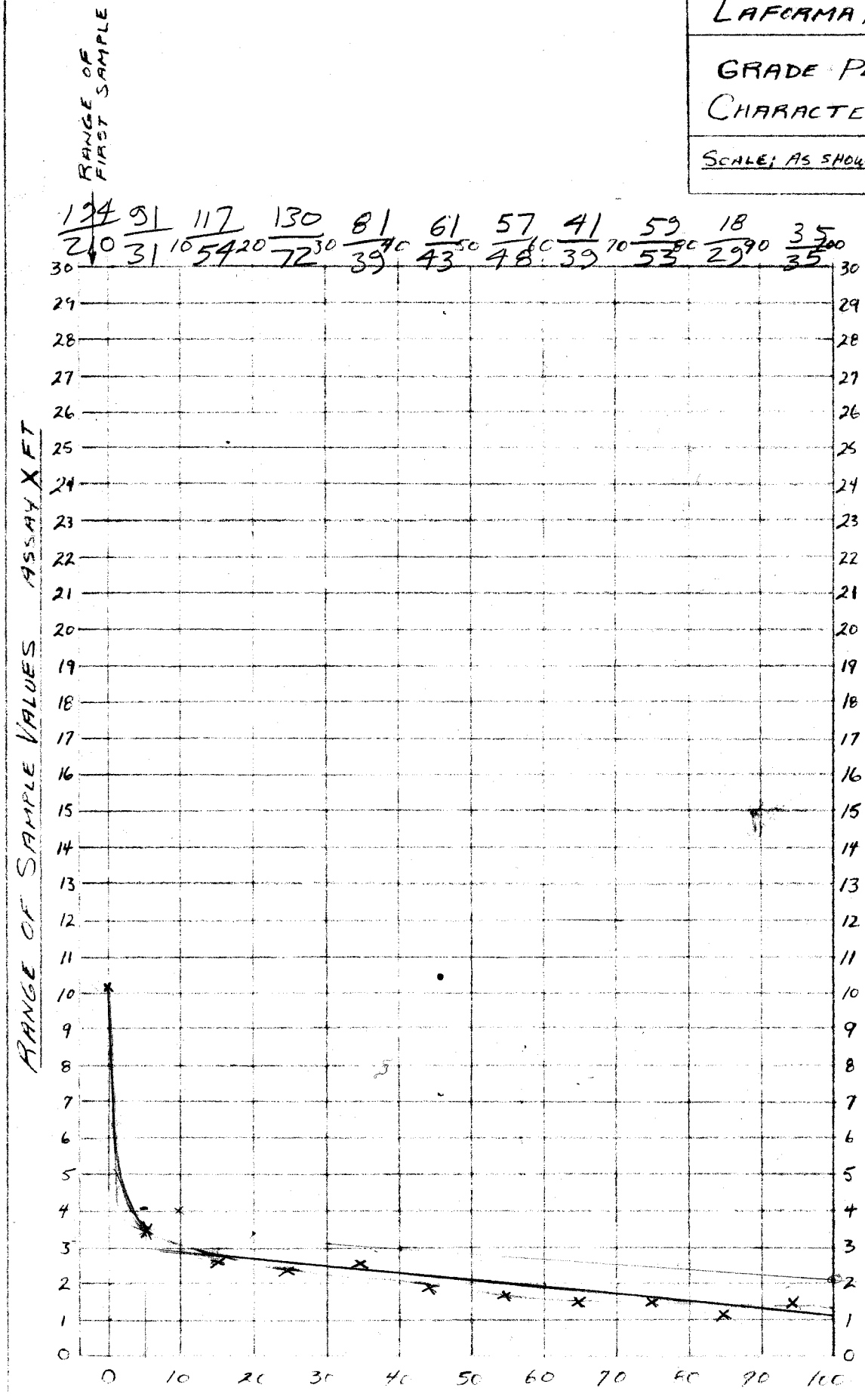
SCALE: AS SHOWN



LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN OCT 6, 1965



DATA INFORMATION

RANGE OF "FIRST SAMPLE" 5ft

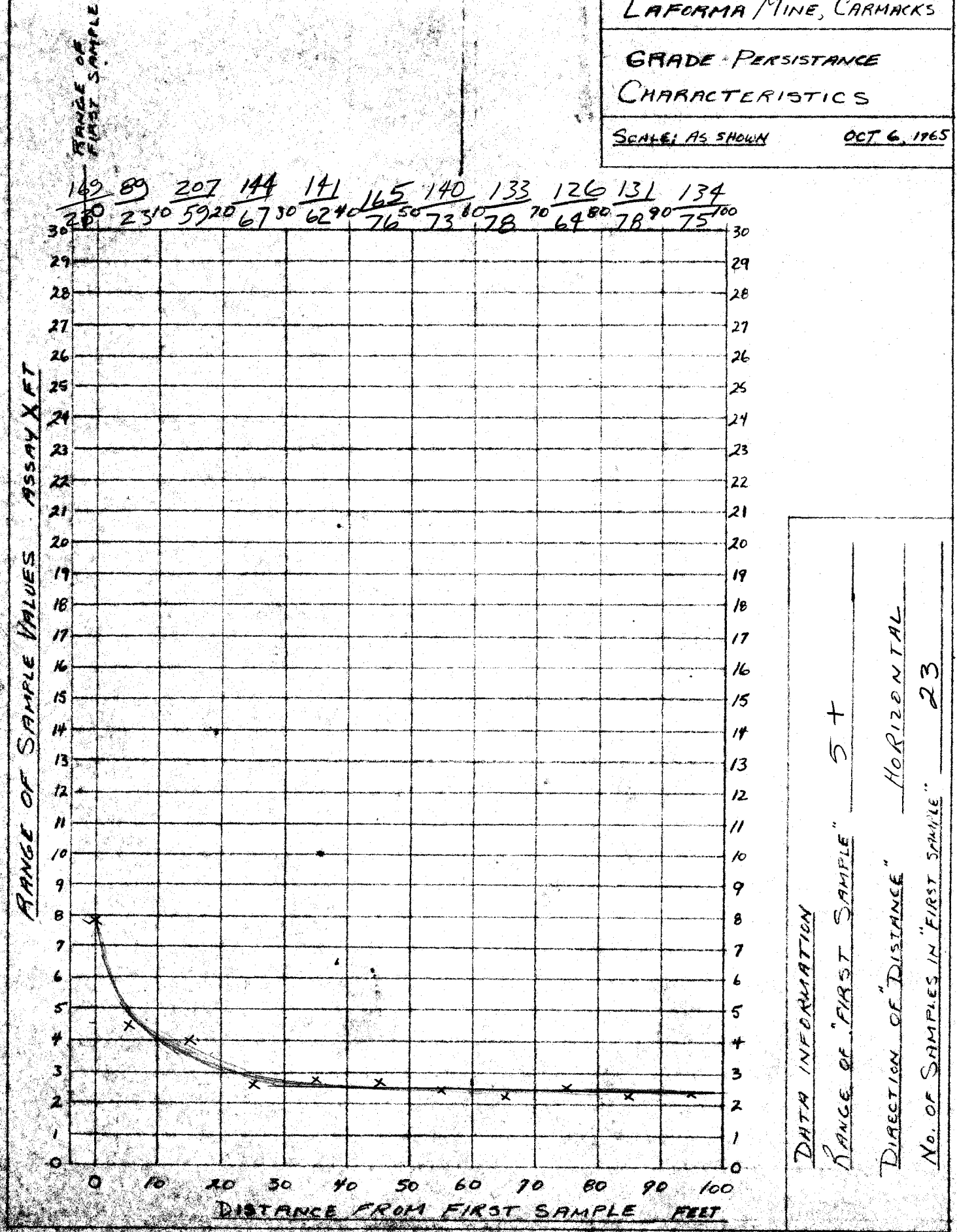
DIRECTION OF "DISTANCE" VER

NO. OF SAMPLES IN "FIRST SAMPLE" 21

LAFORMA MINE, CARMACKS

GRADE - PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN OCT 6, 1965



DATA INFORMATION

RANGE OF "FIRST SAMPLE" 5+

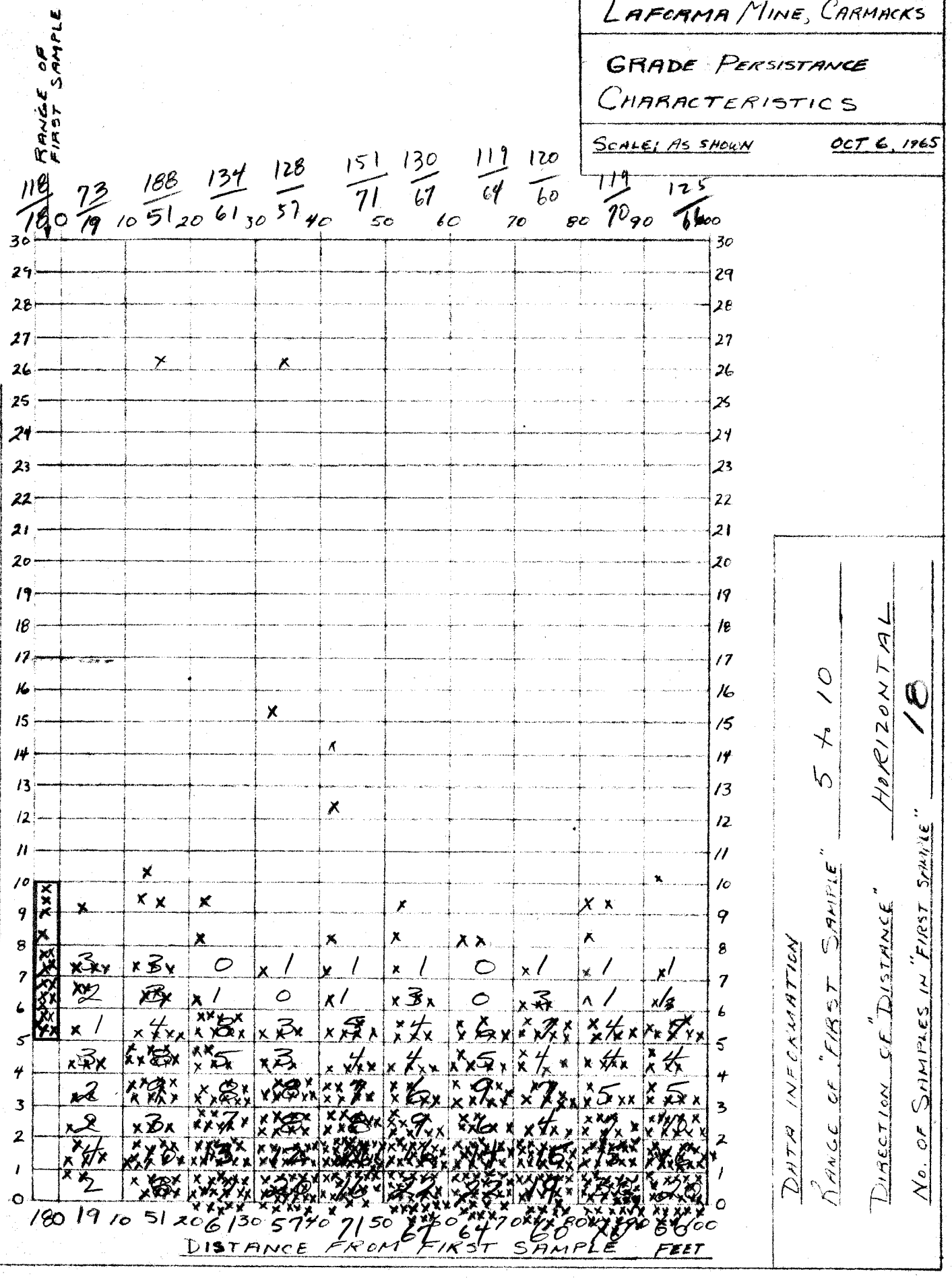
DIRECTION OF "DISTANCE" HORIZONTAL

NO. OF SAMPLES IN "FIRST SAMPLE" 23

LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN OCT 6, 1965



DATA INFORMATION

RANGE OF "FIRST SAMPLE" 5 to 10

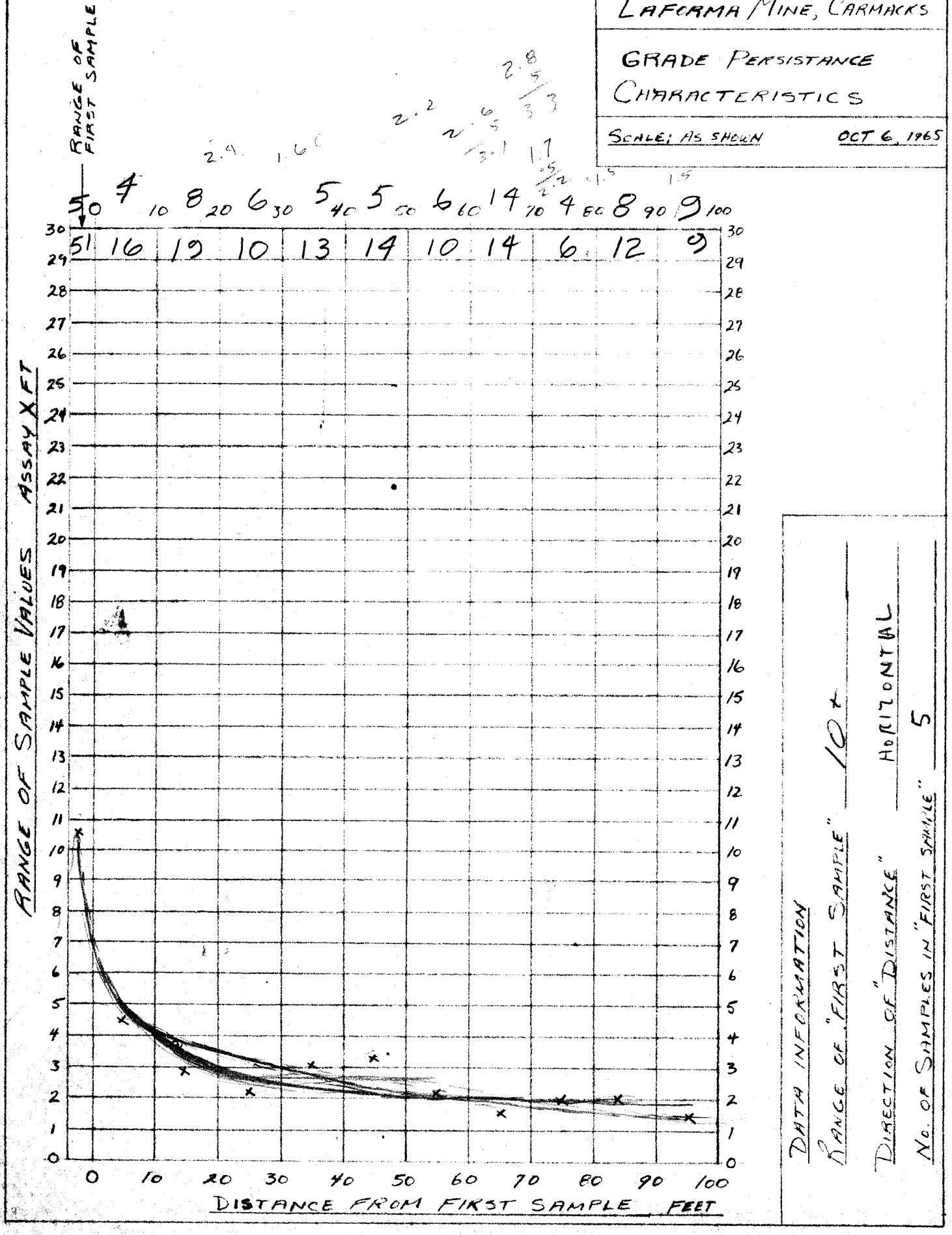
DIRECTION OF "DISTANCE" HORIZONTAL

NO. OF SAMPLES IN "FIRST SAMPLE" 10

LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN OCT 6, 1965



DATA INFORMATION

RANGE OF "FIRST SAMPLE" 10 ft

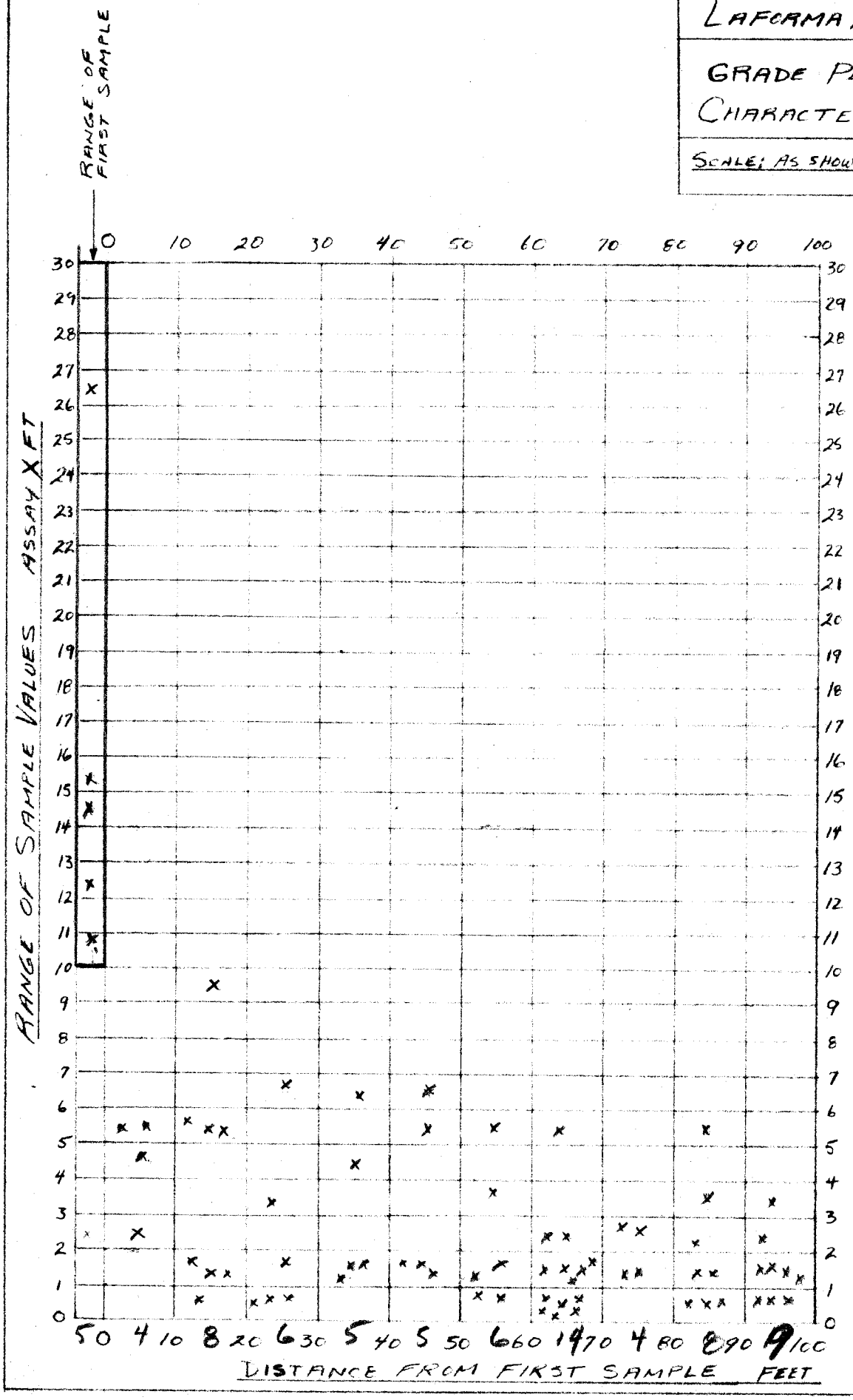
DIRECTION OF "DISTANCE" HORIZONTAL

NO. OF SAMPLES IN "FIRST SAMPLE" 5

LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN — OCT 6, 1965



DATA INFORMATION

RANGE OF "FIRST SAMPLE" 10 and over

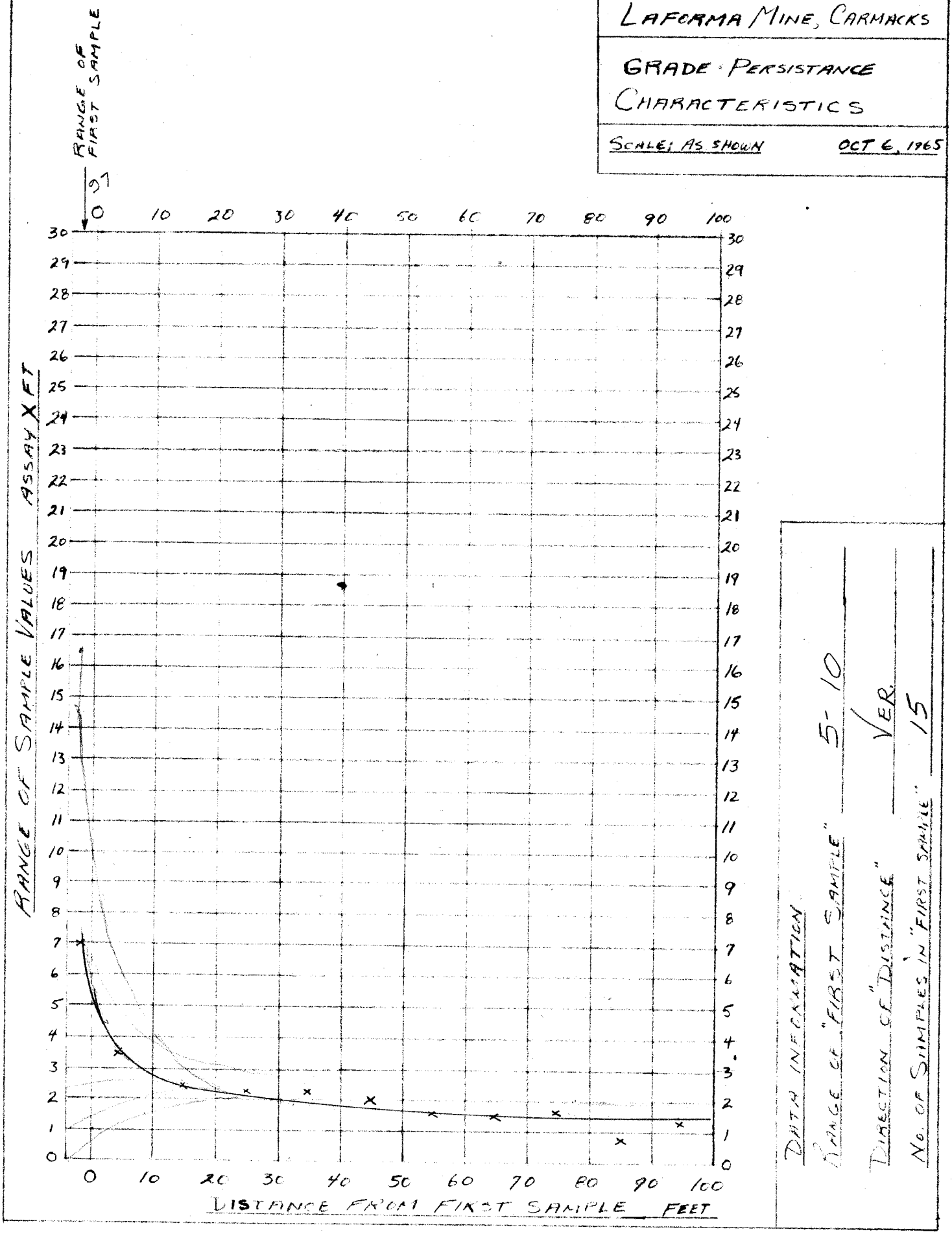
DIRECTION OF "DISTANCE" HORIZONTAL

NO. OF SAMPLES IN "FIRST SAMPLE" 5

LAFORMA MINE, CARMACKS

GRADE - PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN OCT 6, 1965



DRILL INFORMATION

RANGE OF "FIRST SAMPLE" 5-10

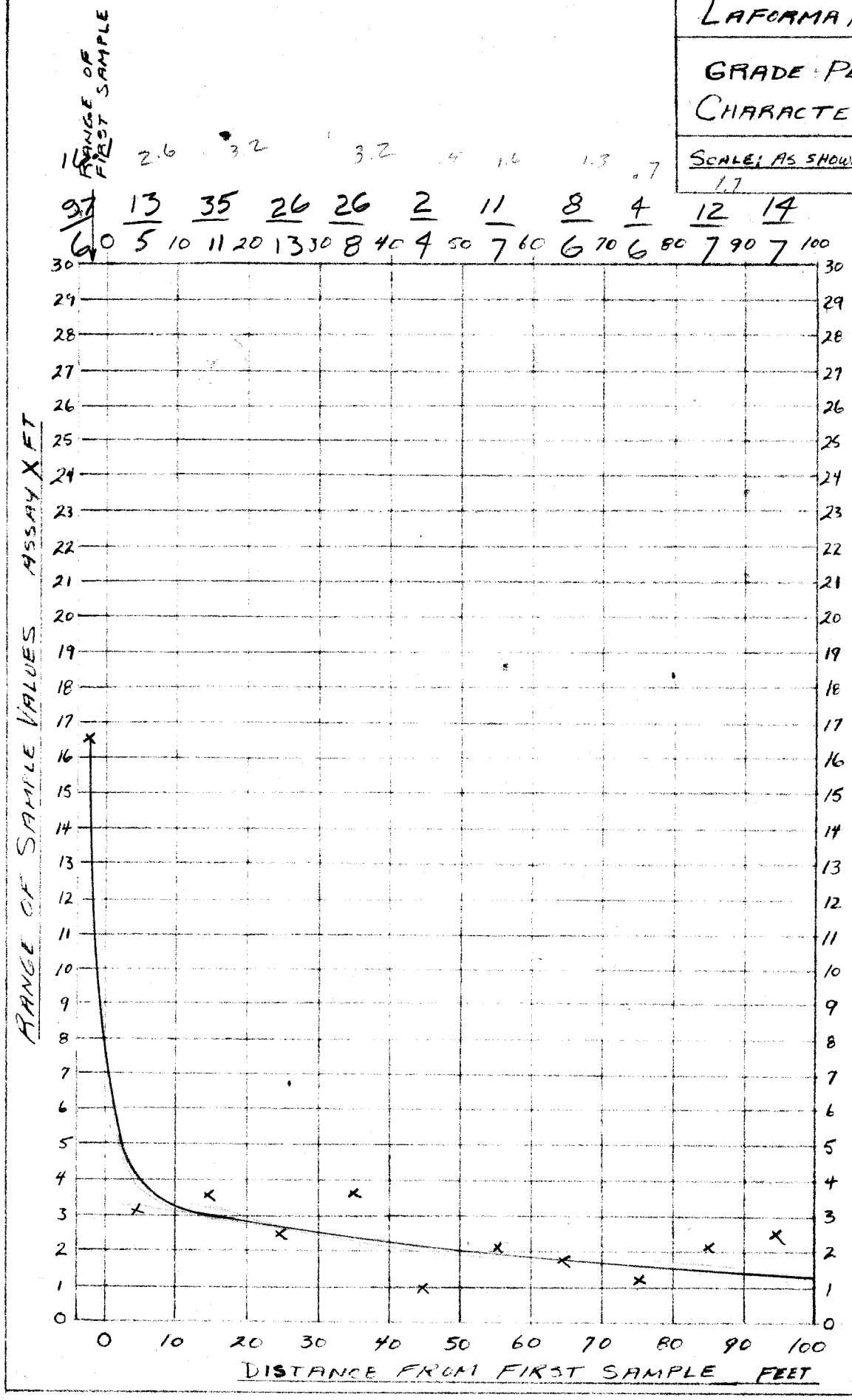
DIRECTION OF "DISTANCE" VER.

NO. OF SAMPLES IN "FIRST SAMPLE" 15

LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN — OCT 6, 1965



DATA INFORMATION

RANGE OF "FIRST SAMPLE" 10 +

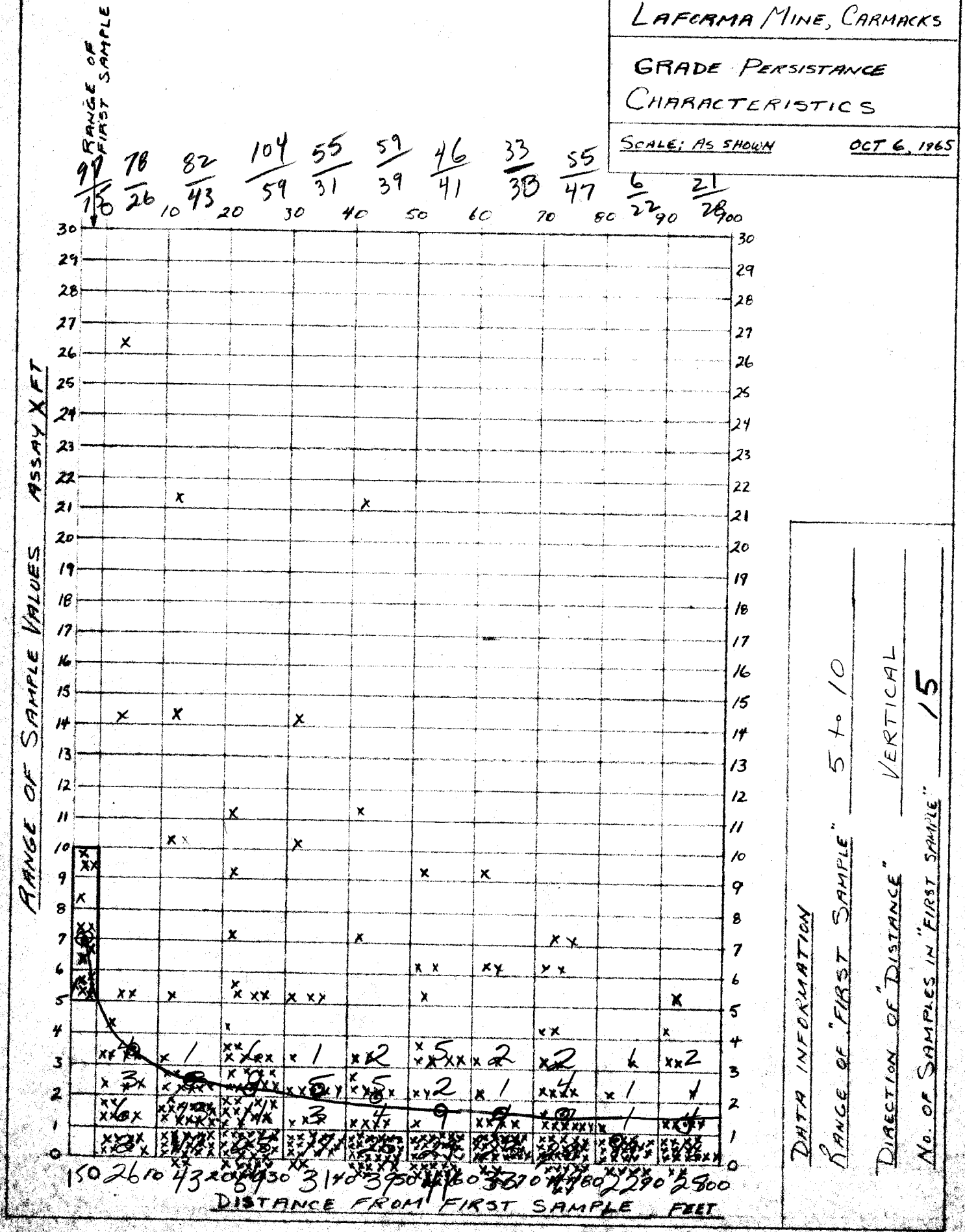
DIRECTION OF "DISTANCE" VERTICAL

NO. OF SAMPLES IN "FIRST SAMPLE" 6

LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN — OCT 6, 1965



DATA INFORMATION

RANGE OF "FIRST SAMPLE" 5 to 10

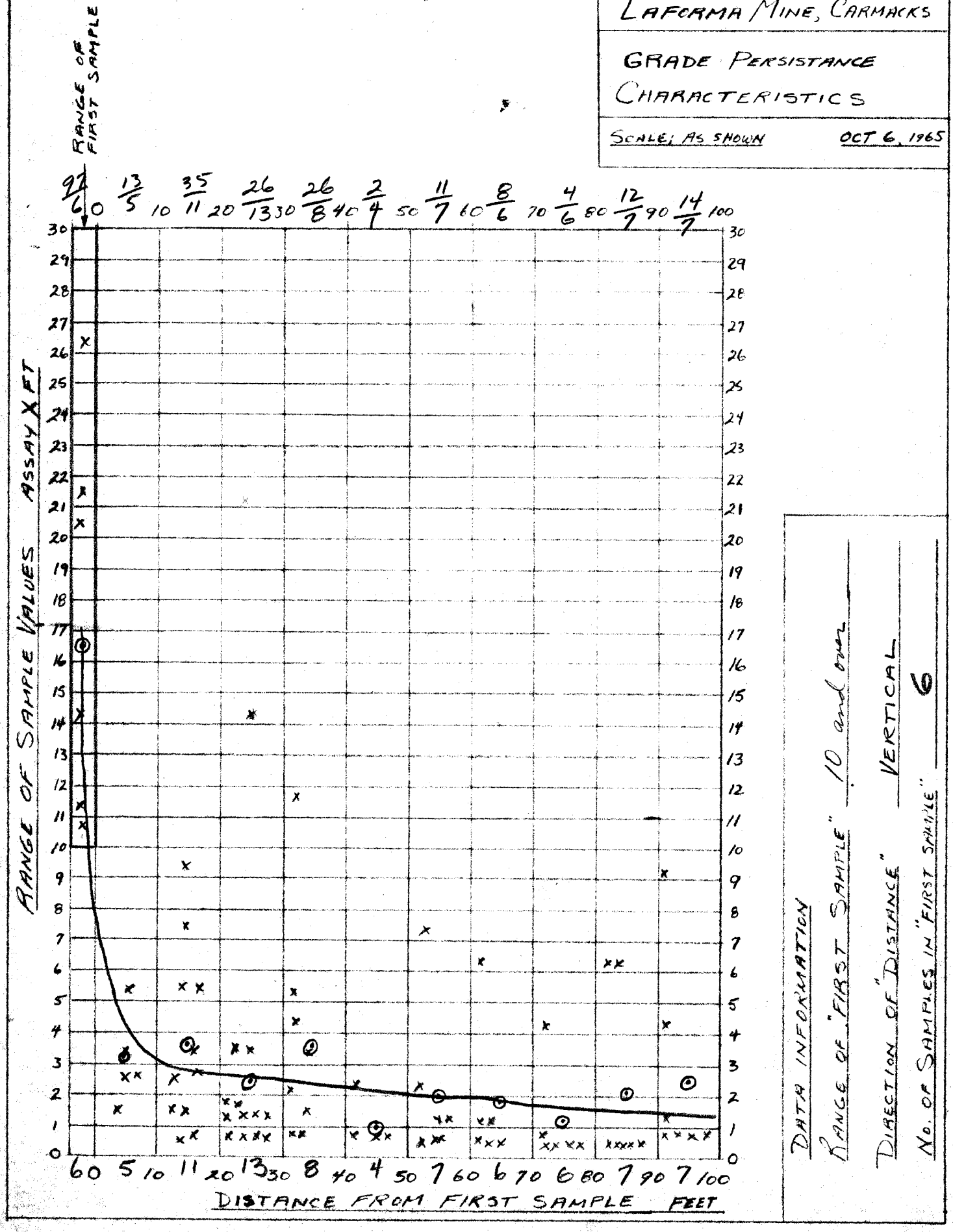
DIRECTION OF "DISTANCE" VERTICAL

NO. OF SAMPLES IN "FIRST SAMPLE" 15

LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN OCT 6, 1965



DATA INFORMATION

RANGE OF "FIRST SAMPLE" 10 and over

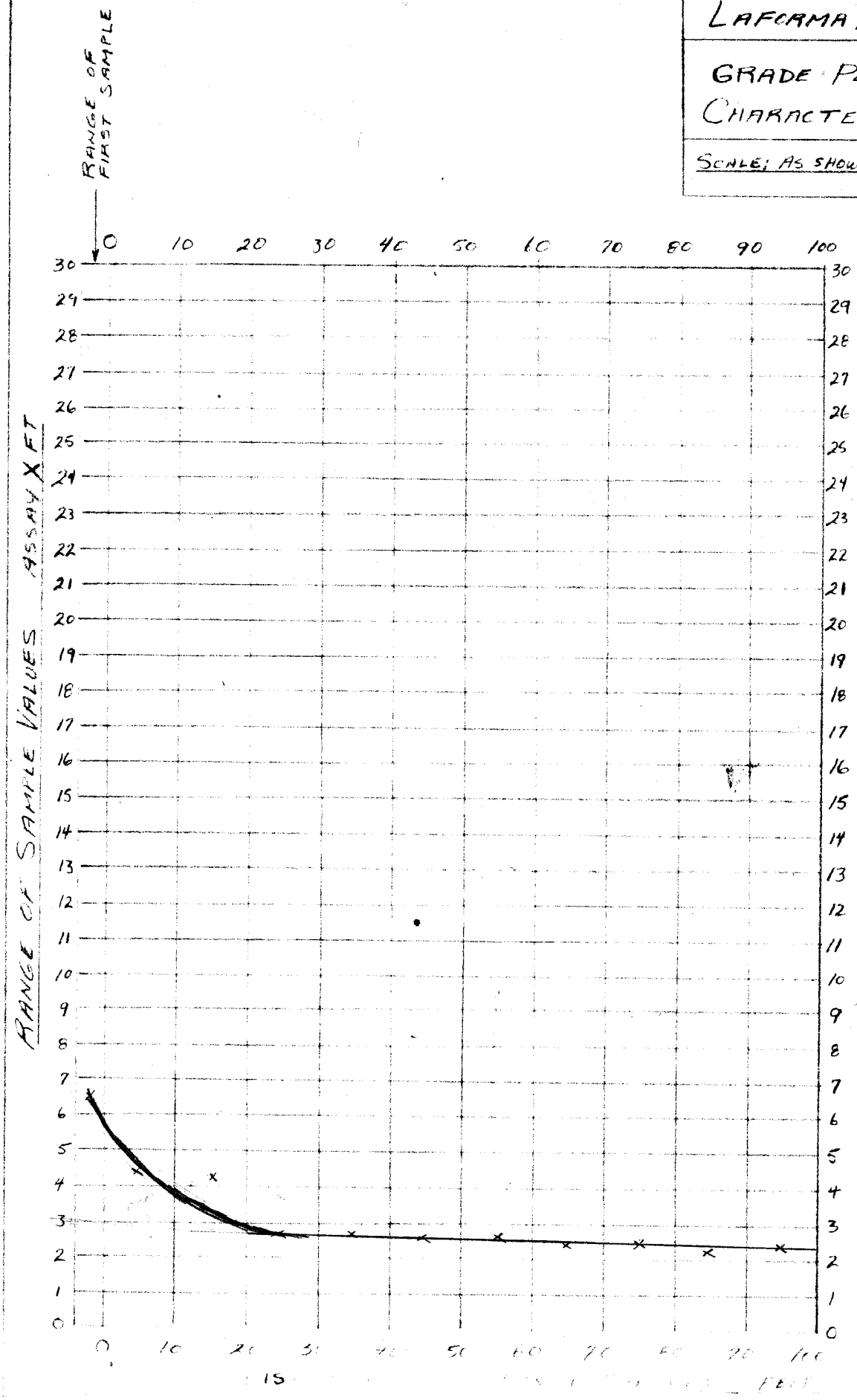
DIRECTION OF "DISTANCE" VERTICAL

NO. OF SAMPLES IN "FIRST SAMPLE" 6

LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN — OCT 6, 1965

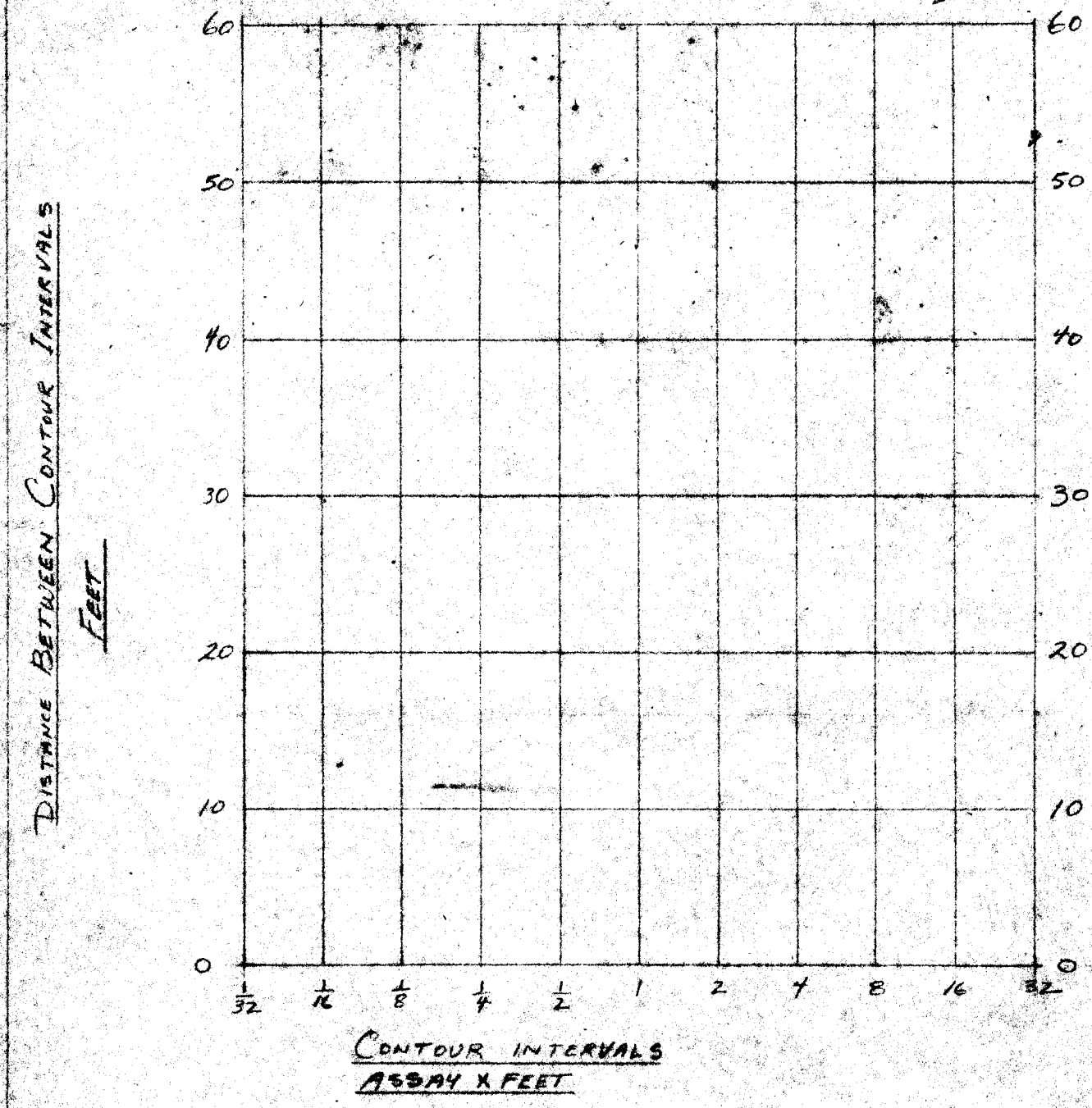


DATA INFORMATION

RANGE OF "FIRST SAMPLE" 5-10

DIRECTION OF "DISTANCE" HOR.

NO. OF SAMPLES IN "FIRST SAMPLE" 18



LAFORMA MINE

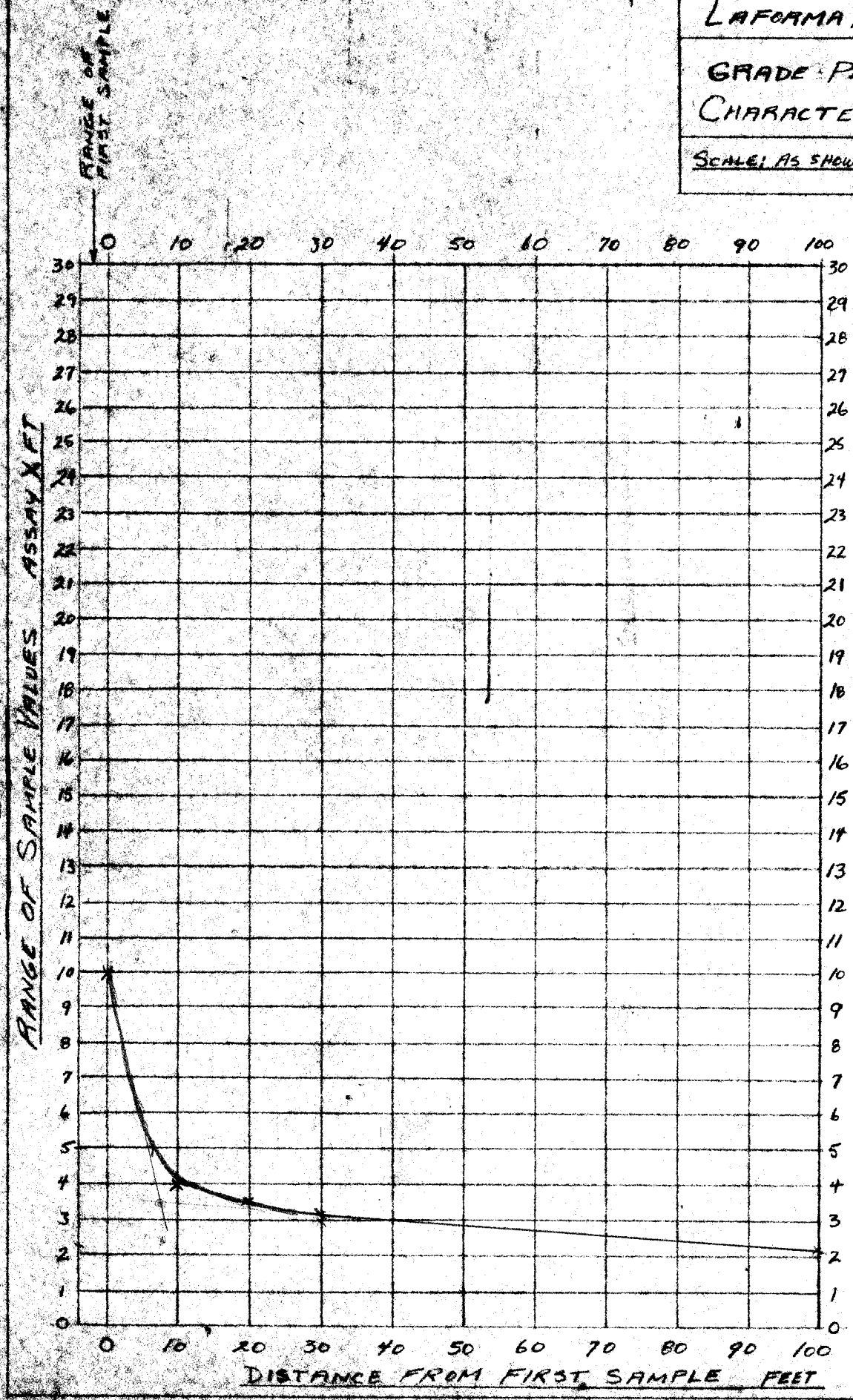
GRAPH SHOWING DISTRIBUTION OF DISTANCE INTERVALS BETWEEN CONTOURS

SCALE: AS SHOWN

LAFORMA MINE, CARMACKS

GRADE PERSISTANCE CHARACTERISTICS

SCALE: AS SHOWN OCT 6, 1965

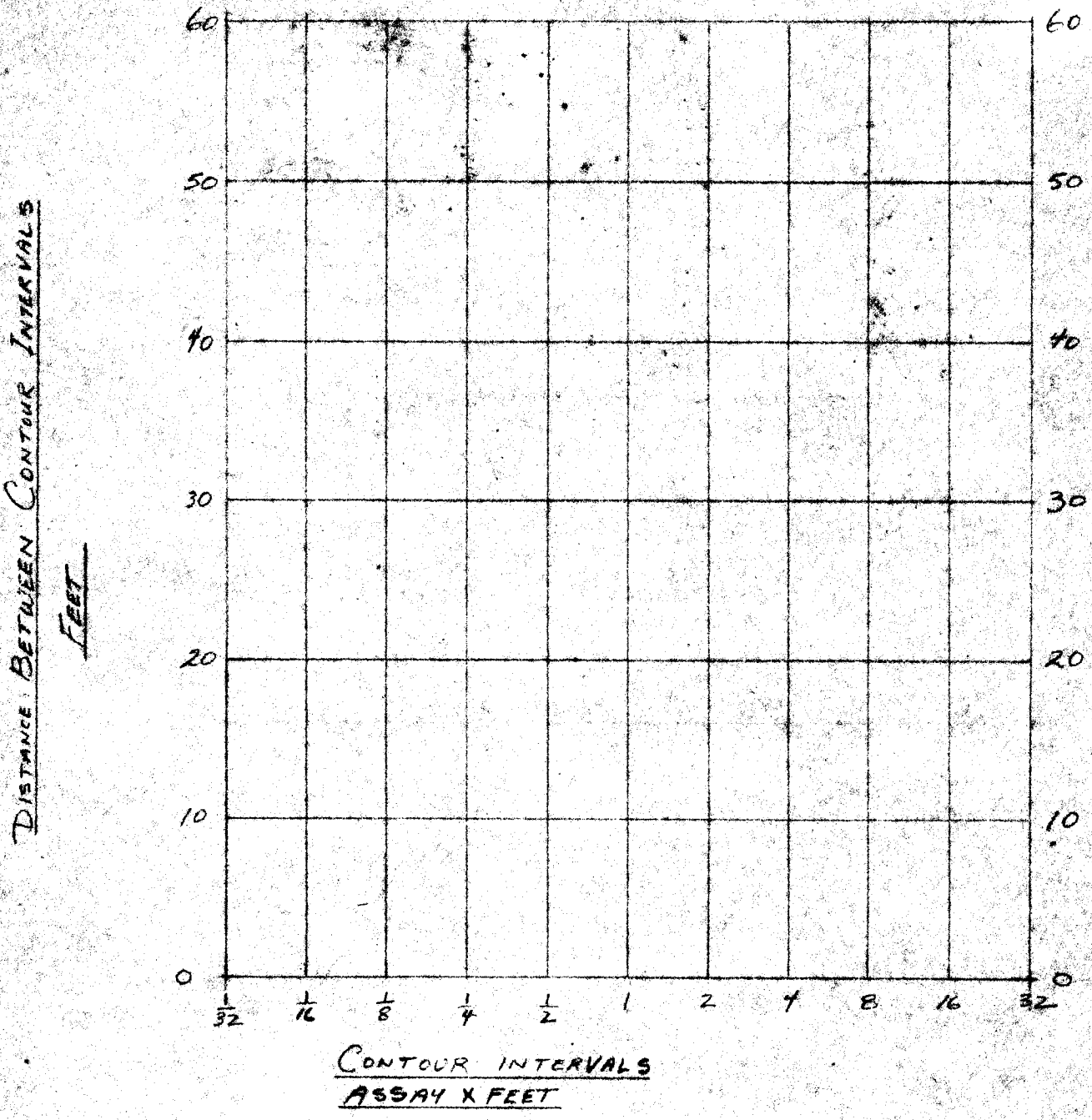


DATA INFORMATION

RANGE OF "FIRST SAMPLE" OVER 5

DIRECTION OF "DISTANCE" VERTICAL

NO. OF SAMPLES IN "FIRST SAMPLE" 20



LAFORMA MINE

GRAPH SHOWING DISTRIBUTION OF DISTANCE INTERVALS BETWEEN CONTOURS

SCALE: AS SHOWN

What Ore must pay for.

(1) Salvage Operation.

Mining Cost. } Plant operating cost.
Milling Cost. }

(2) Recovery Operation.

Mining Cost
Milling Cost.
Capital Cost.
Capital W/o.

(3) Indefinite operation.

Mining Cost.
Milling Cost.
Capital Cost.
Development Cost.

(4) Expanding Operation.

Mining Cost
Milling Cost.
Capital Cost.
Development Cost.
Exploration Cost.

Log-Normal Distribution

Standard Divination is factor 3.88

Mean is 3.75 times the mode

log 3.88 = 1.355

~~Standard dev of a lognormal = .56~~

Variance of lognormal is .56

$\frac{1}{2}$ Variance = .28. (factor 1.215)

95% is 1.650

All samples uncut Block 311-314 Block A.

2.30
.44
1.00 (NO SAMPLE)
1.52
.40
2.39
6.93
5.10
3.13
4.03
1.67
1.44
0.85

31.20

Avge = 2.40

= 0.48 over 5' width.

All samples uncut Block 410 - 412 Block B

Assay x Ft.	Weight	
1.21	X 39	47.19
1.16	X 36	47.76
0.99	X 34	33.66
1.51	X 31	46.82
2.52	X 28	70.56
4.10	X 25	102.50
5.70	X 23	131.10
1.57	X 20	31.40
1.30	X 18	23.40
2.38	X 15	35.70
5.00	X 13	65.00
~~4.00~~ 3.04	X 10	30.40
4.00	X 8	32.00
8.70	X 5	43.50
8.85	X 2	17.70
	307	758.69

Avge = 2.50

= .50 over 5'

All samples uncut.

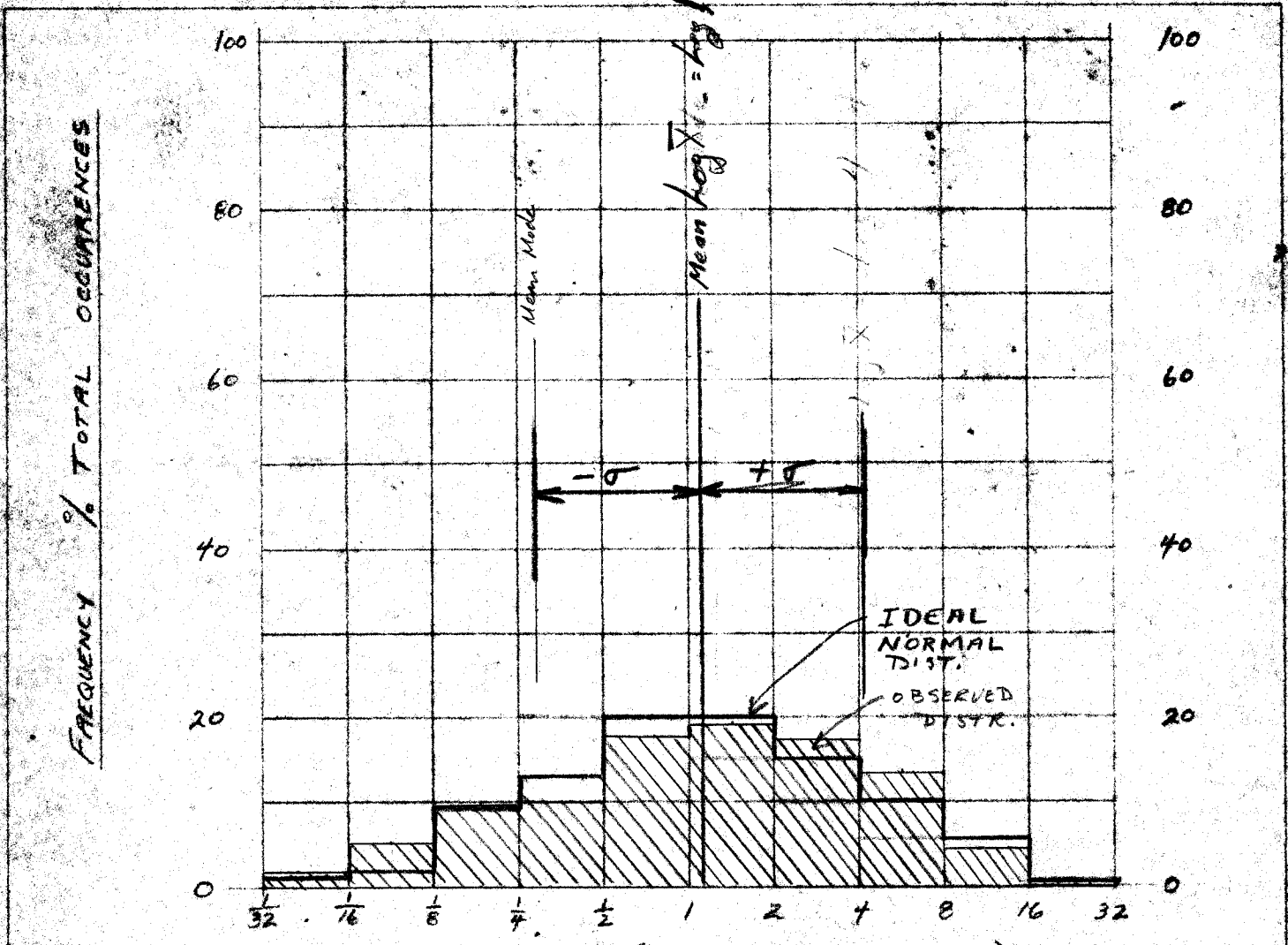
Block C #05 - #08.

AVERAGE	DIST	
1.92	36	= 69.2
3.34	36	= 120.4
4.54	36	= 163.6
1.93	36	= 69.5
1.36	36	= 49
1.93	33.5'	= 64.5'
3.61	31	= 112.0
2.14	28.5'	= 61.0
2.10	26	= 54.6
~~2.35~~ .68	23.5'	= 15.9
74	21	= 15.5
2.04	18.5	= 37.8
6.52	15.5	= 101.0
12.0	13	= 15.6
1.11	10.5'	= 11.7
1.01	8	= 8.1
3.25	5'	= 16.3
1.10	3	= 3.3
.63	.5'	= .3x2
	TOTAL 41.75	989.3

$\therefore \frac{989.3}{417.5} = 2.37$ AS, FT

$\therefore \frac{2.37}{5} =$ ~~4.74~~ 0.47

AVE MINING WIDTH $= \frac{2.37}{5.4} =$ ~~4.4~~ 0.44



320	5	18	31	32	57	62	56	43	14	2

TOTAL

NUMBER OF OCCURRENCES

1	2	3	4	5	6	7	8	9	10

5.65
1.90
3.75

LOGARITHMIC INDEX NUMBERS

1	4	9	16	25	36	49	64	81	100

SQUARES OF INDEX NUMBERS

Level of Mean = 7.55

Mean = $\frac{1801}{320}$ = 5.65

Mean Square = $\frac{11348}{319}$ + .1 = 35.6 + .1 = 35.7

Squared Mean $\frac{31.9}{3.8}$

Variance

σ = 1.95

$\frac{1.95}{\sqrt{320}}$ = 0.11

LAFORMA MINE

FREQUENCY DISTRIBUTION CHART FOR FT-OZ OF SAMPLES

SCALE: AS SHOWN

(Chi)^2 test.

degrees of freedom. $10 - 2 - 1 = 7$.

$\frac{(5 - 3.2)^2}{3.2}$	.72
$\frac{(18 - 6.4)^2}{6.4}$	21.00
$\frac{(31 - 31)^2}{31}$	0
$\frac{(32 - 42)^2}{42}$	23.90
$\frac{(57 - 64)^2}{64}$	.77
$\frac{(62 - 64)^2}{64}$	.06
$\frac{(56 - 48)^2}{48}$	1.34
$\frac{(43 - 32)^2}{32}$	3.74
$\frac{(14 - 19)^2}{19}$	1.31

0

$\chi^2 = 52.84$.

BLOCK A

TOTAL AREA

320' x 140' = 44800 SQFT

0.35
0.30
0.35
0.35

MINED OUT AREA

.35 + .05 + .05 = .45 x 10,000 = 4500 SQFT

TOTAL AREA NOT MINED

44800 - 4500 = 40300 SQ. FT.

WIDTH 5'

∴ 40300 x 5 = 201500 CU. FT.

TON

$\frac{201500}{12} = \underline{\underline{16800}}$ TONS

BLOCK B

TOTAL AREA

155' x 408 x $\frac{1}{2}$ = 31620 SQFT

1.00
1.00
.98

MINED OUT AREA

1.00 + 0.05 + 0.02 = 1.07 x 10,000 = 10700 SQ FT

TOTAL AREA NOT MINED

31620 - 10700 = 20900 SQFT

WIDTH 5'

20900 x 5 = 104500 CU. FT

$\frac{104500}{12} = 8700$ TONS

TOTAL TONS

16800 + 8700 = 25500 TONS

OLD CAL

BLOCK	G	5800 TONS
	F	6400 TONS
	E	1100 TONS
TOTAL		13,300 TONS

BLOCK C.

TOTAL AREA

362 × 47 = 17014

362 × 92 × $\frac{1}{2}$ = 33305

TOTAL : 50319 SQFT.

MINED OUT AREA

57 × 10,000 = 5700 SQFT

TOTAL AREA NOT MINED

50300 - 5700 = 44600 SQFT.

WIDTH 5'

44600 × 5' = 223000 CU.FT

$\frac{22300}{12}$ = 18600 TONS.

TOTAL TONS

BLOCK	A	16800
	B	8700
	C	18600
TOTAL		44100 TONS

44100 T 20,700 = 64800

COMP. TO = 50,900 13,900 TONS

Mining "En bloc" Block 411

Initially Avge Assay ft = 1.97 $\frac{.39}{5.0}$ or $\frac{.36}{5.4}$

At present Avge Assay ft = 1.77 $\frac{.35}{5.0}$ or $\frac{.33}{5.4}$.

	AREA	BROKEN	WIDTH	TONS	GRD	OUNCES
411-N Stope	2993	1374	5.5	1361	0.69	945.50
411-S Stope	734	430	7.0	425	0.19	81.65
412 Stope	3468	1405	4.9	1405	0.26	366.14
TOTAL Stope	7195	3209	5.4	3191	0.44	1393.29

Indirect Costs + Overhead. = 150% of.
Direct Costs.

Untimbered Drift.

Direct cost abt. #25.00 per ft.

Nipping 280 feet.

direct rain cost increase = 2.80 x 2.75

= #7.70 per foot.

60 feet of rse @ 7.70 per foot. #463.00

V.S.

15 feet of drift @ 25.00 per foot. #375.00

#88.00

in favour of drifting.

DEC. 1965

1/2

BLOCK B

2.15 SQ IN.

10,000 x 2.15 = 21,500 SQ. FT.

21,500 x 5 = 107,500

$\frac{107,500}{12}$ = 9000 TONS

LOSS 12,800
9000
3,800 TONS

BLOCK A

2.06 SQ IN.

10,000 x 2.06 = 20,600 SQ. FT.

20,600 x 5 = 103,000 SQ. FT.

$\frac{103,000}{12}$ = 8,600 TONS

BLOCK A,

1.75 SQ. FT.

10,000 x 1.75 = 17,500 SQ FT

17,500 x 5 = 87,500 CU. FT.

$\frac{87,500}{12}$ = 7300 TONS

TONS LOSS

BLOCK A

+ 86.00	- 20700	
+ 7300	15900	
+ 15,900	4,800	TONS LOSS
—		

TOTAL TONS LOSS

48,00 - BLOCK A

= 8,00 = " B

8,600 - TONS

CENTRE VIEW

BLOCK A

4.97 SQ. IN

∴ 10,000 x 4.97 = 49700 SQ. FT

49700 x 5 = 248500 CU. FT.

$\frac{248500}{12} = \underline{\underline{20,700}}$ TONS

BLOCK B

3.07 SQ. IN

∴ 10,000 x 3.07 = 30,700 SQ. FT.

30,700 x 5 = 153,500 CU. FT

$\frac{153,500}{12} = \underline{\underline{12,800}}$ TONS

3.10
2.98
3.13
3.07

BLOCK C.

0.92 SQ IN

∴ 10,000 x .92 = 9200 SQ FT

9200 x 5 = 46000 CU. FT.

$\frac{46000}{12} = \underline{\underline{3900}}$ TONS

92
90
98
90
86

BLOCK D

0.05 SQ. IN

$\therefore$ $10,000 \times .005 = 500$ SQ FT

$500 \times 5 = 2500$ CU. FT

$\frac{2500}{12} = \underline{\underline{200}}$ TONS

BLOCK E

1.38 SQ. IN.

$10,000 \times 1.38 = 13800$ SQ FT

$13800 \times 5 = 69000$ CU FT

$\frac{69000}{12} = \underline{\underline{5750}}$ TONS

1.34
1.32
1.45
1.41
1.33
1.44
1.39

BLOCK F

1.54 SQ IN.

$10,000 \times 1.54 = 15400$ SQ FT.

$15400 \times 5 = 77000$ CU. FT

$\frac{77000}{12} = \underline{\underline{6400}}$ TONS

1.54
1.40
1.54
1.47
1.58

BLOCK G.

.27 SQ IN

$10,000 \times .27 = 2700$ SQ FT.

$2700 \times 5 = 13500$ CU FT.

.34
.29
.21
.25
.28
.26

FOOTWALL VEIN

BLOCK 'A'

3.15 SQ IN.

10,000 x 3.15 = 31,500 SQ. FT.

31,500 x 5 = 157,500 CU. FT.

$\frac{157,500}{12}$ = 13,120 TONS

∴ 13,120

− 11,250

1,870 TONS

$\frac{13500}{12} = 1125$ TONS

ORE FOR CENTRE VIEW

BLOCK	A	20,700
	B	12,800
	C	3,900
	D	200
	E	5,800
	F	6,400
	G	1,100

TOTAL TONS = 50,900 TONS

FOOTWALL VIEW

BLOCK A

2.70 SQ. IN

2.76
2.70
2.72
2.67

10,000 x 2.70 = 27,000 SQ. FT.

27,000 x 5 = 135000 CU. FT.

$\frac{135000}{12} = 11,250$ TONS

BLOCK B

2.28 SQ. IN.

2.20
3.34
2.22
2.39

10,000 x 2.28 = 22,800 SQ. FT.

22,800 x 5 = 114 000 CU. FT.

$\frac{114000}{12}$ = 9500 TONS

ORE FOR FOOT WALL VIEW

BLOCK A 11200

B 9500

TOTAL TONS 20,700 TONS.

TOTAL ORE 20,700 FOOTWALL VIEW

50,900 CENTRE VIEW

71,600 TONS

JAN, 1966

BLOCK 'A'

1.60 SQ IN.

10,000 x 1.60 = 16,000 SQ. FT.

16,000 x 5 = 80,000 CU. FT.

$\frac{80,000}{12}$ = 6,600 TONS

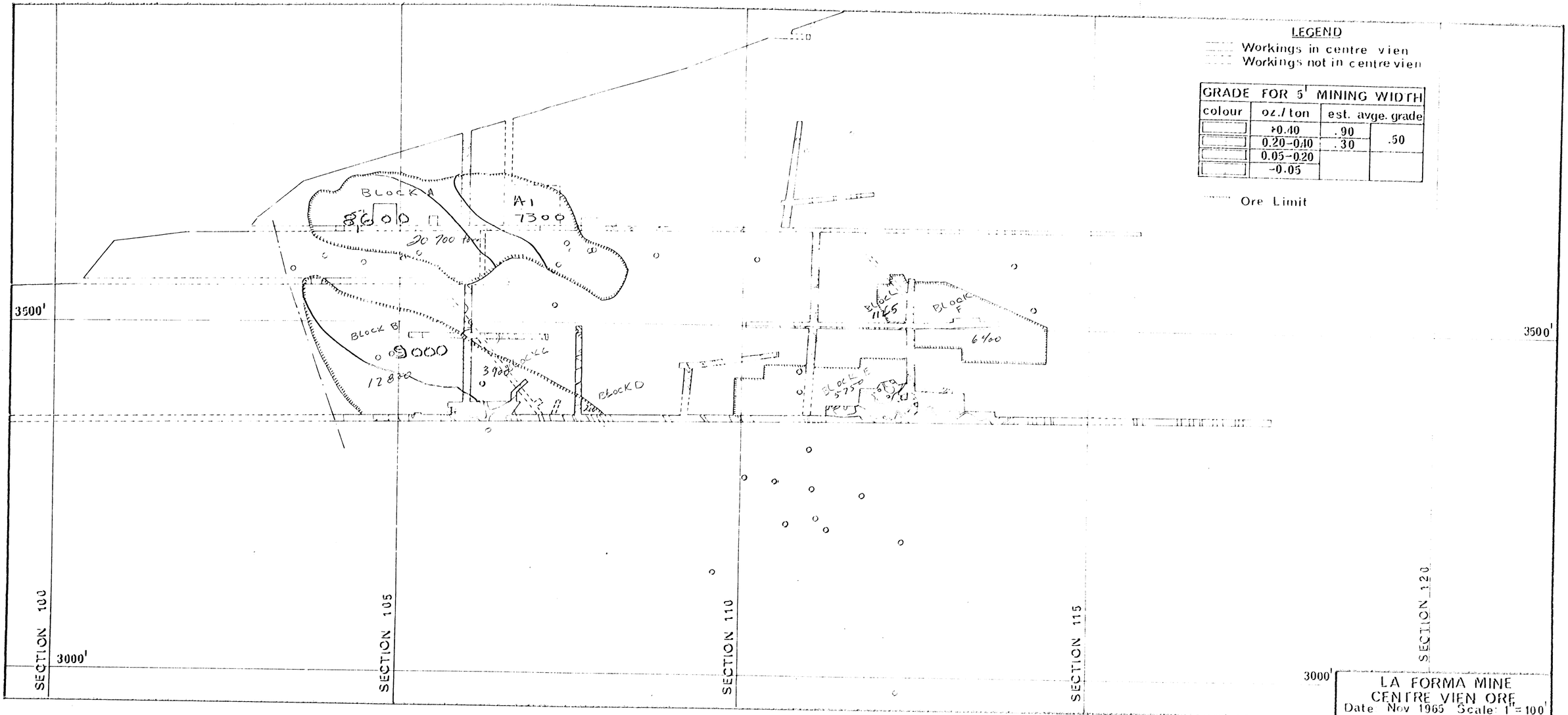
BLOCK 'B'

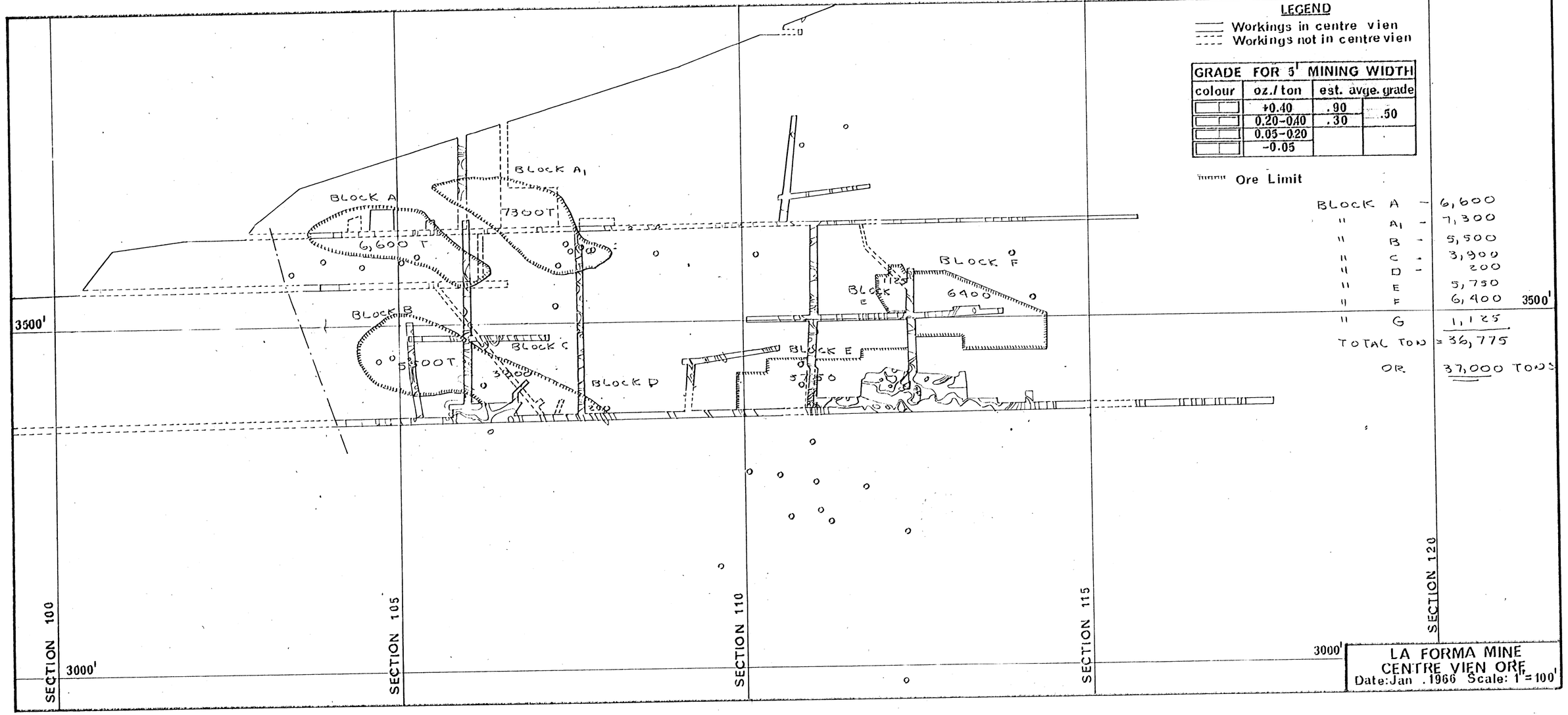
1.33 SQ IN.

10,000 x 1.33 = 13,300 SQ FT.

13,300 x 5 = 66,500 CU. FT.

$\frac{66,500}{12}$ = 5,500 TONS


LEGEND
Workings in centre vien
Workings not in centre vien
GRADE FOR 5' MINING WIDTH
colour
oz./ton
est. avge. grade
+0.40
.90
.50
0.20-0.40
.30
0.05-0.20
-0.05
Ore Limit
BLOCK A
8600
A1
7300
20 700 t
BLOCK B
9000
12870
3900
BLOCK C
BLOCK D
BLOCK E
5750
BLOCK F
6400
BLOCK
1125
3500'
3000'
SECTION 100
SECTION 105
SECTION 110
SECTION 115
SECTION 120
LA FORMA MINE
CENTRE VIEN ORE
Date Nov 1965 Scale 1"=100'

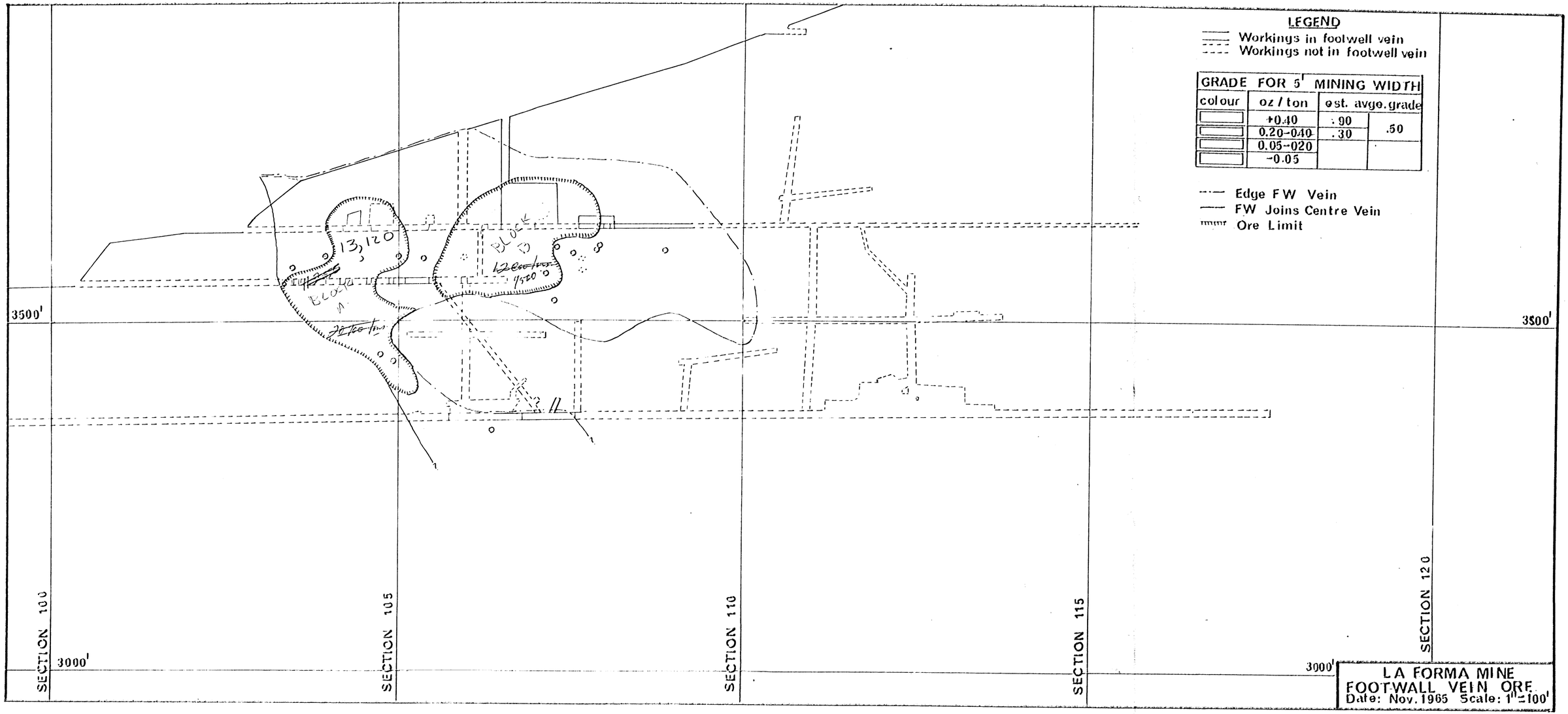


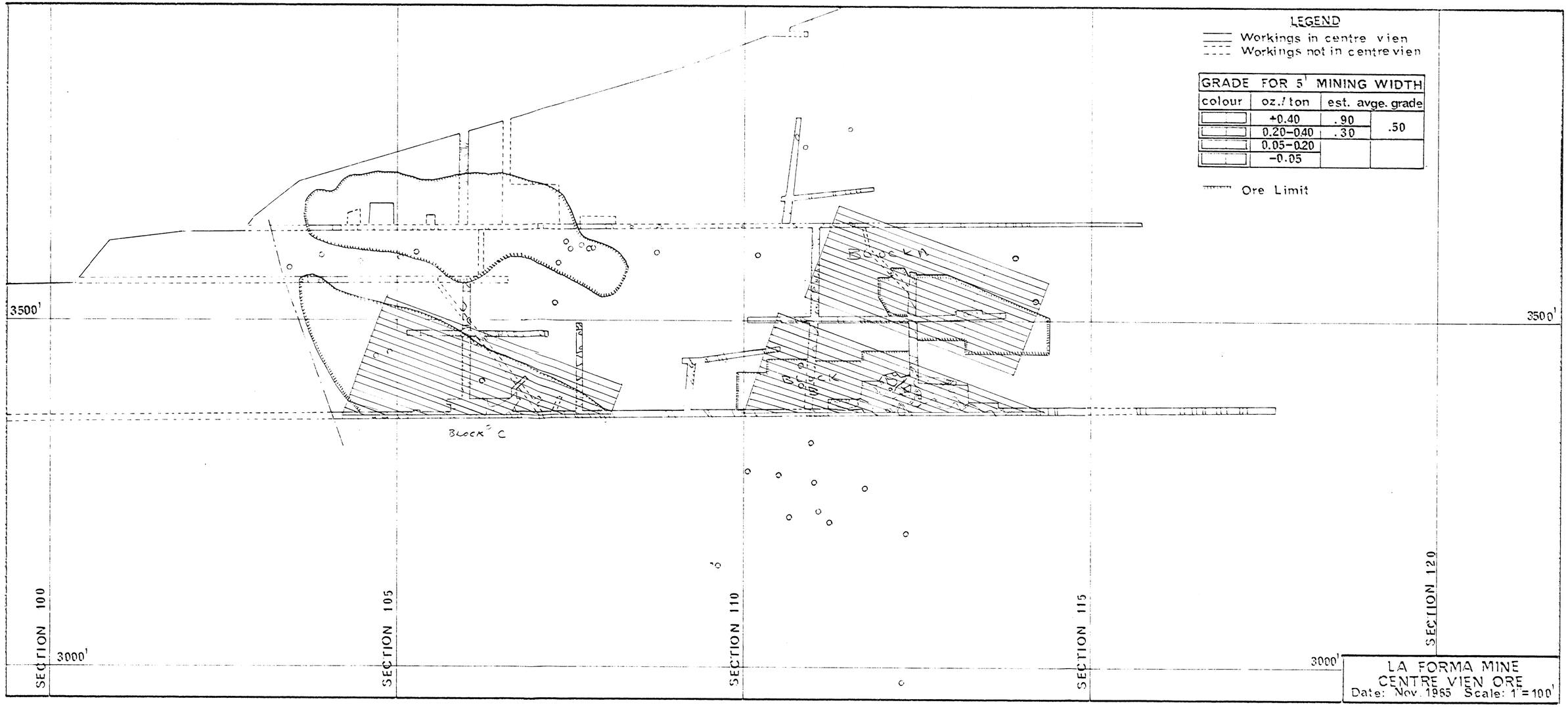
BLOCK A — 6,600
" A1 — 7,300
" B — 5,500
" C — 3,900
" D — 200
" E — 5,750
" F — 6,400
" G — 1,125

TOTAL TONS = 36,775

OR 37,000 TONS

LA FORMA MINE
CENTRE VIEN ORE
Date: Jan. 1966 Scale: 1" = 100'


LEGEND
Workings in footwell vein
Workings not in footwell vein
GRADE FOR 5' MINING WIDTH
colour
oz / ton
est. avge. grade
+0.40
.90
.50
0.20-040
.30
0.05-020
-0.05
Edge FW Vein
FW Joins Centre Vein
Ore Limit
13,120
BLOCK A
BLOCK B
3500'
3500'
3000'
3000'
SECTION 100
SECTION 105
SECTION 110
SECTION 115
SECTION 120
LA FORMA MINE
FOOTWALL VEIN ORE
Date: Nov. 1965 Scale: 1"=100'


LEGEND
Workings in centre vien
Workings not in centre vien
GRADE FOR 5' MINING WIDTH
colour | oz./ton | est. avge. grade
+0.40 | .90 | .50
0.20–0.40 | .30
0.05–0.20
–0.05
Ore Limit
3500'
3500'
BLOCK B
BLOCK C
SECTION 100
SECTION 105
SECTION 110
SECTION 115
SECTION 120
3000'
3000'
LA FORMA MINE
CENTRE VIEN ORE
Date: Nov. 1965 Scale: 1"=100'