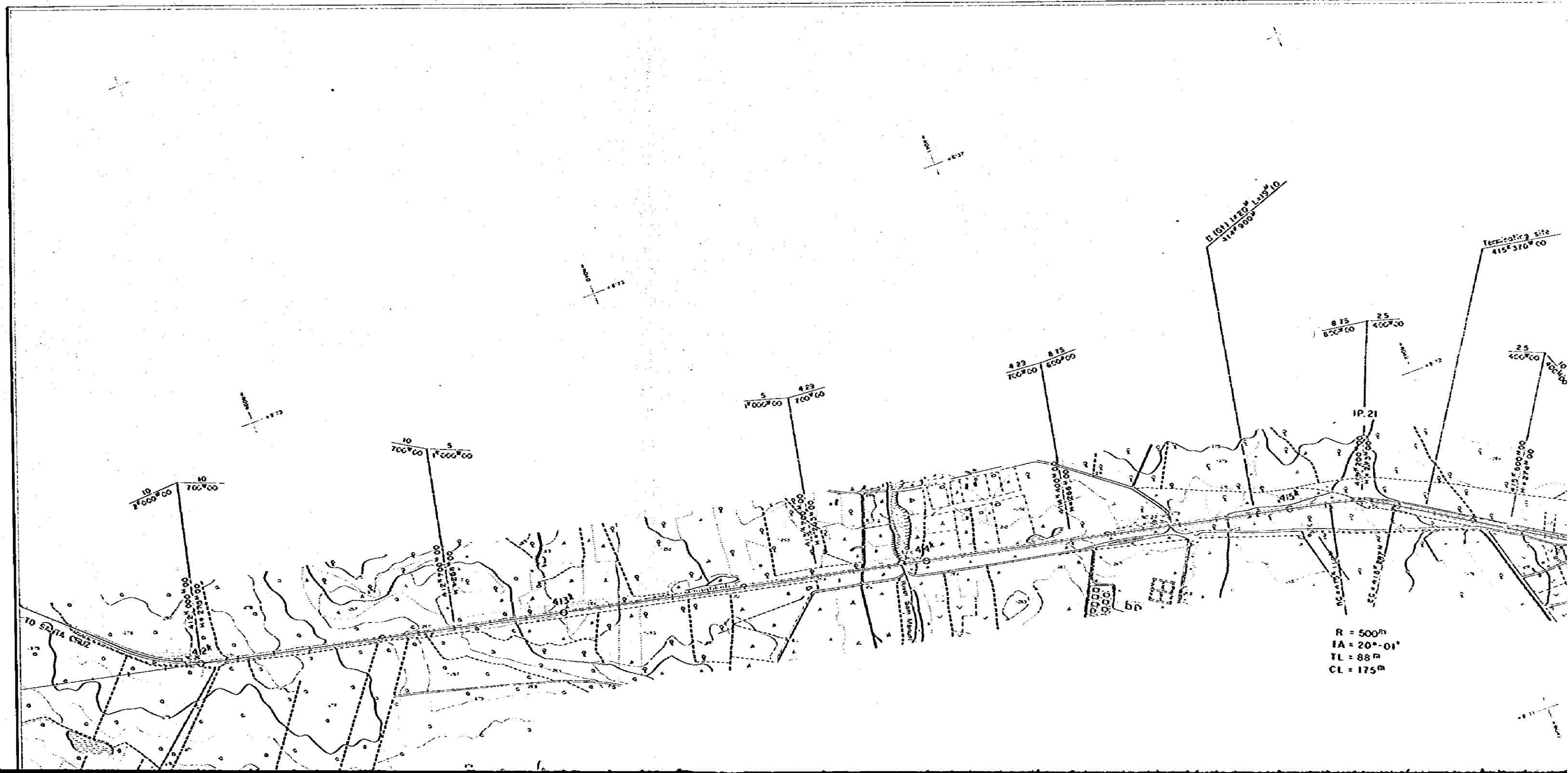


1 : 5000  
BOLIVIA

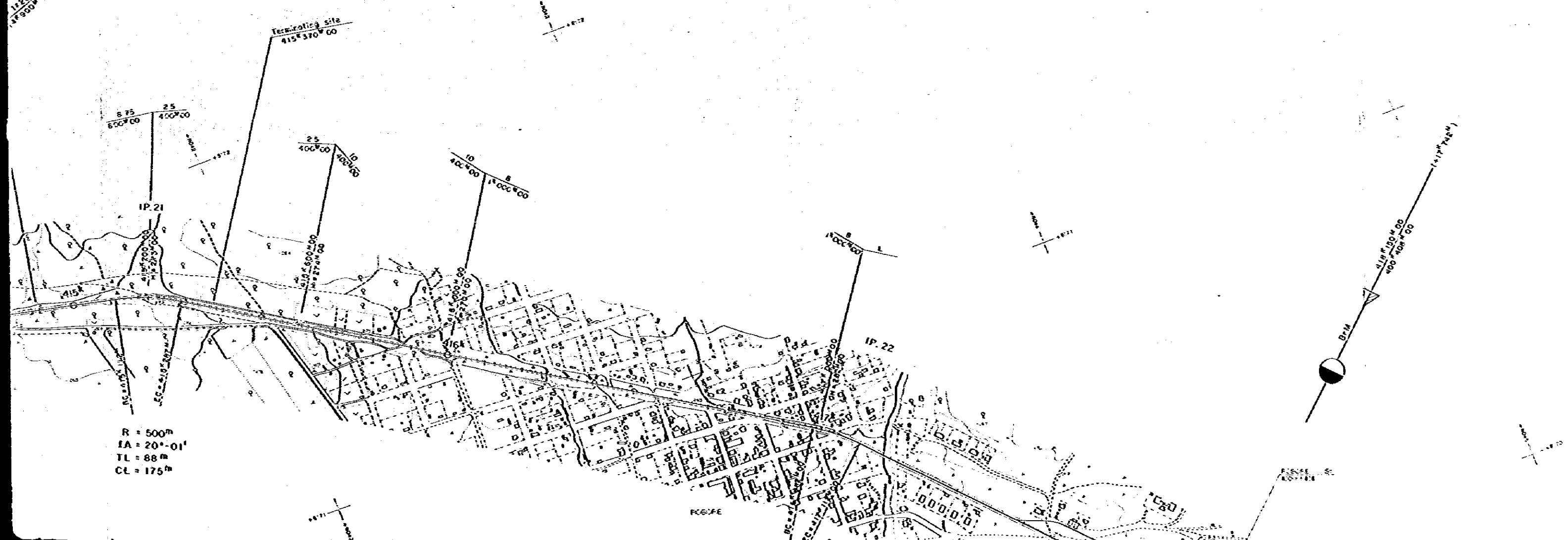
RAILWAY C



$R = 500^m$   
 $IA = 20^{\circ}-01'$   
 $TL = 88^m$   
 $CL = 175^m$

# RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)

1120° 15' 10"  
17500'



R = 500<sup>m</sup>  
EA = 20°-01'  
TL = 88<sup>m</sup>  
CL = 175<sup>m</sup>

NO.11

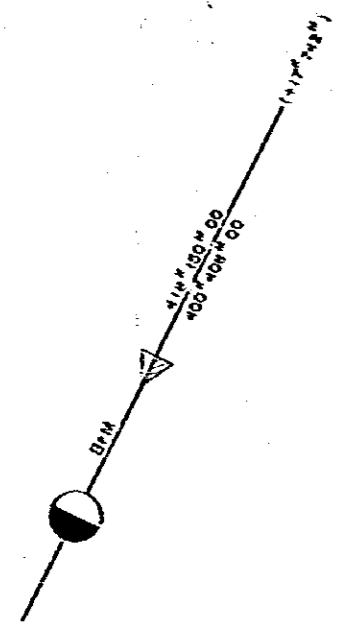
1 2 3 4 5 6  
7 8 9 10 11 12



**LEGEND**

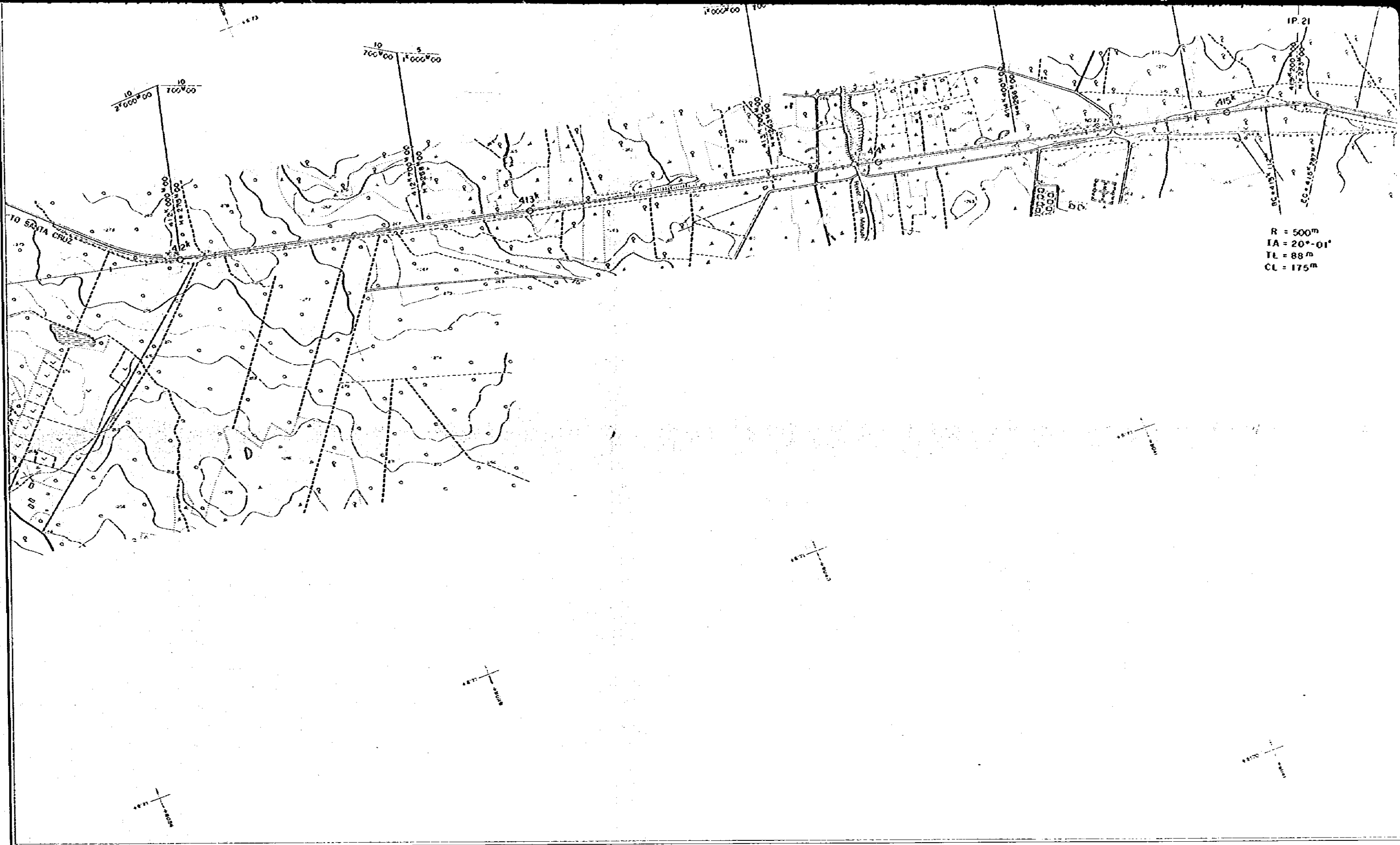
**ROADS TRACKS ETC.**

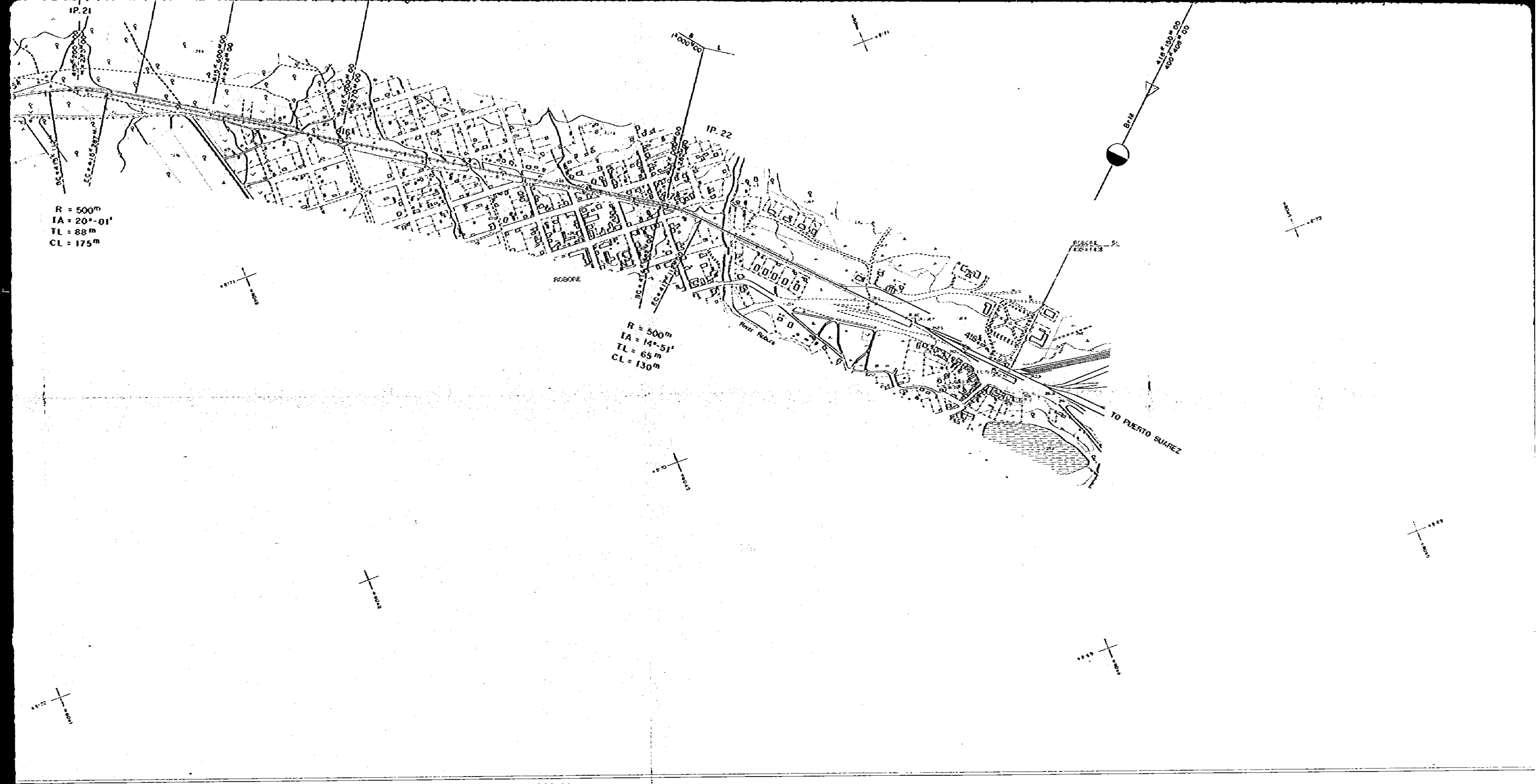
Road .....  
 High Way .....  
 Foot path .....  
 Railway .....  
 Side Cut .....  
**VEGETATIONS**  
 Cult. Land .....  
 Orchard .....  
 Tree & Shrub .....  
 Rice .....  
 Paddy .....  
 Wet Land .....  
**MISCELLANEOUS**  
 Embankment .....  
 Cutting .....  
 Felt .....  
 Dyke .....  
**HYDROGRAPHY**  
 Pond Lake or Pond .....  
 Run of Stream .....  
 Dry Run .....  
**CONTOURS AND TRAVERSE POINTS**  
 Contour .....  
 Spot Height in Feet .....  
 Spot Height in Meters .....  
 Leveling Point I.C.M. .....  
 Leveling Point G.M. ....



ESCAPE ROUTE







R = 500m  
IA = 20°-01'  
TL = 88m  
CL = 175m

R = 500m  
IA = 14°-51'  
TL = 65m  
CL = 130m

SCALE 1:5,000  
METRES

IP. 22

IP. 21

TO PUERTO SUAREZ

B.M.  
418° 150' 00"  
400° 100' 00"

FUSCEL  
420° 142'

1400' 00"

4870' 00"

4870' 00"

4870' 00"

4870' 00"

4870' 00"

4870' 00"

4870' 00"

418° 15' 00" 00  
 100° 40' 00" 00  
 B.M.

PUEBLO SL  
 800' 10" 00  
 TO PUERTO SUAREZ

4000  
 1000

4000  
 1000

4000  
 1000

4000  
 1000

**EMPRESA NACIONAL DE FERROCARRILES**  
**RAILWAY CONSTRUCTION PROJECT EASTERN LINE**  
ESTACIONES 14-19-20

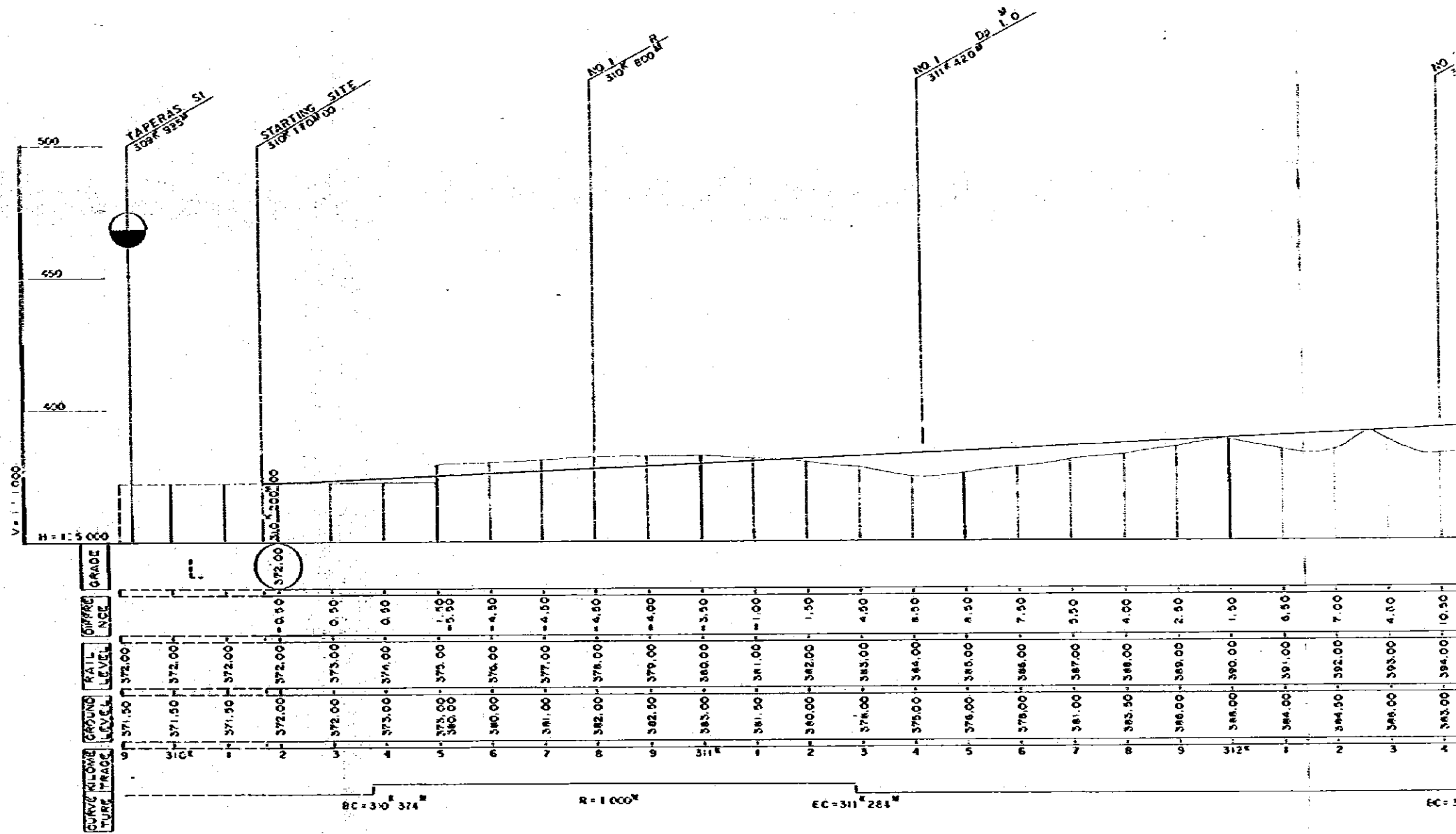
**RAILWAY PLAN**  
 (Sheet 12 of 12)

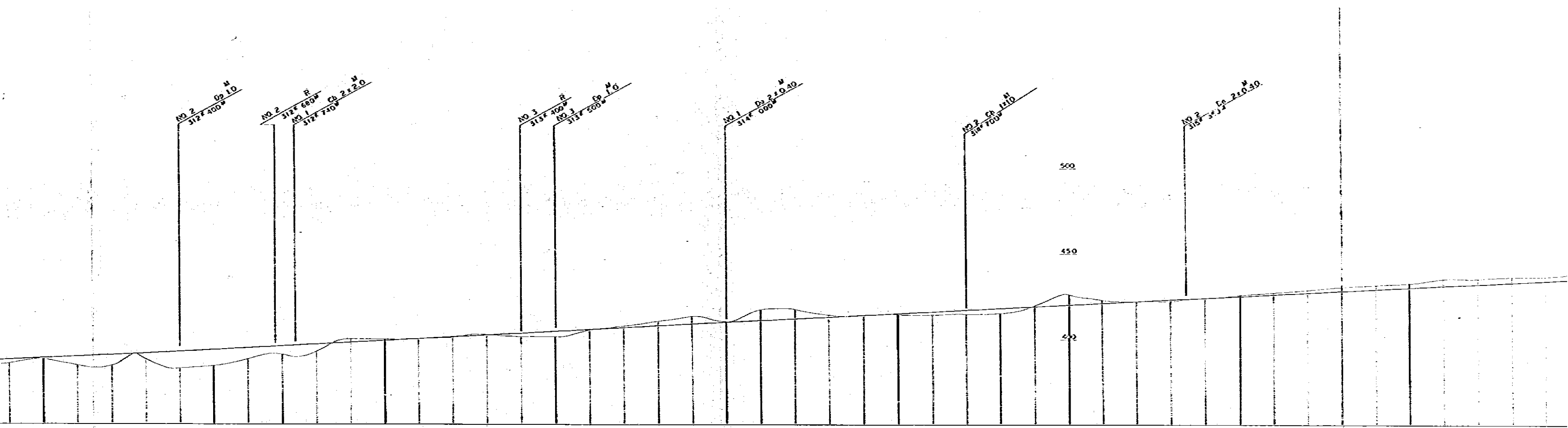
Executing Enterprise

Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No. 13

- Miscellaneous  
 Existing  
 Proposed  
 Risks  
 D.M.  
 Hydrography  
 Port Light to Field  
 Port and Steam  
 Dykes  
 Contours and Traverse Points  
 Tide Gage  
 Sea Height in 1900  
 Survey Point (I.C.A.) 85289  
 Leveling Point (I.G.M.) 122804

1. Photographic Flight—June 1930
2. Control Point Survey—June 1930
3. Detail Completion—October 1930
4. Control Station—IGM Transcription Point  
 Vera  
 IGM Leveling Point  
 LL 151 LL 153  
 LL 189 LL 191  
 LL 153 BS 27





NO 2  
312+200 M  
Ds 1.0

NO 2  
312+680 R  
NO 1  
312+740 M  
Ds 2+2.0

NO 3  
313+200 R  
NO 3  
313+500 M  
Ds 1.0

NO 1  
314+000 M  
Ds 2+2.0+3.0

NO 2  
314+700 M  
Ds 1.1+1.0

NO 2  
315+300 M  
Ds 2+1.0+3.0

500

450

400

10

10

1	396.00	396.00	2.50	11	407.00	406.00	-1.50	21	417.50	411.00	-7.00	31	427.00	426.00	-1.50
2	397.00	396.00	-1.50	12	408.00	407.00	-1.50	22	418.00	412.00	-6.50	32	428.00	427.00	-1.50
3	398.00	395.00	-3.00	13	409.00	408.00	-1.50	23	419.00	413.00	-6.00	33	429.00	428.00	-1.50
4	399.00	392.00	-7.00	14	410.00	409.00	-1.50	24	420.00	414.00	-6.00	34	430.00	429.00	-1.50
5	400.00	393.00	-7.00	15	411.00	410.00	-1.50	25	421.00	415.00	-6.50	35	431.00	430.00	-1.50
6	401.00	394.00	-10.00	16	412.00	411.00	-1.50	26	422.00	416.00	-6.50	36	432.00	431.00	-1.50
7	402.00	395.00	-10.00	17	413.00	412.00	-1.50	27	423.00	417.00	-6.50	37	433.00	432.00	-1.50
8	403.00	396.00	-7.00	18	414.00	413.00	-1.50	28	424.00	418.00	-6.50	38	434.00	433.00	-1.50
9	404.00	397.00	-5.50	19	415.00	414.00	-1.50	29	425.00	419.00	-6.50	39	435.00	434.00	-1.50
10	405.00	398.00	-3.00	20	416.00	415.00	-1.50	30	426.00	420.00	-6.50	40	436.00	435.00	-1.50
11	406.00	399.00	-1.50	21	417.00	416.00	-1.50	31	427.00	421.00	-6.50	41	437.00	436.00	-1.50
12	407.00	400.00	-1.00	22	418.00	417.00	-1.50	32	428.00	422.00	-6.50	42	438.00	437.00	-1.50
13	408.00	401.00	-0.50	23	419.00	418.00	-1.50	33	429.00	423.00	-6.50	43	439.00	438.00	-1.50
14	409.00	402.00	0	24	420.00	419.00	-1.50	34	430.00	424.00	-6.50	44	440.00	439.00	-1.50
15	410.00	403.00	0	25	421.00	420.00	-1.50	35	431.00	425.00	-6.50	45	441.00	440.00	-1.50
16	411.00	404.00	1.00	26	422.00	421.00	-1.50	36	432.00	426.00	-6.50	46	442.00	441.00	-1.50
17	412.00	405.00	3.00	27	423.00	422.00	-1.50	37	433.00	427.00	-6.50	47	443.00	442.00	-1.50
18	413.00	406.00	5.00	28	424.00	423.00	-1.50	38	434.00	428.00	-6.50	48	444.00	443.00	-1.50
19	414.00	407.00	7.00	29	425.00	424.00	-1.50	39	435.00	429.00	-6.50	49	445.00	444.00	-1.50
20	415.00	408.00	8.50	30	426.00	425.00	-1.50	40	436.00	430.00	-6.50	50	446.00	445.00	-1.50
21	416.00	409.00	9.50	31	427.00	426.00	-1.50	41	437.00	431.00	-6.50	51	447.00	446.00	-1.50
22	417.00	410.00	10.00	32	428.00	427.00	-1.50	42	438.00	432.00	-6.50	52	448.00	447.00	-1.50
23	418.00	411.00	10.50	33	429.00	428.00	-1.50	43	439.00	433.00	-6.50	53	449.00	448.00	-1.50
24	419.00	412.00	11.00	34	430.00	429.00	-1.50	44	440.00	434.00	-6.50	54	450.00	449.00	-1.50
25	420.00	413.00	11.50	35	431.00	430.00	-1.50	45	441.00	435.00	-6.50	55	451.00	450.00	-1.50
26	421.00	414.00	12.00	36	432.00	431.00	-1.50	46	442.00	436.00	-6.50	56	452.00	451.00	-1.50
27	422.00	415.00	12.50	37	433.00	432.00	-1.50	47	443.00	437.00	-6.50	57	453.00	452.00	-1.50
28	423.00	416.00	13.00	38	434.00	433.00	-1.50	48	444.00	438.00	-6.50	58	454.00	453.00	-1.50
29	424.00	417.00	13.50	39	435.00	434.00	-1.50	49	445.00	439.00	-6.50	59	455.00	454.00	-1.50
30	425.00	418.00	14.00	40	436.00	435.00	-1.50	50	446.00	440.00	-6.50	60	456.00	455.00	-1.50
31	426.00	419.00	14.50	41	437.00	436.00	-1.50	51	447.00	441.00	-6.50	61	457.00	456.00	-1.50
32	427.00	420.00	15.00	42	438.00	437.00	-1.50	52	448.00	442.00	-6.50	62	458.00	457.00	-1.50
33	428.00	421.00	15.50	43	439.00	438.00	-1.50	53	449.00	443.00	-6.50	63	459.00	458.00	-1.50
34	429.00	422.00	16.00	44	440.00	439.00	-1.50	54	450.00	444.00	-6.50	64	460.00	459.00	-1.50
35	430.00	423.00	16.50	45	441.00	440.00	-1.50	55	451.00	445.00	-6.50	65	461.00	460.00	-1.50
36	431.00	424.00	17.00	46	442.00	441.00	-1.50	56	452.00	446.00	-6.50	66	462.00	461.00	-1.50
37	432.00	425.00	17.50	47	443.00	442.00	-1.50	57	453.00	447.00	-6.50	67	463.00	462.00	-1.50
38	433.00	426.00	18.00	48	444.00	443.00	-1.50	58	454.00	448.00	-6.50	68	464.00	463.00	-1.50
39	434.00	427.00	18.50	49	445.00	444.00	-1.50	59	455.00	449.00	-6.50	69	465.00	464.00	-1.50
40	435.00	428.00	19.00	50	446.00	445.00	-1.50	60	456.00	450.00	-6.50	70	466.00	465.00	-1.50
41	436.00	429.00	19.50	51	447.00	446.00	-1.50	61	457.00	451.00	-6.50	71	467.00	466.00	-1.50
42	437.00	430.00	20.00	52	448.00	447.00	-1.50	62	458.00	452.00	-6.50	72	468.00	467.00	-1.50
43	438.00	431.00	20.50	53	449.00	448.00	-1.50	63	459.00	453.00	-6.50	73	469.00	468.00	-1.50
44	439.00	432.00	21.00	54	450.00	449.00	-1.50	64	460.00	454.00	-6.50	74	470.00	469.00	-1.50
45	440.00	433.00	21.50	55	451.00	450.00	-1.50	65	461.00	455.00	-6.50	75	471.00	470.00	-1.50
46	441.00	434.00	22.00	56	452.00	451.00	-1.50	66	462.00	456.00	-6.50	76	472.00	471.00	-1.50
47	442.00	435.00	22.50	57	453.00	452.00	-1.50	67	463.00	457.00	-6.50	77	473.00	472.00	-1.50
48	443.00	436.00	23.00	58	454.00	453.00	-1.50	68	464.00	458.00	-6.50	78	474.00	473.00	-1.50
49	444.00	437.00	23.50	59	455.00	454.00	-1.50	69	465.00	459.00	-6.50	79	475.00	474.00	-1.50
50	445.00	438.00	24.00	60	456.00	455.00	-1.50	70	466.00	460.00	-6.50	80	476.00	475.00	-1.50
51	446.00	439.00	24.50	61	457.00	456.00	-1.50	71	467.00	461.00	-6.50	81	477.00	476.00	-1.50
52	447.00	440.00	25.00	62	458.00	457.00	-1.50	72	468.00	462.00	-6.50	82	478.00	477.00	-1.50
53	448.00	441.00	25.50	63	459.00	458.00	-1.50	73	469.00	463.00	-6.50	83	479.00	478.00	-1.50
54	449.00	442.00	26.00	64	460.00	459.00	-1.50	74	470.00	464.00	-6.50	84	480.00	479.00	-1.50
55	450.00	443.00	26.50	65	461.00	460.00	-1.50	75	471.00	465.00	-6.50	85	481.00	480.00	-1.50
56	451.00	444.00	27.00	66	462.00	461.00	-1.50	76	472.00	466.00	-6.50	86	482.00	481.00	-1.50
57	452.00	445.00	27.50	67	463.00	462.00	-1.50	77	473.00	467.00	-6.50	87	483.00	482.00	-1.50
58	453.00	446.00	28.00	68	464.00	463.00	-1.50	78	474.00	468.00	-6.50	88	484.00	483.00	-1.50
59	454.00	447.00	28.50	69	465.00	464.00	-1.50	79	475.00	469.00	-6.50	89	485.00	484.00	-1.50
60	455.00	448.00	29.00	70	466.00	465.00	-1.50	80	476.00	470.00	-6.50	90	486.00	485.00	-1.50
61	456.00	449.00	29.50	71	467.00	466.00	-1.50	81	477.00	471.00	-6.50	91	487.00	486.00	-1.50
62	457.00	450.00	30.00	72	468.00	467.00	-1.50	82	478.00	472.00	-6.50	92	488.00	487.00	-1.50
63	458.00	451.00	30.50	73	469.00	468.00	-1.50	83	479.00	473.00	-6.50	93	489.00	488.00	-1.50
64	459.00	452.00	31.00	74	470.00	469.00	-1.50	84	480.00	474.00	-6.50	94	490.00	489.00	-1.50
65	460.00	453.00	31.50	75	471.00	470.00	-1.50	85	481.00	475.00	-6.50	95	491.00	490.00	-1.50
66	461.00	454.00	32.00	76	472.00	471.00	-1.50	86	482.00	476.00	-6.50	96	492.00	491.00	-1.50
67	462.00	455.00	32.50	77	473.00	472.00	-1.50	87	483.00	477.00	-6.50	97	493.00	492.00	-1.50
68	463.00	456.00	33.00	78	474.00	473.00	-1.50	88	484.00	478.00	-6.50	98	494.00	493.00	-1.50
69	464.00	457.00	33.50	79	475.00	474.00	-1.50	89	485.00	479.00	-6.50	99	495.00	494.00	-1.50
70	465.00	458.00	34.00	80	476.00	475.00	-1.50	90	486.00	480.00	-6.50	100	496.00	495.00	-1.50

EC=32' 653"

R=1000'

EC=313' 000"





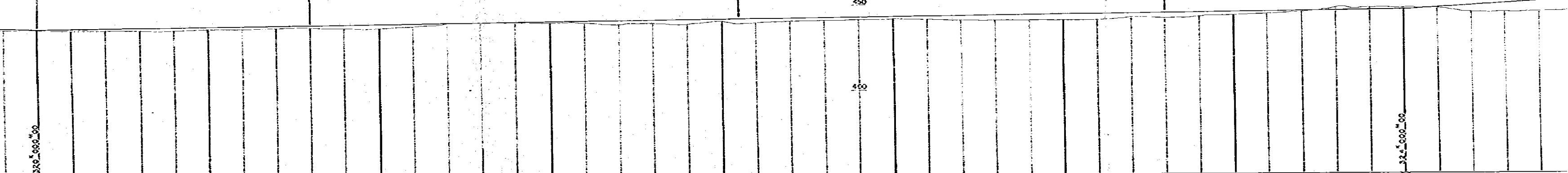
No 7 D<sub>o</sub> 2x0.40  
320x 600<sup>M</sup>

No 8 D<sub>o</sub> 2x0.40  
320x 600<sup>M</sup>

No 9 D<sub>o</sub> 2x0.40  
322x 600<sup>M</sup>

No 4 D<sub>o</sub> 0.80  
322x 300<sup>M</sup>

No 4  
322x 300<sup>M</sup>



320\_000<sup>M</sup>  
438.00

320\_000<sup>M</sup>  
446.00

0	438.00	438.00	0.10	1	437.50	438.00	0	2	437.00	438.20	0.70	3	437.00	438.40	0.90	4	437.00	438.60	1.10	5	437.50	439.00	1.30	6	437.50	439.20	1.20	7	438.00	439.40	0.80	8	438.00	439.60	1.10	9	439.00	439.80	1.30	10	439.00	440.00	1.50	11	439.00	440.20	0.70	12	440.00	440.40	0.10	13	440.50	440.60	0.40	14	440.50	440.80	0.20	15	440.50	441.00	0	16	440.00	441.20	0.70	17	439.00	441.40	1.90	18	440.00	441.60	1.10	19	439.00	441.80	2.30	20	440.80	442.00	1.00	21	440.00	442.20	1.70	22	441.00	442.40	0.80	23	441.00	442.60	1.10	24	441.50	442.80	0.80	25	442.00	443.00	0.50	26	441.50	443.20	1.20	27	441.00	443.40	1.90	28	441.00	443.60	2.10	29	440.50	443.80	2.80	30	440.50	444.00	3.00	31	440.50	444.20	3.20	32	442.50	444.40	1.40	33	442.00	444.60	2.10	34	442.50	444.80	1.80	35	443.50	445.00	1.00	36	444.00	445.20	0.70	37	445.00	445.40	0.10	38	447.00	445.60	-2.40	39	447.50	445.80	-2.20	40	447.00	446.00	-1.50	41	446.50	447.20	0.20	42	445.00	448.40	2.90	43	445.00	449.00	4.10	44	444.00	450.80	6.50
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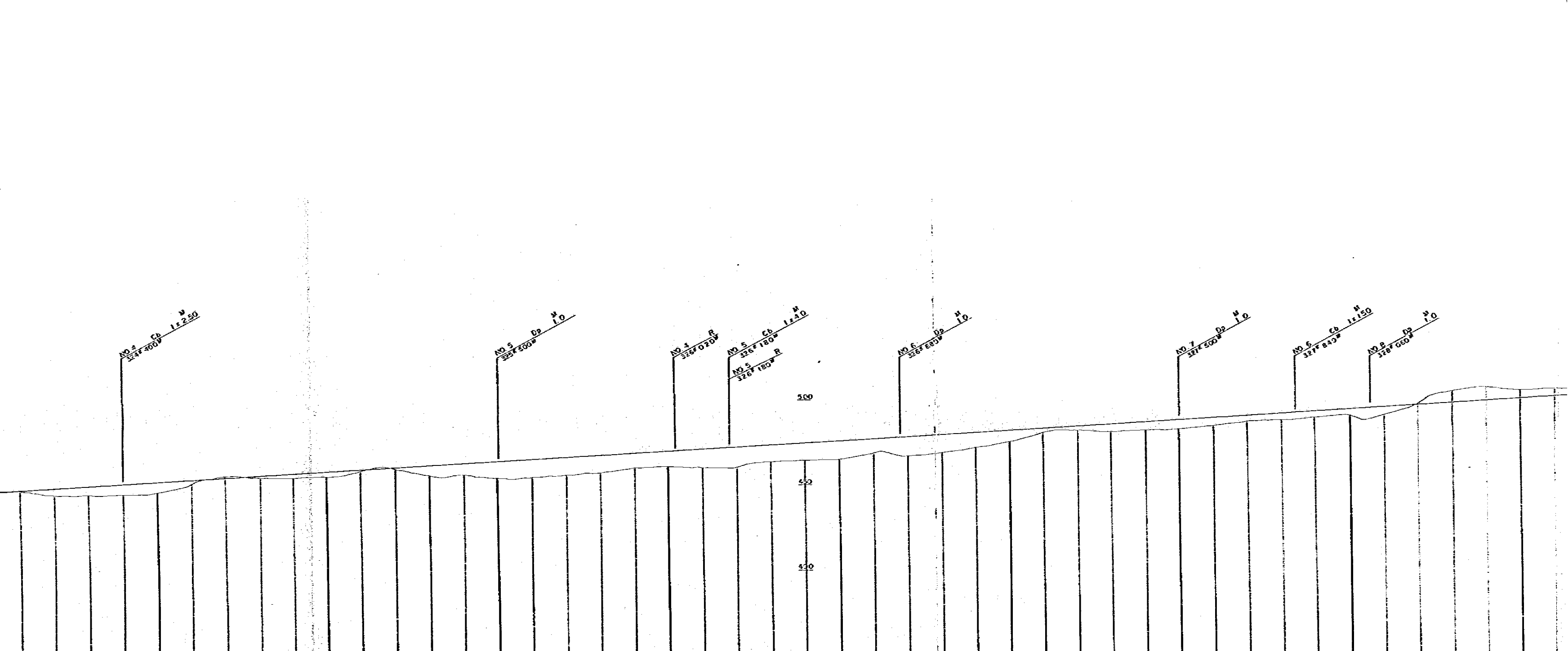
R = 1000<sup>M</sup>

EC = 320<sup>M</sup> 526<sup>M</sup>

BC = 323<sup>M</sup> 735<sup>M</sup>

R = 1000<sup>M</sup>

EC = 324<sup>M</sup> 232<sup>M</sup>



12

1	440.50	447.20	0.20	1	486.00	479.00	10.10	1	490.00	485.20	4.70
2	445.00	448.40	2.90	2	451.00	470.00	8.50	2	487.00	480.40	2.90
3	445.00	449.00	4.10	3	455.00	471.20	10.70	3	487.50	481.00	3.60
4	444.00	450.60	6.30	4	460.00	472.40	11.40	4	488.00	484.40	1.90
5	445.00	452.00	5.90	5	464.00	473.60	9.10	5	488.50	485.00	4.10
6	451.00	453.20	1.20	6	466.50	474.80	8.80	6	488.50	486.00	4.60
7	456.00	454.40	-2.10	7	468.00	476.00	10.00	7	482.50	488.00	6.00
8	454.50	455.60	0.60	8	469.50	477.20	7.20	8	484.50	489.20	4.20
9	454.50	456.80	1.80	9	467.50	478.40	10.40	9	487.00	490.40	2.90
325	455.00	458.00	2.90	326	460.00	479.00	10.10	327	485.00	492.00	6.50
1	459.00	459.20	-0.30	1	465.00	480.60	6.60	1	480.50	483.20	2.20
2	459.00	480.40	0.90	2	471.50	480.60	6.60	2	482.00	484.40	1.90
3	455.50	481.60	5.60	3	475.00	482.00	6.50	3	481.00	485.00	4.10
4	456.00	482.80	6.30	4	479.50	483.20	2.20	4	481.50	486.00	4.60
5	454.50	484.00	9.00	5	480.00	485.20	2.20	5	482.00	488.00	6.00
6	455.00	485.20	9.70	6	481.50	487.20	7.20	6	484.50	489.20	4.20
7	455.00	486.40	9.90	7	487.50	477.20	7.20	7	487.00	490.40	2.90
8	457.50	487.00	9.60	8	480.00	478.40	10.40	8	487.50	491.00	3.60
9	460.00	488.80	8.30	9	485.50	476.00	10.00	9	489.00	492.00	3.30
326	461.00	470.00	8.50	327	489.50	477.20	7.20	328	490.00	494.00	3.50
1	460.00	471.20	10.70	1	487.50	478.40	10.40	1	490.00	494.00	3.50
2	460.50	472.40	11.40	2	486.00	479.00	10.10	2	490.00	494.00	3.50
3	464.00	473.60	9.10	3	471.50	480.60	6.60	3	490.00	494.00	3.50
4	466.50	474.80	8.80	4	475.00	482.00	6.50	4	490.00	494.00	3.50
5	465.50	476.00	10.00	5	480.50	483.20	2.20	5	490.00	494.00	3.50
6	469.50	477.20	7.20	6	482.00	484.40	1.90	6	490.00	494.00	3.50
7	467.50	478.40	10.40	7	481.00	485.00	4.10	7	490.00	494.00	3.50
8	466.00	479.00	10.10	8	481.50	486.00	4.60	8	490.00	494.00	3.50
9	471.50	480.60	6.60	9	482.50	488.00	6.00	9	490.00	494.00	3.50
327	475.00	482.00	6.50	328	484.50	489.20	4.20	329	490.00	494.00	3.50
1	480.50	483.20	2.20	1	487.00	490.40	2.90	1	490.00	494.00	3.50
2	482.00	484.40	1.90	2	487.50	491.00	3.60	2	490.00	494.00	3.50
3	481.00	485.00	4.10	3	489.00	492.00	3.30	3	490.00	494.00	3.50
4	481.50	486.00	4.60	4	489.50	492.00	3.30	4	490.00	494.00	3.50
5	482.50	488.00	6.00	5	490.00	494.00	3.50	5	490.00	494.00	3.50
6	484.50	489.20	4.20	6	490.00	494.00	3.50	6	490.00	494.00	3.50
7	487.00	490.40	2.90	7	490.00	494.00	3.50	7	490.00	494.00	3.50
8	487.50	491.00	3.60	8	490.00	494.00	3.50	8	490.00	494.00	3.50
9	489.00	492.00	3.30	9	490.00	494.00	3.50	9	490.00	494.00	3.50
328	490.00	494.00	3.50	329	490.00	494.00	3.50	330	490.00	494.00	3.50
1	490.00	495.20	4.70	1	490.00	494.00	3.50	1	490.00	494.00	3.50
2	497.00	496.40	-0.90	2	490.00	494.00	3.50	2	490.00	494.00	3.50
3	504.50	497.60	-7.40	3	490.00	494.00	3.50	3	490.00	494.00	3.50
4	507.00	498.80	-6.70	4	490.00	494.00	3.50	4	490.00	494.00	3.50
5	505.00	500.00	-3.50	5	490.00	494.00	3.50	5	490.00	494.00	3.50
6	503.50	501.20	-4.40	6	490.00	494.00	3.50	6	490.00	494.00	3.50

EC=324 232

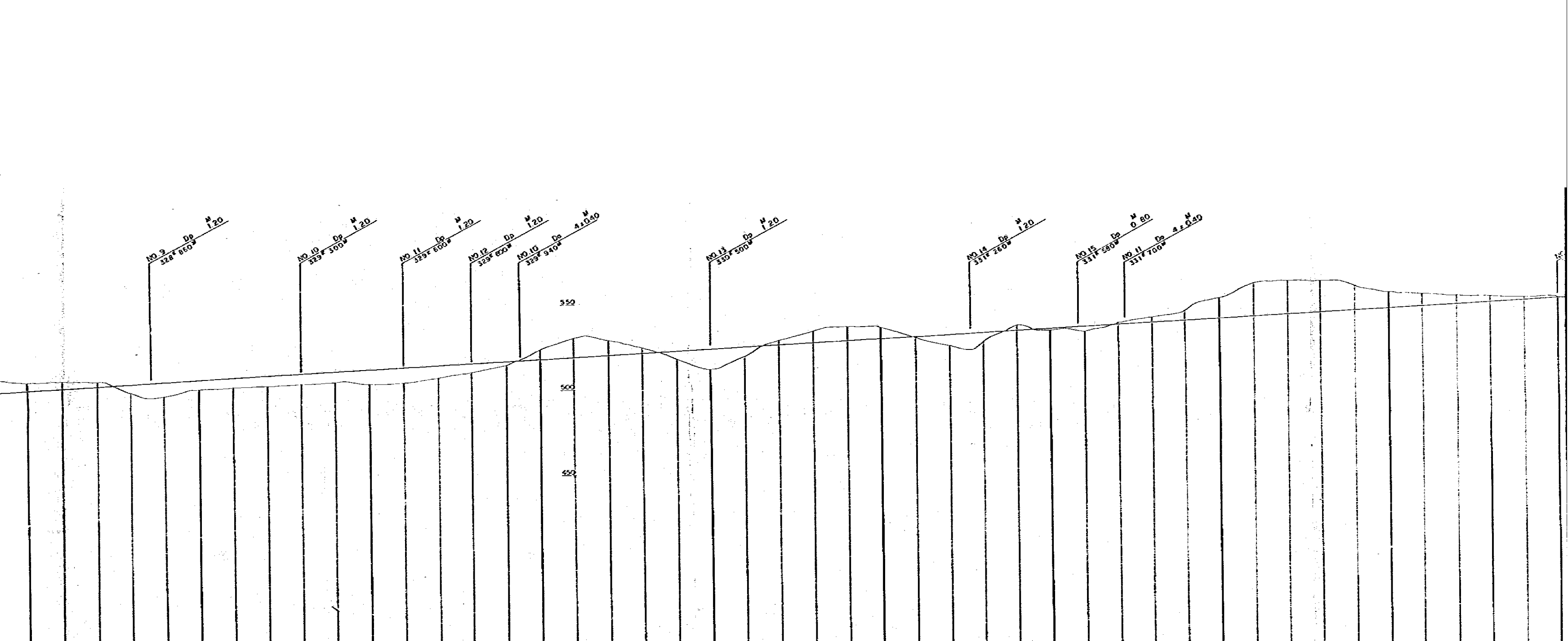
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R=1000

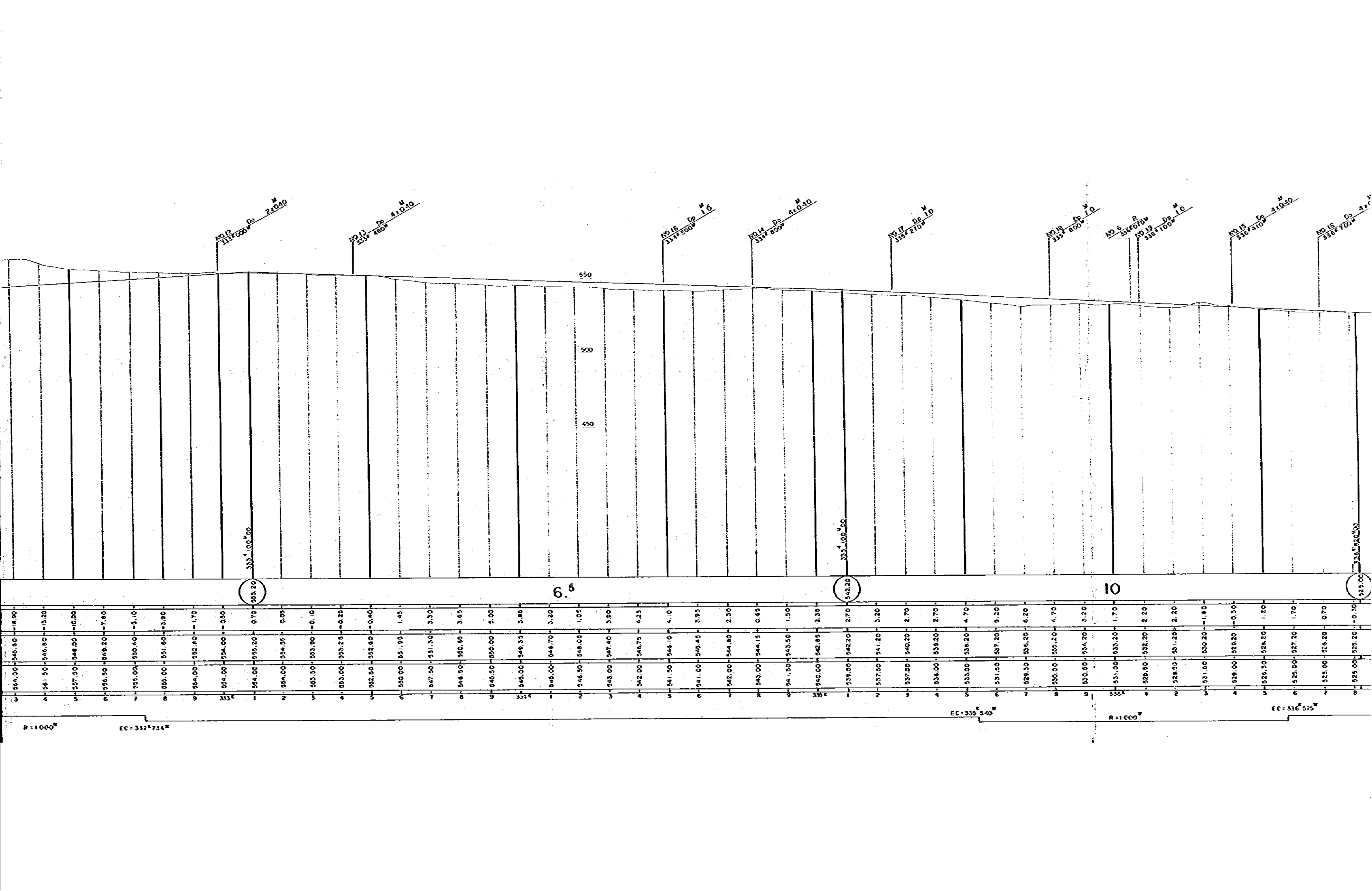
EC=326 561

BC=327 581

R=1000



1	505.00	500.00	-5.00	11	535.00	539.00	-4.00	21	565.00	550.00	-15.00
2	505.50	501.20	-4.30	12	535.50	539.50	-4.00	22	565.50	550.50	-15.00
3	505.50	502.40	-3.10	13	536.00	540.00	-4.00	23	566.00	551.00	-15.00
4	499.00	503.60	4.60	14	536.50	540.50	-4.00	24	566.50	551.50	-15.00
5	497.00	504.80	7.80	15	537.00	541.00	-4.00	25	567.00	552.00	-15.00
6	501.00	506.00	5.00	16	537.50	541.50	-4.00	26	567.50	552.50	-15.00
7	502.50	507.20	4.70	17	538.00	542.00	-4.00	27	568.00	553.00	-15.00
8	503.00	508.40	5.40	18	538.50	542.50	-4.00	28	568.50	553.50	-15.00
9	504.00	509.60	5.60	19	539.00	543.00	-4.00	29	569.00	554.00	-15.00
10	505.00	510.80	5.80	20	539.50	543.50	-4.00	30	569.50	554.50	-15.00
11	506.00	512.00	6.00	21	540.00	544.00	-4.00	31	570.00	555.00	-15.00
12	506.00	513.20	7.20	22	540.50	544.50	-4.00	32	570.50	555.50	-15.00
13	507.50	514.40	6.90	23	541.00	545.00	-4.00	33	571.00	556.00	-15.00
14	511.00	515.60	4.60	24	541.50	545.50	-4.00	34	571.50	556.50	-15.00
15	515.00	516.80	1.80	25	542.00	546.00	-4.00	35	572.00	557.00	-15.00
16	524.00	518.00	-6.00	26	542.50	546.50	-4.00	36	572.50	557.50	-15.00
17	531.50	519.20	-2.30	27	543.00	547.00	-4.00	37	573.00	558.00	-15.00
18	527.50	520.40	-2.90	28	543.50	547.50	-4.00	38	573.50	558.50	-15.00
19	528.00	521.60	-3.60	29	544.00	548.00	-4.00	39	574.00	559.00	-15.00
20	518.50	522.80	4.30	30	544.50	548.50	-4.00	40	574.50	559.50	-15.00
21	512.50	524.00	1.50	31	545.00	549.00	-4.00	41	575.00	560.00	-15.00
22	520.00	525.20	5.20	32	545.50	549.50	-4.00	42	575.50	560.50	-15.00
23	529.00	526.40	-2.60	33	546.00	550.00	-4.00	43	576.00	561.00	-15.00
24	534.00	527.60	-6.40	34	546.50	550.50	-4.00	44	576.50	561.50	-15.00
25	536.50	528.80	-2.30	35	547.00	551.00	-4.00	45	577.00	562.00	-15.00
26	534.00	530.00	-6.00	36	547.50	551.50	-4.00	46	577.50	562.50	-15.00
27	530.00	531.20	1.20	37	548.00	552.00	-4.00	47	578.00	563.00	-15.00
28	525.50	532.40	6.90	38	548.50	552.50	-4.00	48	578.50	563.50	-15.00
29	524.50	533.60	9.10	39	549.00	553.00	-4.00	49	579.00	564.00	-15.00
30	534.00	534.80	0.80	40	549.50	553.50	-4.00	50	579.50	564.50	-15.00
31	530.00	536.00	6.00	41	550.00	554.00	-4.00	51	580.00	565.00	-15.00
32	535.00	537.20	2.20	42	550.50	554.50	-4.00	52	580.50	565.50	-15.00
33	539.50	538.40	-1.10	43	551.00	555.00	-4.00	53	581.00	566.00	-15.00
34	542.50	539.60	-2.90	44	551.50	555.50	-4.00	54	581.50	566.50	-15.00
35	547.00	540.80	-6.20	45	552.00	556.00	-4.00	55	582.00	567.00	-15.00
36	554.00	542.00	-12.00	46	552.50	556.50	-4.00	56	582.50	567.50	-15.00
37	562.50	543.20	-19.30	47	553.00	557.00	-4.00	57	583.00	568.00	-15.00
38	566.50	544.40	-22.10	48	553.50	557.50	-4.00	58	583.50	568.50	-15.00
39	564.00	545.60	-18.40	49	554.00	558.00	-4.00	59	584.00	569.00	-15.00
40	561.50	546.80	-15.30	50	554.50	558.50	-4.00	60	584.50	569.50	-15.00
41	557.50	548.00	-10.50	51	555.00	559.00	-4.00	61	585.00	570.00	-15.00
42	556.50	549.20	-7.70	52	555.50	559.50	-4.00	62	585.50	570.50	-15.00
43	555.00	550.40	-5.40	53	556.00	560.00	-4.00	63	586.00	571.00	-15.00
44	555.00	551.60	-6.60	54	556.50	560.50	-4.00	64	586.50	571.50	-15.00
45	554.00	552.80	-1.20	55	557.00	561.00	-4.00	65	587.00	572.00	-15.00
46	554.00	554.00	0.00	56	557.50	561.50	-4.00	66	587.50	572.50	-15.00
47	554.00	555.20	1.20	57	558.00	562.00	-4.00	67	588.00	573.00	-15.00
48	554.00	556.40	2.40	58	558.50	562.50	-4.00	68	588.50	573.50	-15.00
49	554.00	557.60	3.60	59	559.00	563.00	-4.00	69	589.00	574.00	-15.00
50	554.00	558.80	4.80	60	559.50	563.50	-4.00	70	589.50	574.50	-15.00
51	554.00	560.00	6.00	61	560.00	564.00	-4.00	71	590.00	575.00	-15.00
52	554.00	561.20	7.20	62	560.50	564.50	-4.00	72	590.50	575.50	-15.00
53	554.00	562.40	8.40	63	561.00	565.00	-4.00	73	591.00	576.00	-15.00
54	554.00	563.60	9.60	64	561.50	565.50	-4.00	74	591.50	576.50	-15.00
55	554.00	564.80	10.80	65	562.00	566.00	-4.00	75	592.00	577.00	-15.00
56	554.00	566.00	12.00	66	562.50	566.50	-4.00	76	592.50	577.50	-15.00
57	554.00	567.20	13.20	67	563.00	567.00	-4.00	77	593.00	578.00	-15.00
58	554.00	568.40	14.40	68	563.50	567.50	-4.00	78	593.50	578.50	-15.00
59	554.00	569.60	15.60	69	564.00	568.00	-4.00	79	594.00	579.00	-15.00
60	554.00	570.80	16.80	70	564.50	568.50	-4.00	80	594.50	579.50	-15.00
61	554.00	572.00	18.00	71	565.00	569.00	-4.00	81	595.00	580.00	-15.00
62	554.00	573.20	19.20	72	565.50	569.50	-4.00	82	595.50	580.50	-15.00
63	554.00	574.40	20.40	73	566.00	570.00	-4.00	83	596.00	581.00	-15.00
64	554.00	575.60	21.60	74	566.50	570.50	-4.00	84	596.50	581.50	-15.00
65	554.00	576.80	22.80	75	567.00	571.00	-4.00	85	597.00	582.00	-15.00
66	554.00	578.00	24.00	76	567.50	571.50	-4.00	86	597.50	582.50	-15.00
67	554.00	579.20	25.20	77	568.00	572.00	-4.00	87	598.00	583.00	-15.00
68	554.00	580.40	26.40	78	568.50	572.50	-4.00	88	598.50	583.50	-15.00
69	554.00	581.60	27.60	79	569.00	573.00	-4.00	89	599.00	584.00	-15.00
70	554.00	582.80	28.80	80	569.50	573.50	-4.00	90	599.50	584.50	-15.00
71	554.00	584.00	30.00	81	570.00	574.00	-4.00	91	600.00	585.00	-15.00
72	554.00	585.20	31.20	82	570.50	574.50	-4.00	92	600.50	585.50	-15.00
73	554.00	586.40	32.40	83	571.00	575.00	-4.00	93	601.00	586.00	-15.00
74	554.00	587.60	33.60	84	571.50	575.50	-4.00	94	601.50	586.50	-15.00
75	554.00	588.80	34.80	85	572.00	576.00	-4.00	95	602.00	587.00	-15.00
76	554.00	590.00	36.00	86	572.50	576.50	-4.00	96	602.50	587.50	-15.00
77	554.00	591.20	37.20	87	573.00	577.00	-4.00	97	603.00	588.00	-15.00
78	554.00	592.40	38.40	88	573.50	577.50	-4.00	98	603.50	588.50	-15.00
79	554.00	593.60	39.60	89	574.00	578.00	-4.00	99	604.00	589.00	-15.00
80	554.00	594.80	40.80	90	574.50	578.50	-4.00	100	604.50	589.50	-15.00
81	554.00	596.00	42.00	91	575.00	579.00	-4.00	101	605.00	590.00	-15.00
82	554.00	597.20	43.20	92	575.50	579.50	-4.00	102	605.50	590.50	-15.00
83	554.00	598.40	44.40	93	576.00	580.00	-4.00	103	606.00	591.00	-15.00
84	554.00	599.60	45.60	94	576.50	580.50	-4.00	104	606.50	591.50	-15.00
85	554.00	600.80	46.80	95	577.00	581.00	-4.00	105	607.00	592.00	-15.00
86	554.00	602.00	48.00	96	577.50	581.50	-4.00	106	607.50	592.50	-15.00
87	554.00	603.20	49.20	97	578.00	582.00	-4.00	107	608.00	593.00	-15.00
88	554.00	604.40	50.40	98	578.50	582.50	-4.00	108	608.50	593.50	-15.00
89	554.00	605.60	51.60	99	579.00	583.00	-4.00	109	609.00	594.00	-15.00
90	554.00	606.80	52.80	100	579.50	583.50	-4.00	110	609.50	594.50	-15.00
91	554.00	608.00	54.00	101	580.00	584.00	-4.00	111	610.00	595.00	-15.00
92	554.00	609.20	55.20	102	580.50	584.50	-4.00	112	610.50	595.50	-15.00
93	554.00	610.40	56.40	103	581.00	585.00	-4.00	113	611.00	596.00	-15.00
94	554.00	611.60	57.60	104	581.50	585.50	-4.00	114	611.50	596.50	-15.00
95	554.00	612.80	58.80	105	582.00	586.00	-4.00	115	612.00	597.00	-15.00
96	554.00	614.00	60.00	106	582.50	586.50	-4.00	116	612.50	597.50	-15.00</



R=1000<sup>m</sup>

EC=332<sup>m</sup> 734<sup>m</sup>

EC=335<sup>m</sup> 540<sup>m</sup>

R=1000<sup>m</sup>

EC=336<sup>m</sup> 575<sup>m</sup>

No. 12  
332<sup>m</sup> 700<sup>m</sup> D<sub>v</sub> 2.0<sup>m</sup> M

No. 13  
332<sup>m</sup> 760<sup>m</sup> D<sub>v</sub> 4.0<sup>m</sup> M

No. 16  
334<sup>m</sup> 500<sup>m</sup> D<sub>v</sub> 1.0<sup>m</sup> M

No. 14  
334<sup>m</sup> 800<sup>m</sup> D<sub>v</sub> 4.0<sup>m</sup> M

No. 17  
335<sup>m</sup> 270<sup>m</sup> D<sub>v</sub> 1.0<sup>m</sup> M

No. 18  
335<sup>m</sup> 800<sup>m</sup> D<sub>v</sub> 1.0<sup>m</sup> M

No. 5 R  
336<sup>m</sup> 070<sup>m</sup> D<sub>v</sub> 1.0<sup>m</sup> M  
No. 19  
336<sup>m</sup> 1000<sup>m</sup> D<sub>v</sub> 1.0<sup>m</sup> M

No. 15  
336<sup>m</sup> 410<sup>m</sup> D<sub>v</sub> 3.0<sup>m</sup> M

No. 15  
336<sup>m</sup> 700<sup>m</sup> D<sub>v</sub> 4.0<sup>m</sup> M

550

500

450

333<sup>m</sup> 100<sup>m</sup> 00

335<sup>m</sup> 100<sup>m</sup> 00

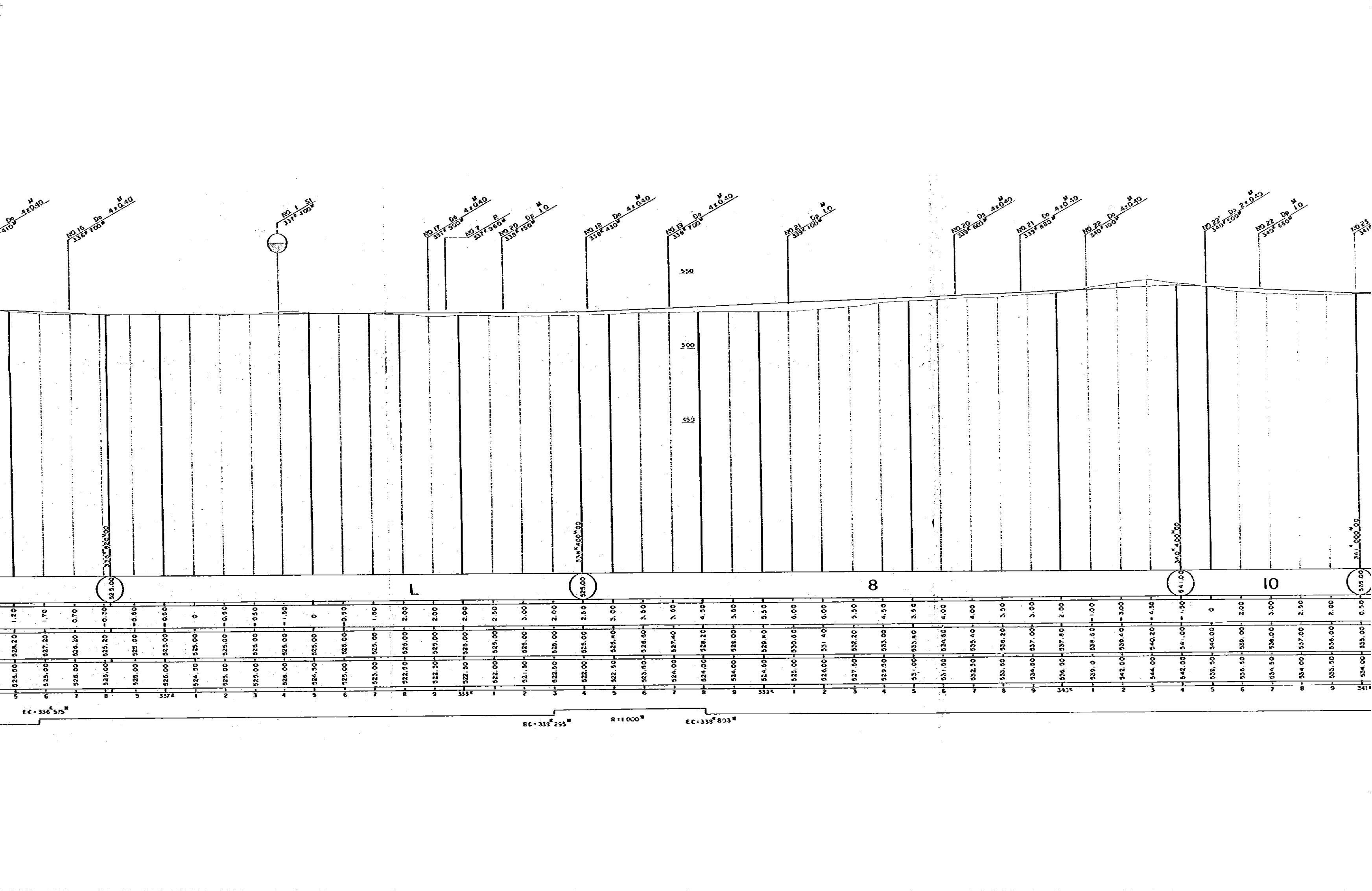
336<sup>m</sup> 420<sup>m</sup> 00

6.5

10

10

0	564.00	545.50	-18.50	1	554.00	554.00	-0.00	2	544.00	552.40	-1.70	3	534.00	551.00	-3.90	4	524.00	548.00	-10.00	5	514.00	545.00	-15.20	6	504.00	541.00	-20.00	7	494.00	536.00	-24.00	8	484.00	530.00	-27.00	9	474.00	523.00	-29.00	10	464.00	515.00	-29.00	11	454.00	505.00	-27.00	12	444.00	493.00	-23.00	13	434.00	479.00	-17.00	14	424.00	463.00	-9.00	15	414.00	445.00	-1.00	16	404.00	425.00	9.00	17	394.00	403.00	23.00	18	384.00	379.00	39.00	19	374.00	353.00	57.00	20	364.00	325.00	77.00	21	354.00	295.00	99.00	22	344.00	263.00	123.00	23	334.00	229.00	159.00	24	324.00	193.00	207.00	25	314.00	155.00	257.00	26	304.00	115.00	309.00	27	294.00	73.00	363.00	28	284.00	29.00	419.00	29	274.00	-17.00	477.00	30	264.00	-61.00	537.00	31	254.00	-123.00	599.00	32	244.00	-193.00	663.00	33	234.00	-271.00	729.00	34	224.00	-357.00	797.00	35	214.00	-451.00	867.00	36	204.00	-553.00	939.00	37	194.00	-663.00	1013.00	38	184.00	-781.00	1089.00	39	174.00	-907.00	1167.00	40	164.00	-1041.00	1247.00	41	154.00	-1183.00	1329.00	42	144.00	-1333.00	1413.00	43	134.00	-1491.00	1500.00	44	124.00	-1657.00	1589.00	45	114.00	-1831.00	1681.00	46	104.00	-1913.00	1775.00	47	94.00	-2003.00	1871.00	48	84.00	-2101.00	1969.00	49	74.00	-2207.00	2069.00	50	64.00	-2321.00	2171.00	51	54.00	-2443.00	2275.00	52	44.00	-2573.00	2381.00	53	34.00	-2711.00	2489.00	54	24.00	-2857.00	2600.00	55	14.00	-3011.00	2713.00	56	4.00	-3173.00	2829.00	57	-6.00	-3343.00	2947.00	58	-16.00	-3521.00	3067.00	59	-26.00	-3707.00	3189.00	60	-36.00	-3901.00	3313.00	61	-46.00	-4103.00	3439.00	62	-56.00	-4313.00	3567.00	63	-66.00	-4531.00	3697.00	64	-76.00	-4757.00	3829.00	65	-86.00	-4991.00	3963.00	66	-96.00	-5233.00	4100.00	67	-106.00	-5483.00	4239.00	68	-116.00	-5741.00	4381.00	69	-126.00	-6007.00	4525.00	70	-136.00	-6281.00	4671.00	71	-146.00	-6563.00	4819.00	72	-156.00	-6853.00	4969.00	73	-166.00	-7151.00	5121.00	74	-176.00	-7457.00	5275.00	75	-186.00	-7771.00	5431.00	76	-196.00	-8093.00	5589.00	77	-206.00	-8423.00	5749.00	78	-216.00	-8761.00	5911.00	79	-226.00	-9107.00	6075.00	80	-236.00	-9461.00	6241.00	81	-246.00	-9823.00	6409.00	82	-256.00	-10193.00	6579.00	83	-266.00	-10571.00	6751.00	84	-276.00	-10957.00	6925.00	85	-286.00	-11351.00	7101.00	86	-296.00	-11753.00	7279.00	87	-306.00	-12163.00	7459.00	88	-316.00	-12581.00	7641.00	89	-326.00	-13007.00	7825.00	90	-336.00	-13441.00	8011.00	91	-346.00	-13883.00	8200.00	92	-356.00	-14333.00	8391.00	93	-366.00	-14791.00	8584.00	94	-376.00	-15257.00	8779.00	95	-386.00	-15731.00	8976.00	96	-396.00	-16213.00	9175.00	97	-406.00	-16703.00	9376.00	98	-416.00	-17201.00	9579.00	99	-426.00	-17707.00	9783.00	100	-436.00	-18221.00	9989.00
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No 15 Dø 400 M  
310° 1.0

No 16 Dø 400 M  
336° 700 M

No 17 Dø 400 M  
337° 400 M

No 17 Dø 400 M  
337° 900 M

No 18 Dø 400 M  
337° 900 M

No 19 Dø 400 M  
338° 150 M

No 19 Dø 400 M  
338° 450 M

No 19 Dø 400 M  
338° 700 M

No 20 Dø 400 M  
337° 100 M

No 20 Dø 400 M  
337° 600 M

No 21 Dø 400 M  
339° 800 M

No 22 Dø 400 M  
340° 100 M

No 22 Dø 400 M  
340° 500 M

No 22 Dø 400 M  
340° 800 M

No 22 Dø 400 M  
341° 300 M

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BC=339.295

R=1000

EC=339.803

325.00

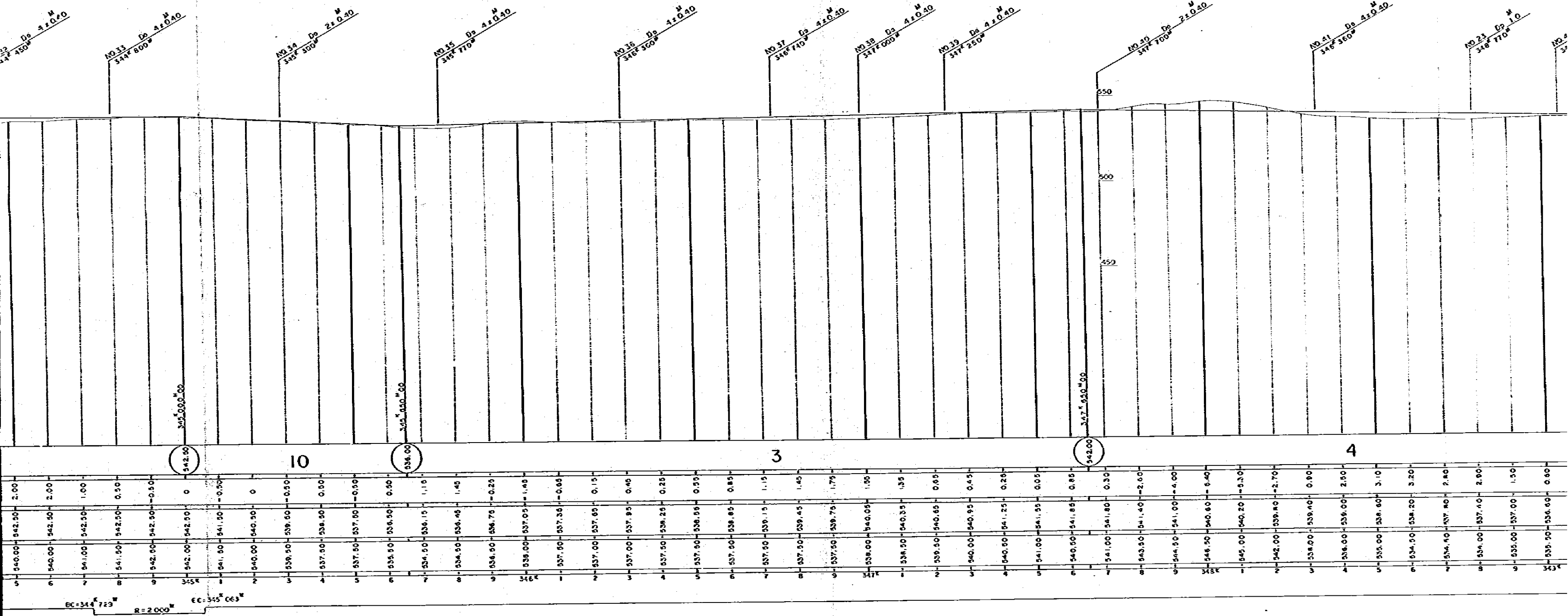
325.00

341.00

341.00

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17	325.00	325.00	1.00
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20	322.50	325.00	2.00
21	322.00	325.00	2.00
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26	322.50	325.00	3.00
27	323.50	326.00	3.50
28	324.00	327.40	3.00
29	324.00	328.20	4.00
30	324.00	329.00	5.00
31	325.00	330.00	6.00
32	326.00	331.40	6.00
33	327.00	332.20	5.00
34	329.50	333.00	4.50
35	331.00	333.80	3.50
36	331.50	334.60	4.00
37	332.50	335.40	4.00
38	333.50	336.20	3.50
39	334.50	337.00	3.00
40	336.00	337.80	2.00
41	339.00	338.00	1.00
42	342.00	339.40	3.00
43	344.00	340.20	4.00
44	342.00	341.00	1.00
45	339.50	340.00	0
46	336.50	339.00	2.00
47	334.50	338.00	3.00
48	334.00	337.00	2.50
49	333.50	336.00	2.00
50	334.00	335.00	0.50





NO. 32 Ds 4x0.40  
 344 800 M  
 NO. 34 Ds 2x0.40  
 345 300 M  
 NO. 35 Ds 4x0.40  
 346 710 M  
 NO. 36 Ds 4x0.40  
 346 500 M  
 NO. 37 Ds 4x0.40  
 346 740 M  
 NO. 38 Ds 4x0.40  
 347 000 M  
 NO. 39 Ds 4x0.40  
 347 250 M  
 NO. 40 Ds 2x0.40  
 347 700 M  
 NO. 41 Ds 4x0.40  
 348 360 M  
 NO. 23 Ds 4x0.40  
 348 710 M  
 NO. 24 Ds 4x0.40  
 348 710 M

550  
 500  
 450  
 542.00





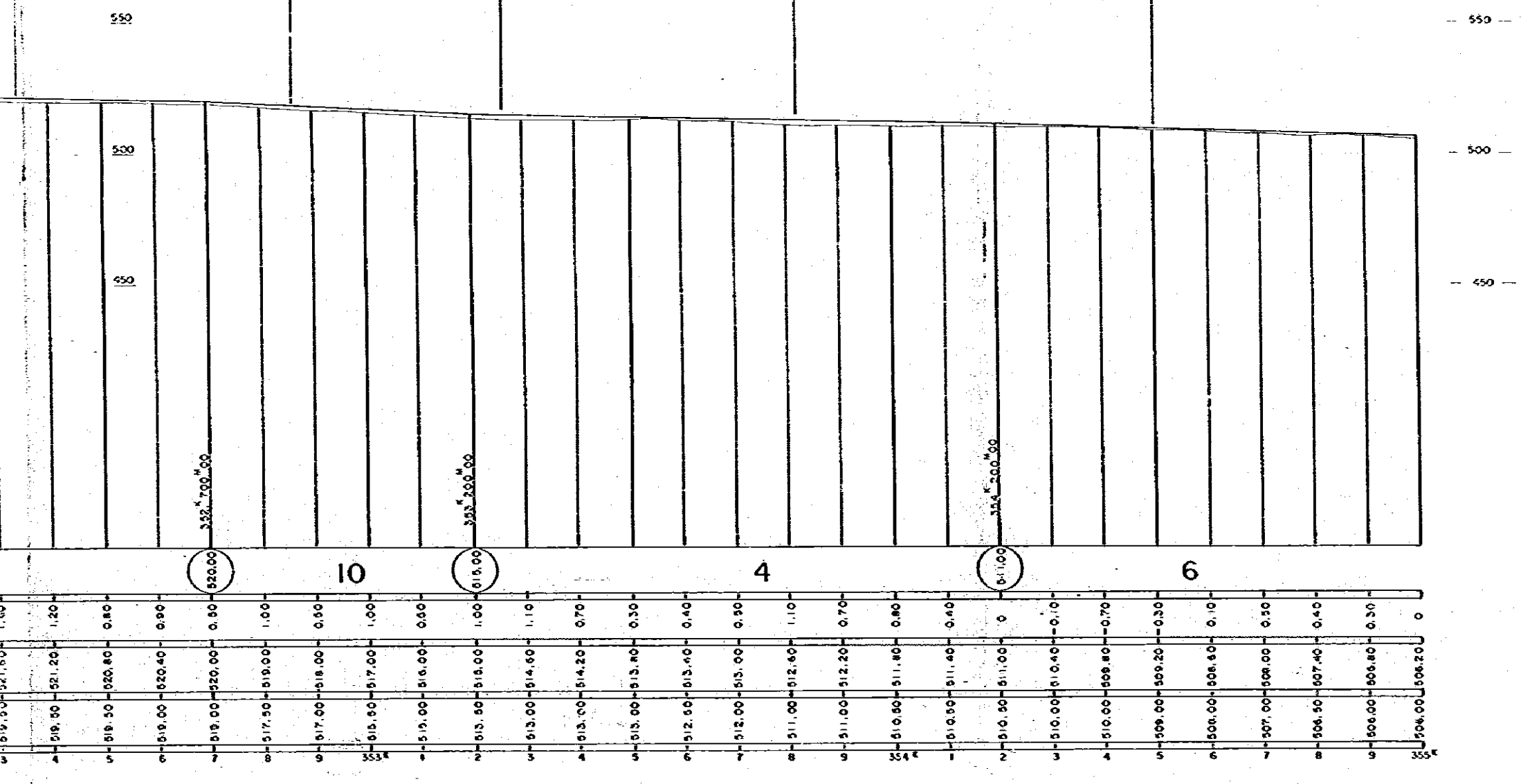
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352' 350"

No 49 Do 4:0.40  
352' 800"

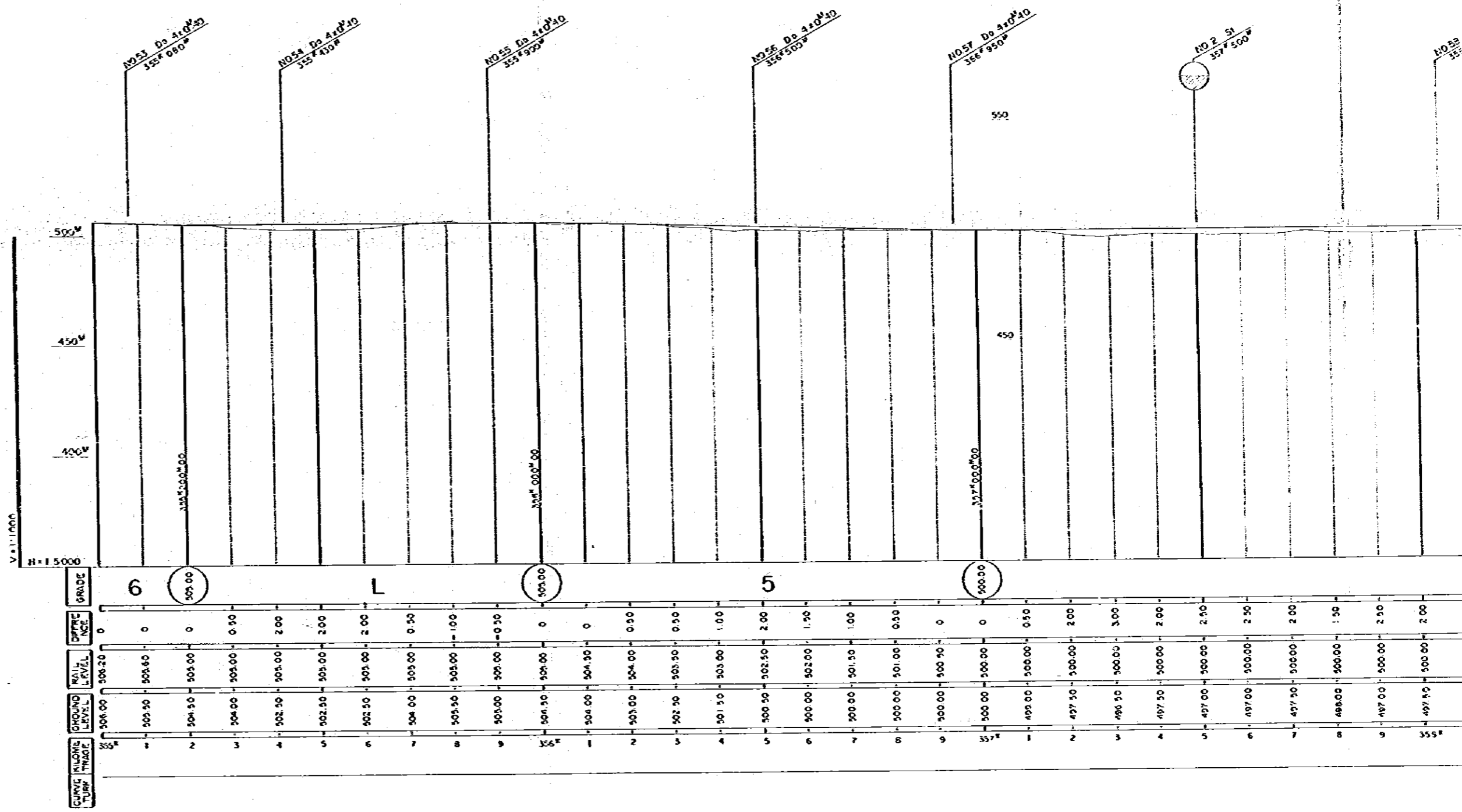
No 50 Do 4:0.40  
353' 250"

No 51 Do 4:0.40  
353' 820"

No 52 Do 1:0.40  
354' 500"



EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINE (1:0.40:0.40)		
RAILWAY PROFILE (Sheet 1 of 3)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	N. 14



NO 2 Si  
357\*500\*

NO 58 Da 4x0\*10  
358\*200\*

NO 59 Da 4x0\*10  
358\*200\*

NO 60 Da 2x0\*10  
358\*600\*

NO 61 Da 1x0\*10  
358\*600\*

NO 62 Da 2x0\*10  
358\*300\*

NO 63 Da 2x0\*10  
358\*700\*

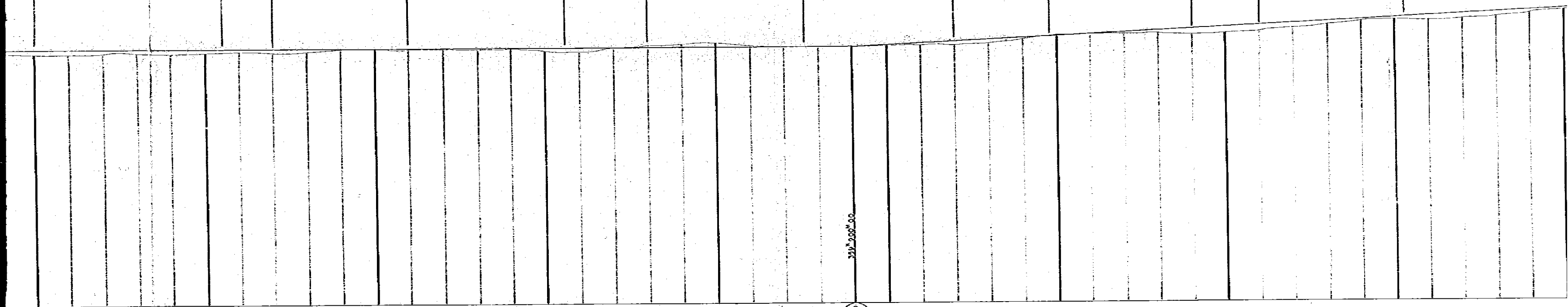
NO 64 Da 1x0\*10  
360\*200\*

NO 65 Da 2x0\*10  
360\*400\*

NO 27 Da 1\*0  
361\*300\*

NO 28 Da 1\*0  
361\*100\*

NO 66 Da 1x0\*10  
361\*300\*



358\*300\*50

300.00

10

5	497.00	500.00	2.50
6	497.00	500.00	2.50
7	497.50	500.00	2.00
8	498.00	500.00	1.50
9	497.00	500.00	2.50
358*	497.50	500.00	2.00
1	497.50	500.00	2.00
2	497.50	500.00	2.00
3	498.50	500.00	1.00
4	500.00	500.00	-0.50
5	500.00	500.00	-0.50
6	499.50	500.00	0
7	499.50	500.00	0
8	499.00	500.00	0.50
9	499.50	500.00	0
358*	498.00	500.00	1.50
1	497.50	500.00	2.00
2	500.50	500.00	-1.00
3	501.00	500.00	-1.50
4	502.00	500.00	-2.00
5	502.50	500.00	-3.00
6	500.50	500.00	-1.00
7	500.00	500.00	-0.50
8	500.00	500.00	-0.50
9	500.50	500.00	-1.00
360*	500.50	501.00	0
1	500.50	502.00	1.00
2	501.00	503.00	1.50
3	501.50	504.00	2.00
4	504.00	505.00	0.50
5	506.00	506.00	-0.50
6	507.00	507.00	-0.50
7	507.50	508.00	0
8	507.00	509.00	1.50
9	507.00	510.00	2.50
361*	507.50	511.00	3.00
1	508.00	512.00	3.50
2	510.00	513.00	2.50
3	512.50	514.00	1.00
4	514.50	515.00	0
5	515.00	516.00	0.50
6	514.00	517.00	2.50
7	515.50	518.00	2.00
8	516.50	519.00	2.00
9	517.00	520.00	0.50

EC = 360\*255\* R = 1500\* EC = 360\*583\*

EC = 361\*601\* R = 15

NO 66 Da 4x0<sup>40</sup>  
362<sup>4</sup> 530<sup>4</sup>

NO 67 Da 2x0<sup>40</sup>  
362<sup>4</sup> 150<sup>4</sup>

NO 68 Da 2x0<sup>40</sup>  
362<sup>4</sup> 550<sup>4</sup>

NO 69 Da 2x0<sup>40</sup>  
362<sup>4</sup> 900<sup>4</sup>

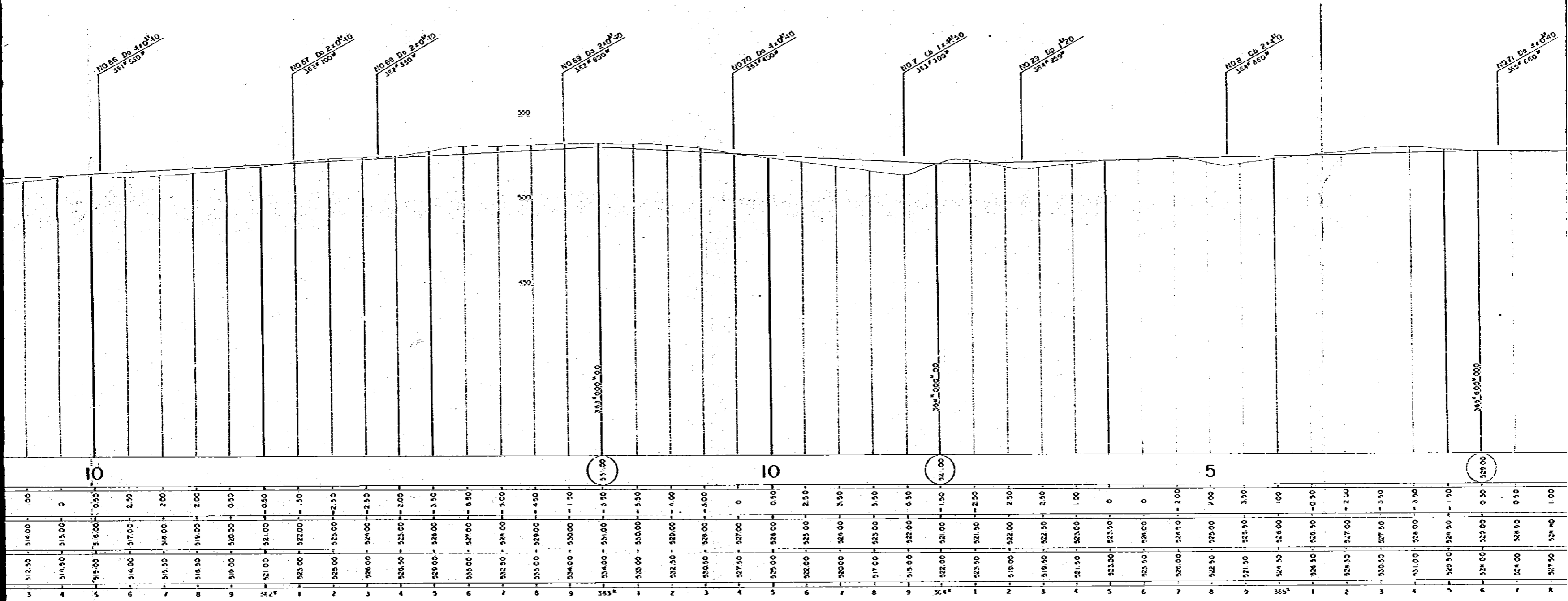
NO 70 Da 4x0<sup>40</sup>  
362<sup>4</sup> 450<sup>4</sup>

NO 71 Ca 1x3x50  
362<sup>4</sup> 900<sup>4</sup>

NO 23 Da 1x20  
362<sup>4</sup> 250<sup>4</sup>

NO 8 Ca 2x4x0  
362<sup>4</sup> 650<sup>4</sup>

NO 71 Da 4x0<sup>40</sup>  
362<sup>4</sup> 650<sup>4</sup>



550

500

450

362<sup>4</sup> 1000<sup>4</sup> 00

362<sup>4</sup> 1000<sup>4</sup> 00

362<sup>4</sup> 600<sup>4</sup> 000

10

10

5

538 00

3	512.50	514.00	1.00	5	515.00	516.00	0.90	7	517.00	518.00	2.00	9	519.00	520.00	1.00	11	521.00	522.00	0.50	13	523.00	524.00	1.50	15	525.00	526.00	2.50	17	528.00	529.00	2.50	19	530.00	531.00	2.00	21	532.00	533.00	3.50	23	535.00	536.00	3.50	25	537.50	538.00	5.00	27	539.00	540.00	4.50	29	542.00	543.00	1.50	31	544.00	545.00	3.50	33	546.00	547.00	4.00	35	548.00	549.00	3.00	37	550.00	551.00	3.00	39	552.50	553.00	4.00	41	555.00	556.00	3.00	43	557.50	558.00	0	45	560.00	561.00	0.50	47	562.00	563.00	2.50	49	564.00	565.00	3.50	51	567.00	568.00	6.50	53	569.00	570.00	2.50	55	571.00	572.00	2.50	57	573.00	574.00	1.00	59	575.00	576.00	0	61	577.00	578.00	0	63	579.00	580.00	2.00	65	581.00	582.00	2.00	67	583.00	584.00	3.50	69	585.00	586.00	1.00	71	587.00	588.00	0	73	589.00	590.00	0	75	591.00	592.00	2.00	77	593.00	594.00	2.00	79	595.00	596.00	3.50	81	597.00	598.00	1.00	83	599.00	600.00	0.50	85	601.00	602.00	2.00	87	603.00	604.00	2.50	89	605.00	606.00	3.50	91	607.00	608.00	3.50	93	609.00	610.00	5.00	95	611.00	612.00	3.50	97	613.00	614.00	1.50	99	615.00	616.00	0.50	101	617.00	618.00	0.50	103	619.00	620.00	1.00
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RC-361<sup>4</sup> 604<sup>4</sup> R=1500<sup>4</sup> EC-362<sup>4</sup> 170<sup>4</sup>

EC-365<sup>4</sup> 697<sup>4</sup> R=

NO 71 Ds 4x0 40  
358' 600"

NO 30 Ds 4x0  
368' 300"

NO 31 Ds 4x0  
368' 400"

NO 72 Ds 2x0 40  
358' 900"

NO 73 Ds 2x0 40  
367' 450"

NO 74 Ds 2x0 40  
367' 650"

NO 75 Ds 2x0 40  
368' 350"

NO 9 Ds 2x4 50  
368' 930"

NO 16  
369'

550

550

550

550

550

550

365' 000"

368' 000"

368' 000"

338.00

328.00

322.00

3

L

2	528.50	527.00	= 1.50
3	530.50	527.50	= 3.00
4	531.00	528.00	= 3.00
5	529.50	528.50	= 1.00
6	528.00	529.00	0.50
7	528.00	528.90	0.50
8	527.50	528.40	1.00
9	527.50	528.70	0.50
10	527.50	528.80	1.00
11	528.50	528.50	1.50
12	528.00	528.40	3.00
13	523.50	528.50	4.50
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15	524.50	528.10	3.00
16	523.00	528.00	2.50
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25	523.00	523.50	1.50
26	523.00	523.00	1.50
27	523.00	524.70	1.00
28	522.00	524.40	2.00
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32	523.00	523.20	2.50
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43	523.50	522.00	4.00
44	523.00	522.00	3.50
45	523.00	522.00	3.50
46	524.00	522.00	2.50
47	523.00	522.00	1.50

EC=365' 63" R=1500' EC=365' 63"

550

550

550

NO 75 Da 2x0'40  
369' 720"

NO 76 Da 2x0'40  
369' 920"

NO 77 Da 2x0'40  
370' 020"

NO 78 Da 2x0'40  
370' 220"

NO 79 Da 2x0'40  
370' 420"

NO 80 Da 2x0'40  
371' 020"

NO 81 Da 2x0'40  
371' 220"

NO 82 Da 2x0'40  
371' 420"

NO 83 Da 2x0'40  
372' 020"

NO 84 Da 2x0'40  
372' 220"

NO 85 Da 2x0'40  
372' 420"

NO 86 Da 2x0'40  
372' 620"

NO 87 Da 2x0'40  
372' 820"

370' 000" 00

371' 000" 00

372' 000" 00

372' 700" 00

L

322.00

7

315.00

L

315.00

10

308.00

10

1	521.00	522.00	0.00
2	522.50	522.00	-1.00
3	523.50	522.00	-4.00
4	525.00	522.00	-3.50
5	525.00	522.00	-3.00
6	524.00	522.00	-2.50
7	523.00	522.00	-1.50
8	520.00	522.00	1.50
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11	516.50	521.50	2.50
12	520.00	520.00	0
13	519.50	518.50	0
14	519.00	519.00	0
15	517.00	518.50	1.00
16	515.00	517.00	2.50
17	514.50	517.10	2.00
18	513.00	516.40	0
19	513.00	515.70	0
20	514.50	515.00	0
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22	513.00	515.00	1.50
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29	514.00	515.00	0.50
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35	507.00	510.00	2.50
36	506.50	509.00	2.00
37	506.00	508.00	1.50
38	506.00	509.00	2.50
39	506.00	510.00	3.50
40	507.50	511.00	3.00
41	508.00	512.00	3.50
42	509.00	513.00	3.50
43	511.00	514.00	2.50
44	514.00	515.00	-0.50
45	517.00	516.00	-1.50
46	517.50	517.00	-0.50

NO 37 Ds 210<sup>M</sup>  
373 260<sup>M</sup>

NO 23 Ds 210<sup>M</sup>  
374 350<sup>M</sup>

NO 24 Ds 210<sup>M</sup>  
375 020<sup>M</sup>

NO 25 Ds 210<sup>M</sup>  
375 800<sup>M</sup>

NO 33 Ds 210<sup>M</sup>  
376 400<sup>M</sup>

NO 10 Ds 11 350<sup>M</sup>  
376 700<sup>M</sup>

NO 33 Ds 210<sup>M</sup>  
376 930<sup>M</sup>

NO 26 Ds 210<sup>M</sup>  
377 370<sup>M</sup>

50

500

450

373 500<sup>M</sup> 00

374 500<sup>M</sup> 00

376 300<sup>M</sup> 00

10

319.00

L

319.00

10

300.00

L

3	511.00	514.00	2.30	4	514.00	515.00	0.30	5	517.00	518.00	1.30	6	517.50	517.00	-0.30	7	519.00	518.00	-1.30	8	518.50	519.00	0	9	518.00	519.00	0.30	10	518.00	519.00	0.30	11	519.00	519.00	0	12	519.00	519.00	0	13	517.50	519.00	1.00	14	518.00	519.00	0.30	15	518.00	519.00	0.30	16	517.00	519.00	1.50	17	517.00	519.00	1.50	18	518.50	519.00	2.00	19	517.50	518.00	0	20	516.50	517.00	0	21	516.00	516.00	-0.50	22	517.00	515.00	-2.30	23	518.00	514.00	-2.30	24	515.50	513.00	-3.00	25	513.00	512.00	-3.50	26	514.50	511.00	-4.00	27	514.00	510.00	-4.50	28	512.00	509.00	-3.50	29	509.50	508.00	-2.00	30	507.00	507.00	0.30	31	508.00	508.00	-0.50	32	504.00	505.00	0.30	33	502.00	504.00	1.30	34	500.50	503.00	2.00	35	497.50	502.00	4.00	36	494.00	501.00	4.30	37	493.00	500.00	4.30	38	493.00	500.00	4.30	39	494.00	500.00	3.30	40	494.50	500.00	5.00	41	494.00	500.00	3.30	42	493.50	500.00	4.00	43	497.00	500.00	2.30	44	494.00	500.00	1.30	45	494.50	500.00	1.00	46	497.50	500.00	2.00	47	500.50	500.00	-1.00	48	500.00	500.00	-0.50	49	499.00	500.00	0.30	50	497.50	500.00	2.00
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NO 40 Dp 1'20  
381'200"

NO 41 Dp 1'20  
381'500"

NO 42 Dp 1'20  
381'900"

NO 50 Dp 2'10  
382'500"

NO 91 Dp 2'10  
382'700"

NO 92

500

500

550

550

477.00

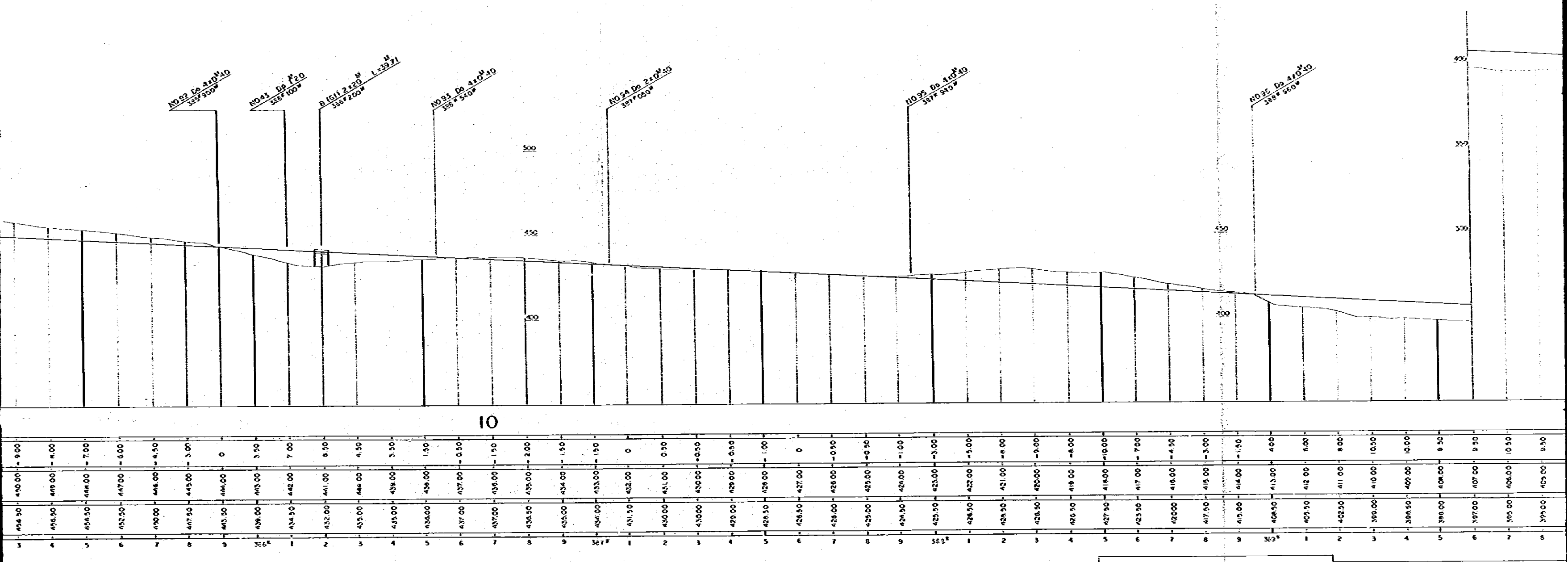
477.00

10

1	477.00	485.00	7.50
2	476.50	486.00	8.00
3	476.00	483.00	6.00
4	475.50	482.00	6.00
5	475.00	481.00	5.50
6	477.00	480.00	2.50
7	475.50	479.00	3.00
8	475.00	478.00	3.00
9	475.00	477.00	1.50
10	475.00	477.00	1.50
11	475.00	477.00	1.00
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45	476.00	477.00	0.50
46	476.00	477.00	0.50
47	476.00	477.00	0.50
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60	476.00	477.00	0.50
61	476.00	477.00	0.50
62	476.00	477.00	0.50
63	476.00	477.00	0.50
64	476.00	477.00	0.50
65	476.00	477.00	0.50
66	476.00	477.00	0.50
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70	476.00	477.00	0.50
71	476.00	477.00	0.50
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73	476.00	477.00	0.50
74	476.00	477.00	0.50
75	476.00	477.00	0.50
76	476.00	477.00	0.50
77	476.00	477.00	0.50
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79	476.00	477.00	0.50
80	476.00	477.00	0.50
81	476.00	477.00	0.50
82	476.00	477.00	0.50
83	476.00	477.00	0.50
84	476.00	477.00	0.50
85	476.00	477.00	0.50
86	476.00	477.00	0.50
87	476.00	477.00	0.50
88	476.00	477.00	0.50
89	476.00	477.00	0.50
90	476.00	477.00	0.50
91	476.00	477.00	0.50
92	476.00	477.00	0.50
93	476.00	477.00	0.50
94	476.00	477.00	0.50
95	476.00	477.00	0.50
96	476.00	477.00	0.50
97	476.00	477.00	0.50
98	476.00	477.00	0.50
99	476.00	477.00	0.50
100	476.00	477.00	0.50

R=1000"

CC=382'555"



NO 92 Do 4x0.10  
353 950M

NO 43 Do 2x0  
356 100M

B (C) 2.220 M  
358 200M L=39.71

NO 93 Do 4x0.10  
358 540M

NO 94 Do 2x0.10  
357 050M

NO 95 Do 4x0.10  
357 940M

NO 96 Do 4x0.10  
358 950M

10

3	436+50	430.00	- 9.00	4	436+50	419.00	- 11.00	5	436+50	418.00	- 7.00	6	437+50	417.00	- 0.00	7	438+00	416.00	- 4.50	8	437+50	445.00	- 3.00	9	438+50	444.00	0	10	438+00	443.00	3.50	11	438+50	442.00	7.00	12	439+00	441.00	8.50	13	439+50	440.00	4.50	14	439+00	439.00	3.50	15	439+00	438.00	1.50	16	439+00	437.00	- 0.50	17	439+00	436.00	- 1.50	18	439+50	435.00	- 2.00	19	439+00	434.00	- 1.50	20	439+00	433.00	- 1.50	21	439+50	432.00	0	22	439+00	431.00	0.50	23	439+00	430.00	- 0.50	24	439+00	429.00	- 0.50	25	439+50	428.00	- 1.00	26	439+50	427.00	0	27	439+00	426.00	- 0.50	28	439+00	425.00	- 0.50	29	439+50	424.00	- 1.00	30	439+50	423.00	- 3.00	31	439+50	422.00	- 5.00	32	439+50	421.00	- 8.00	33	439+50	420.00	- 9.00	34	439+50	419.00	- 8.00	35	439+50	418.00	- 10.00	36	439+50	417.00	- 7.50	37	439+50	416.00	- 4.50	38	439+50	415.00	- 3.00	39	439+50	414.00	- 1.50	40	439+50	413.00	4.00	41	439+50	412.00	6.00	42	439+50	411.00	8.00	43	439+50	410.00	10.00	44	439+50	409.00	10.00	45	439+50	408.00	9.50	46	439+50	407.00	9.50	47	439+50	406.00	10.50	48	439+50	405.00	9.50
---	--------	--------	--------	---	--------	--------	---------	---	--------	--------	--------	---	--------	--------	--------	---	--------	--------	--------	---	--------	--------	--------	---	--------	--------	---	----	--------	--------	------	----	--------	--------	------	----	--------	--------	------	----	--------	--------	------	----	--------	--------	------	----	--------	--------	------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	---	----	--------	--------	------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	---	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	---------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	--------	----	--------	--------	------	----	--------	--------	------	----	--------	--------	------	----	--------	--------	-------	----	--------	--------	-------	----	--------	--------	------	----	--------	--------	------	----	--------	--------	-------	----	--------	--------	------

EC=358 450M

R=2000

EC=358 180M

NO 95 Dp P 20  
323' 950'

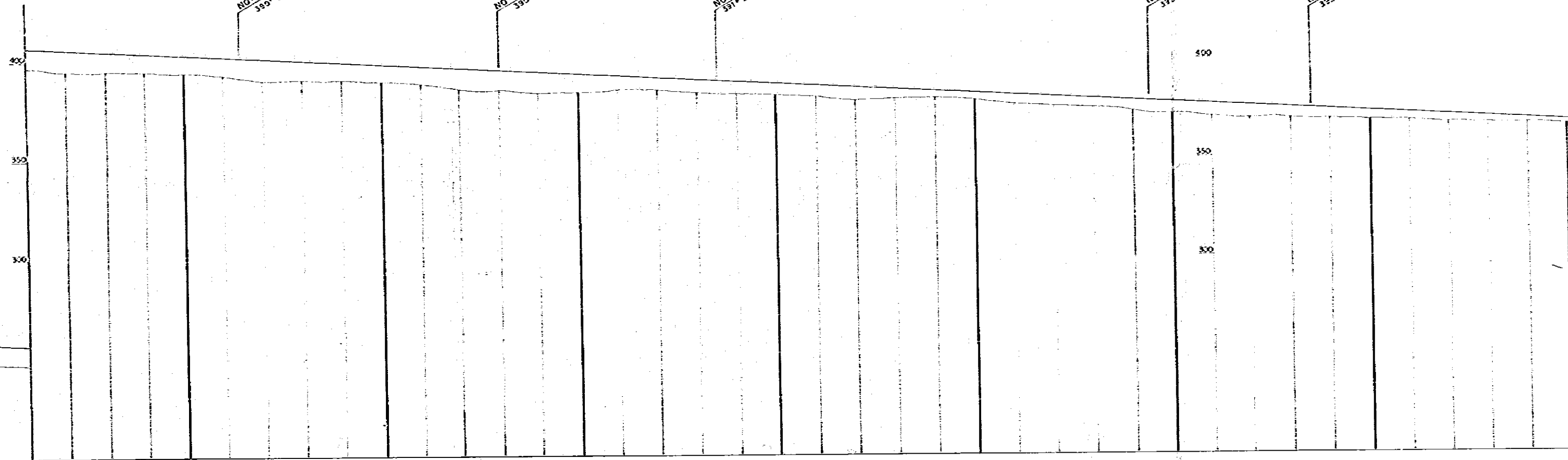
NO 44 Dp P 20  
329' 145'

NO 45 Dp P 20  
329' 800'

NO 46 Dp P 20  
327' 350'

NO 47 Dp P 20  
322' 210'

NO 48 Dp P 20  
322' 850'



10

10

1	412.00	411.00	1.00
2	408.50	413.00	4.00
3	405.50	412.00	6.00
4	402.00	411.00	9.00
5	399.00	410.00	10.50
6	396.50	409.00	10.00
7	394.00	408.00	9.50
8	391.00	407.00	9.10
9	388.50	406.00	10.50
10	385.00	405.00	9.50
11	383.00	404.00	8.50
12	381.00	403.00	8.00
13	379.00	402.00	8.50
14	377.00	401.00	10.50
15	375.00	400.00	9.50
16	373.00	399.00	8.50
17	371.00	398.00	8.00
18	369.00	397.00	8.50
19	367.00	396.00	10.00
20	365.00	395.00	10.00
21	363.00	394.00	10.50
22	361.00	393.00	9.50
23	359.00	392.00	6.50
24	357.00	391.00	6.00
25	355.00	390.00	6.50
26	353.00	389.00	6.00
27	351.00	388.00	6.00
28	349.00	387.00	6.00
29	347.00	386.00	5.50
30	345.00	385.00	5.00
31	343.00	384.00	5.50
32	341.00	383.00	4.00
33	339.00	382.00	4.50
34	337.00	381.00	4.50
35	335.00	380.00	4.50
36	333.00	379.00	5.50
37	331.00	378.00	5.50
38	329.00	377.00	5.50
39	327.00	376.00	5.50
40	325.00	375.00	4.50
41	323.00	374.00	4.50
42	321.00	373.00	3.50
43	319.00	372.00	3.50
44	317.00	371.00	3.00
45	315.00	370.00	2.50
46	313.00	369.00	1.00

EC = 353' 185'

EP 410

N048 D<sub>1</sub> P<sub>20</sub>  
332' 85.0"

N049 D<sub>1</sub> P<sub>20</sub>  
333' 75.0"

N097 D<sub>1</sub> P<sub>20</sub>  
334' 65.0"

N098 D<sub>1</sub> P<sub>20</sub>  
335' 75.0"

N099 D<sub>1</sub> P<sub>20</sub>  
336' 55.0"

N0100 D<sub>1</sub>  
337' 0"

300

350

300

320

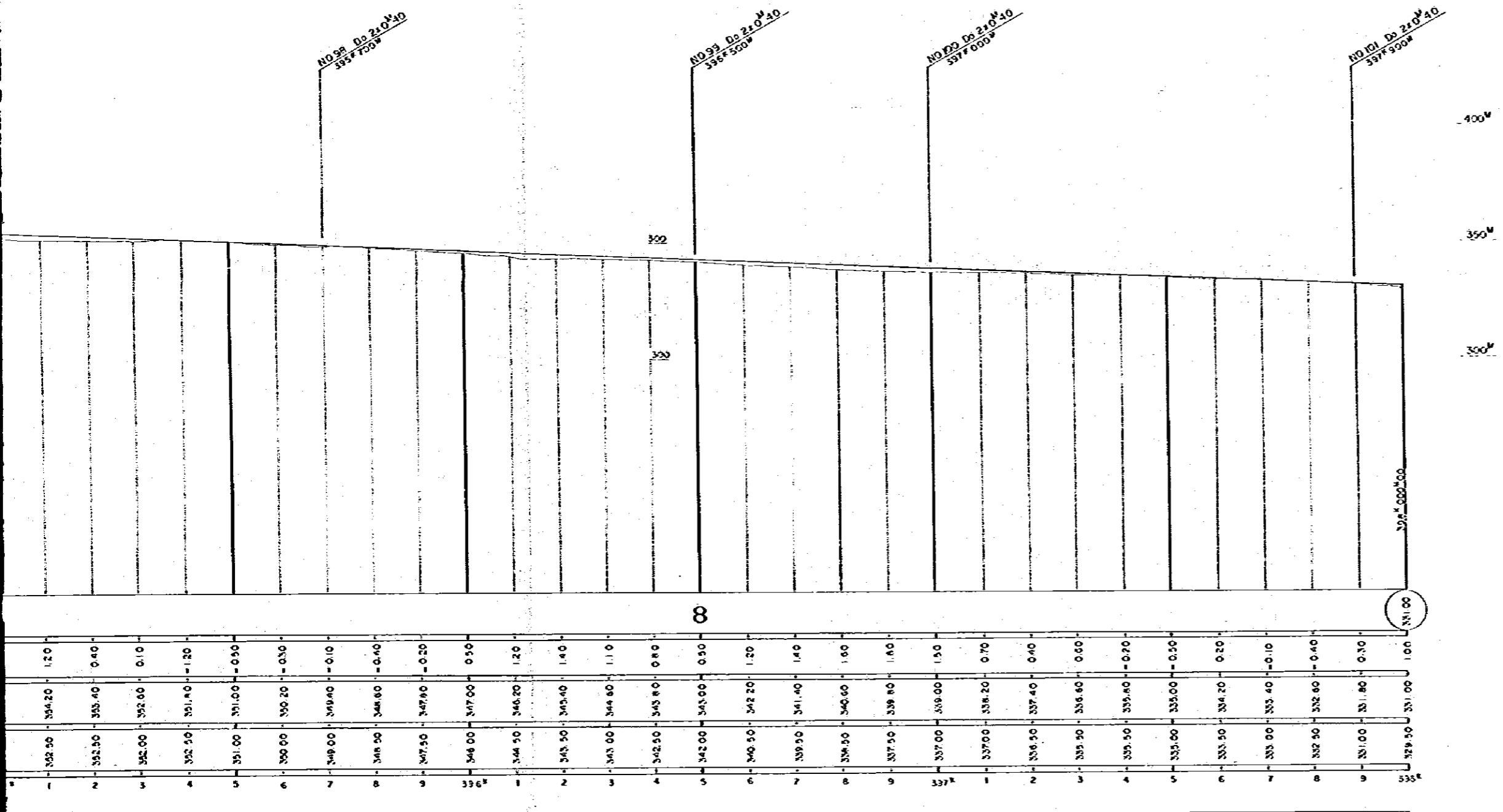
320

394,000.00

340.00

8

5	374.00	376.00	3.00
6	371.00	377.00	5.00
7	370.00	376.00	5.00
8	370.00	375.00	4.00
9	369.50	374.00	4.00
333*	369.00	373.00	5.00
1	366.00	372.00	5.00
2	367.50	371.00	3.00
3	367.00	370.00	2.50
4	367.50	369.00	1.00
5	368.50	368.00	1.00
6	368.00	367.00	0.50
7	364.50	366.00	1.00
8	364.00	365.00	0.50
9	363.00	364.00	0.50
334*	362.50	363.00	0
1	361.50	362.50	0.20
2	361.50	361.40	0.60
3	360.00	360.60	0.10
4	359.50	359.60	0.20
5	359.00	359.00	0.50
6	357.00	358.20	0.70
7	356.00	357.40	0.90
8	355.00	356.60	1.10
9	354.50	355.80	0.90
335*	353.50	355.00	1.00
1	352.50	354.20	1.20
2	352.00	353.40	0.40
3	352.00	352.60	0.10
4	352.50	351.80	-1.20
5	351.00	351.00	-0.50
6	350.00	350.20	-0.30
7	349.00	349.40	-0.10
8	348.50	348.60	-0.40
9	347.50	347.80	-0.20
336*	346.00	347.00	0.50
1	344.50	346.20	1.20
2	343.50	345.40	1.40
3	343.00	344.60	1.10
4	342.50	343.80	0.80
5	342.00	343.00	0.50
6	340.50	342.20	1.20
7	339.50	341.40	1.40
8	338.50	340.60	1.60
9	337.50	339.80	1.80
337*	337.00	339.00	1.50

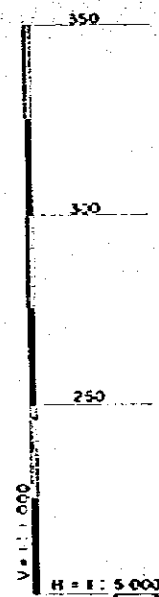


EMPRESA NACIONAL DE FERROCARRILES  
RAILWAY CONSTRUCTION POINT EASTERN LINE  
CARRANZA, R.C.

**RAILWAY PROFILE (Sheet 2 of 3)**

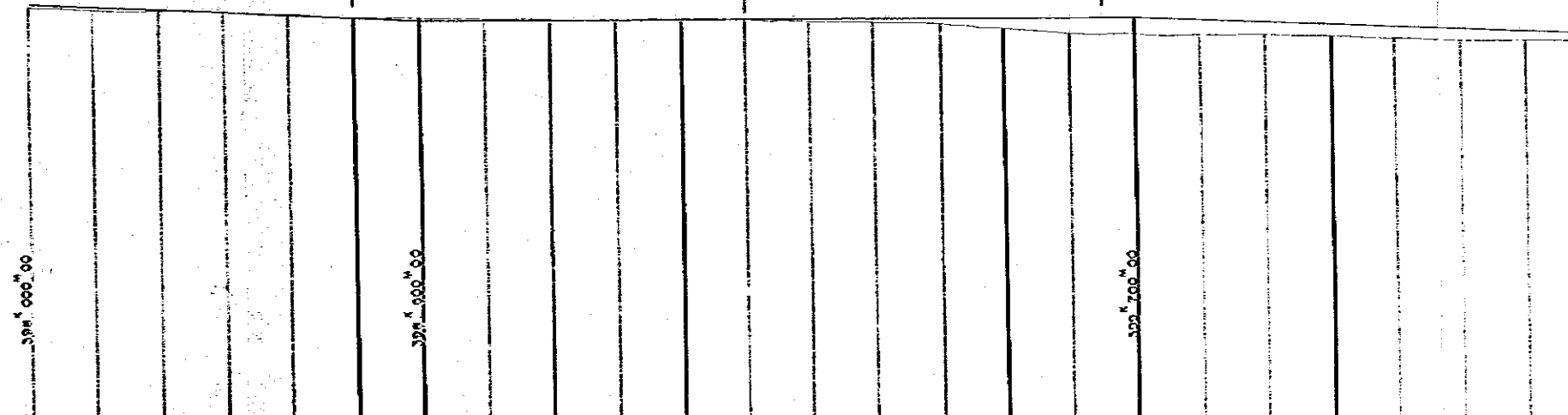
Executive Engineer: \_\_\_\_\_  
 Checked by: \_\_\_\_\_  
 Contracting Engineer: \_\_\_\_\_

Checked by: \_\_\_\_\_ Approved by: \_\_\_\_\_ No. 15



CURVE KILOM  
 TURE TRAC  
 GROUND L  
 RAIL L  
 DIFFER  
 GRADE

STATION	GROUND LVL.	RAIL LVL.	DIFFER.	GRADE
0+00	329.50	331.00	1.50	0.00
0+10	328.00	330.00	2.00	0.60
0+20	328.50	329.00	0.50	0.00
0+30	328.00	328.00	0.00	-0.30
0+40	327.50	327.00	0.50	-1.00
0+50	326.50	326.00	0.50	-1.00
0+60	326.00	325.00	1.00	-1.50
0+70	325.50	325.00	0.50	-1.00
0+80	325.50	325.00	0.50	-1.00
0+90	325.50	325.00	0.50	-1.00
1+00	325.50	325.00	0.50	-1.00
1+10	325.50	325.00	0.50	-1.00
1+20	324.50	325.00	0.50	0.00
1+30	324.00	325.00	1.00	0.50
1+40	323.50	325.00	1.50	1.00
1+50	322.00	325.00	3.00	2.50
1+60	320.50	325.00	4.50	4.00
1+70	320.00	325.00	5.00	4.50
1+80	319.50	324.50	5.00	4.20
1+90	319.50	323.50	4.00	3.40
2+00	319.00	322.00	3.00	3.10
2+10	318.50	321.50	3.00	2.60
2+20	317.50	321.00	3.50	3.00
2+30	317.50	320.50	3.00	2.20



NO 102 D2 2±0.30  
399' 500'

NO 4 51  
399' 100±0.00

NO 50 D2 1±0.20  
399' 650'

No 103 Es 2x0.40  
400' 800' W

No 02 Da 2x0.40  
402' 100' W

No 05 Da 2x0.40  
403' 500' W

352

350

400' 700' 00

402' 700' 00

8

6

305.00

1	319.00	323.40	3.40
2	319.00	322.60	3.10
3	318.50	321.40	2.90
4	317.50	321.00	3.50
5	317.50	320.20	2.70
6	317.00	319.40	1.90
7	317.00	318.60	1.10
8	316.50	317.80	0.80
9	316.00	317.00	1.00
10	315.00	316.40	0.90
11	315.00	315.80	0.80
12	314.00	315.20	0.70
13	313.00	314.60	1.10
14	312.00	314.00	1.50
15	312.50	313.40	0.40
16	312.50	312.80	0.20
17	311.50	312.20	0.20
18	310.50	311.60	0.40
19	309.00	311.00	1.80
20	308.50	310.40	1.40
21	308.00	309.80	1.30
22	307.00	309.20	1.50
23	307.50	308.60	0.80
24	306.00	308.00	1.50
25	305.50	307.40	1.40
26	305.00	306.80	1.30
27	304.50	306.20	1.20
28	304.00	305.60	1.10
29	303.50	305.00	1.00
30	303.00	304.40	1.00
31	302.50	303.80	1.00
32	302.00	303.20	1.00
33	302.00	302.60	0.90
34	302.00	302.00	0.90
35	301.50	301.40	0
36	301.50	300.80	0
37	300.00	301.50	1.00
38	300.00	301.00	0.80
39	299.50	300.50	1.50
40	299.00	300.00	1.00
41	298.00	299.50	1.00
42	297.50	299.00	1.00
43	296.50	298.50	1.50
44	297.00	298.00	0.50
45	296.00	297.50	1.00
46	295.50	297.00	1.00
47	295.50	296.50	0.50

EC-403<sup>R</sup> 785<sup>W</sup>

R = 1000<sup>W</sup>

EC-404<sup>R</sup> 221<sup>W</sup>



NO. 106 Do 2 x 0.50  
404 F 700 W

NO. 107 Do 2 x 0.50  
404 F 800 W

NO. 108 Do 2 x 0.50  
406 F 540 W

NO. 109 Do 2 x 0.50  
407 F 800 W

300

250

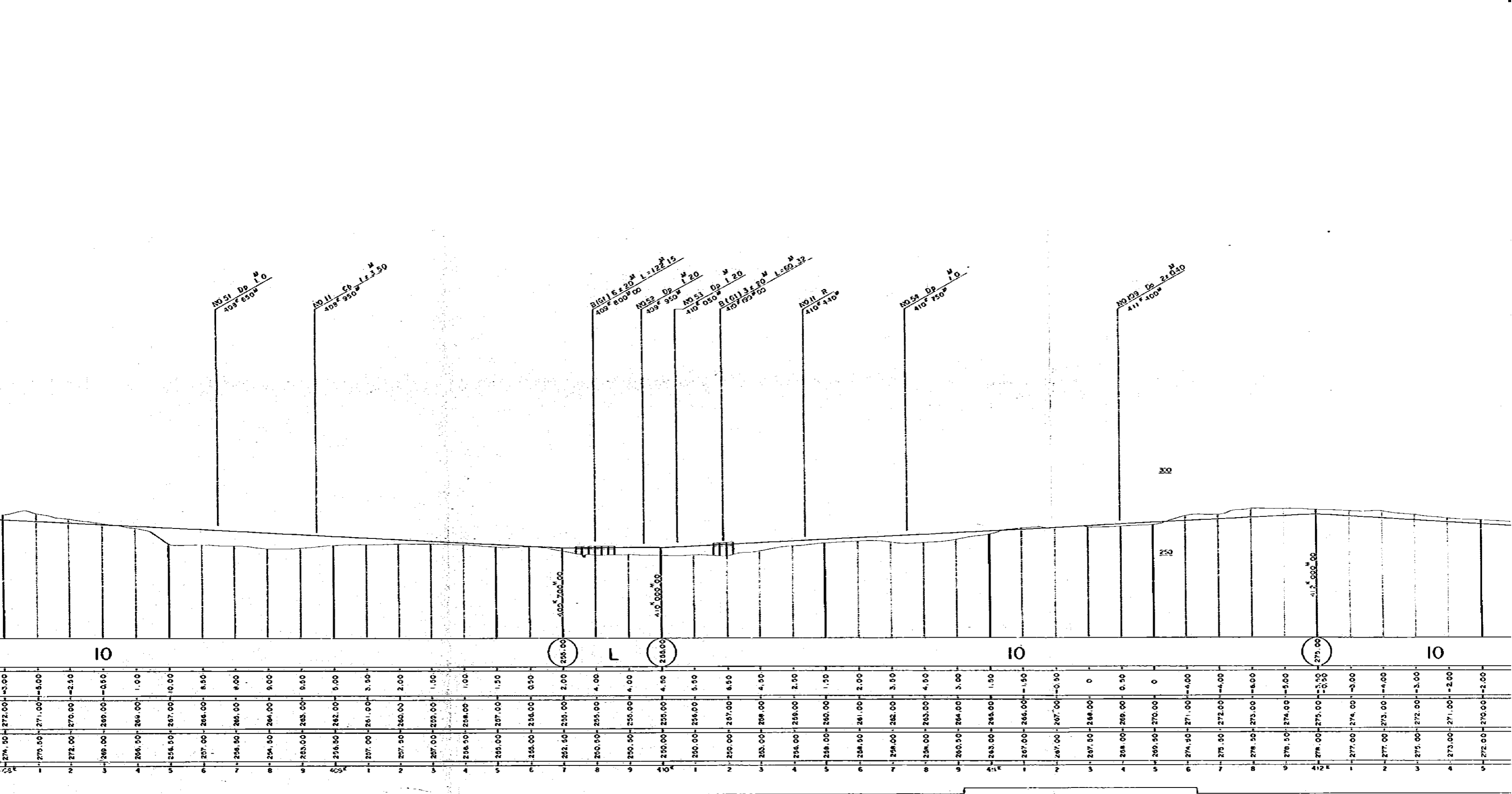
405 F 100 W

5

10

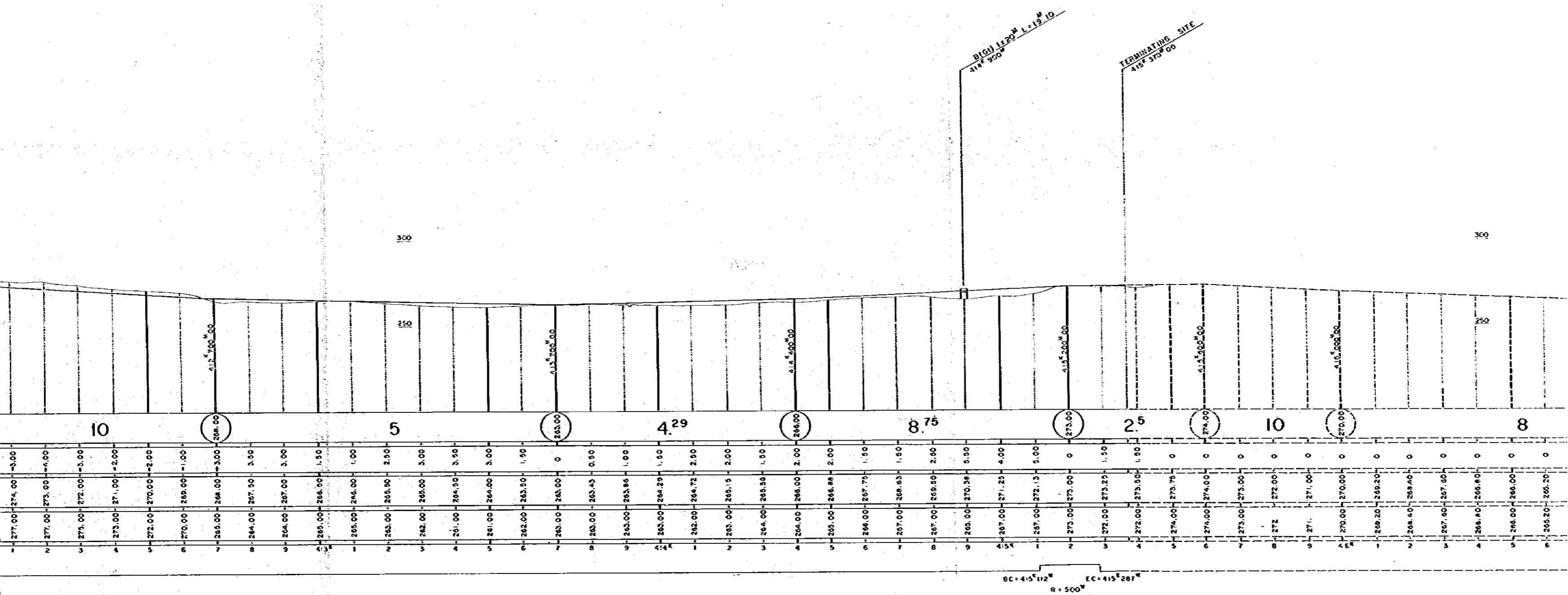
EC-404 221 W

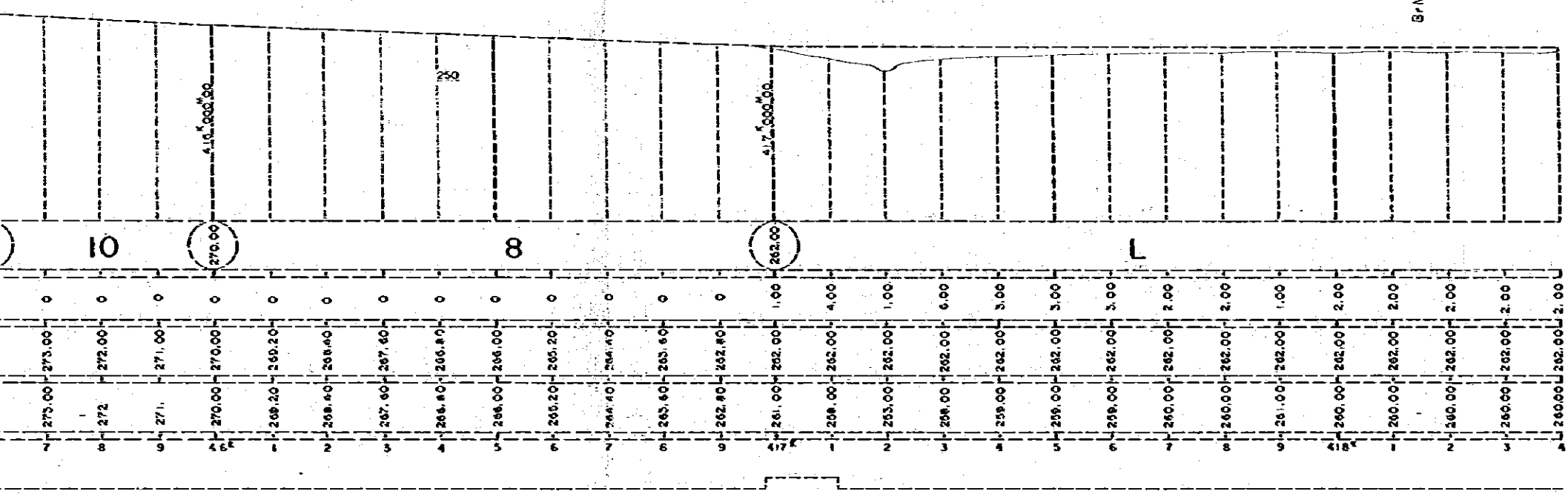
1	297.00	298.00	0.50
2	296.00	297.00	1.00
3	295.50	297.00	1.00
4	296.00	296.50	-0.50
5	296.50	296.00	-1.10
6	295.00	295.50	0
7	295.00	295.00	-0.50
8	293.50	294.50	0.50
9	292.50	294.00	1.00
10	292.00	293.50	1.00
11	292.00	293.00	0.50
12	292.00	292.50	0
13	291.00	292.00	0.50
14	290.00	291.50	1.00
15	290.00	291.00	0.50
16	289.00	290.00	1.00
17	288.50	290.00	1.00
18	286.50	289.50	0.50
19	287.00	289.00	1.00
20	287.50	288.50	0.50
21	285.00	288.00	2.00
22	285.00	287.50	2.00
23	285.50	287.00	1.00
24	285.50	286.50	0.50
25	284.00	286.00	1.50
26	283.50	285.50	1.50
27	288.00	285.00	-5.00
28	289.00	284.00	-6.50
29	292.00	283.00	-9.50
30	291.00	282.00	-9.50
31	289.50	281.00	-9.00
32	289.00	280.00	-6.50
33	282.50	279.00	-4.00
34	282.00	278.00	-4.50
35	282.50	277.00	-6.00
36	278.50	276.00	-3.00
37	276.00	275.00	-1.50
38	274.00	274.00	-0.50
39	274.50	273.00	-2.00
40	274.50	272.00	-3.00
41	275.00	271.00	-5.00
42	272.00	270.00	-2.50
43	269.00	269.00	-0.50
44	266.50	268.00	1.00
45	266.50	267.00	0.00
46	267.00	266.00	-0.50



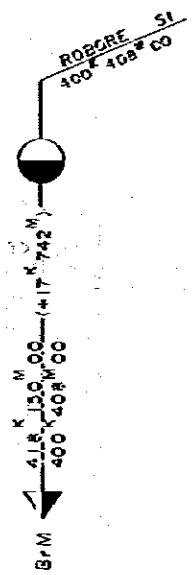
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50																																																																																																																																																																																																																																																																																																																																			
274.50	275.50	272.00	269.00	266.00	267.00	266.00	265.00	264.00	263.00	262.00	261.00	260.00	259.00	258.00	257.00	256.00	255.00	254.00	253.00	252.00	251.00	250.00	249.00	248.00	247.00	246.00	245.00	244.00	243.00	242.00	241.00	240.00	239.00	238.00	237.00	236.00	235.00	234.00	233.00	232.00	231.00	230.00	229.00	228.00	227.00	226.00	225.00	224.00	223.00	222.00	221.00	220.00	219.00	218.00	217.00	216.00	215.00	214.00	213.00	212.00	211.00	210.00	209.00	208.00	207.00	206.00	205.00	204.00	203.00	202.00	201.00	200.00	199.00	198.00	197.00	196.00	195.00	194.00	193.00	192.00	191.00	190.00	189.00	188.00	187.00	186.00	185.00	184.00	183.00	182.00	181.00	180.00	179.00	178.00	177.00	176.00	175.00	174.00	173.00	172.00	171.00	170.00	169.00	168.00	167.00	166.00	165.00	164.00	163.00	162.00	161.00	160.00	159.00	158.00	157.00	156.00	155.00	154.00	153.00	152.00	151.00	150.00	149.00	148.00	147.00	146.00	145.00	144.00	143.00	142.00	141.00	140.00	139.00	138.00	137.00	136.00	135.00	134.00	133.00	132.00	131.00	130.00	129.00	128.00	127.00	126.00	125.00	124.00	123.00	122.00	121.00	120.00	119.00	118.00	117.00	116.00	115.00	114.00	113.00	112.00	111.00	110.00	109.00	108.00	107.00	106.00	105.00	104.00	103.00	102.00	101.00	100.00	99.00	98.00	97.00	96.00	95.00	94.00	93.00	92.00	91.00	90.00	89.00	88.00	87.00	86.00	85.00	84.00	83.00	82.00	81.00	80.00	79.00	78.00	77.00	76.00	75.00	74.00	73.00	72.00	71.00	70.00	69.00	68.00	67.00	66.00	65.00	64.00	63.00	62.00	61.00	60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00	43.00	42.00	41.00	40.00	39.00	38.00	37.00	36.00	35.00	34.00	33.00	32.00	31.00	30.00	29.00	28.00	27.00	26.00	25.00	24.00	23.00	22.00	21.00	20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00	0.00	-1.00	-2.00	-3.00	-4.00	-5.00	-6.00	-7.00	-8.00	-9.00	-10.00	-11.00	-12.00	-13.00	-14.00	-15.00	-16.00	-17.00	-18.00	-19.00	-20.00	-21.00	-22.00	-23.00	-24.00	-25.00	-26.00	-27.00	-28.00	-29.00	-30.00	-31.00	-32.00	-33.00	-34.00	-35.00	-36.00	-37.00	-38.00	-39.00	-40.00	-41.00	-42.00	-43.00	-44.00	-45.00	-46.00	-47.00	-48.00	-49.00	-50.00	-51.00	-52.00	-53.00	-54.00	-55.00	-56.00	-57.00	-58.00	-59.00	-60.00	-61.00	-62.00	-63.00	-64.00	-65.00	-66.00	-67.00	-68.00	-69.00	-70.00	-71.00	-72.00	-73.00	-74.00	-75.00	-76.00	-77.00	-78.00	-79.00	-80.00	-81.00	-82.00	-83.00	-84.00	-85.00	-86.00	-87.00	-88.00	-89.00	-90.00	-91.00	-92.00	-93.00	-94.00	-95.00	-96.00	-97.00	-98.00	-99.00	-100.00

EC-410 916<sup>M</sup> R-1000<sup>M</sup> EC-411 627<sup>M</sup>



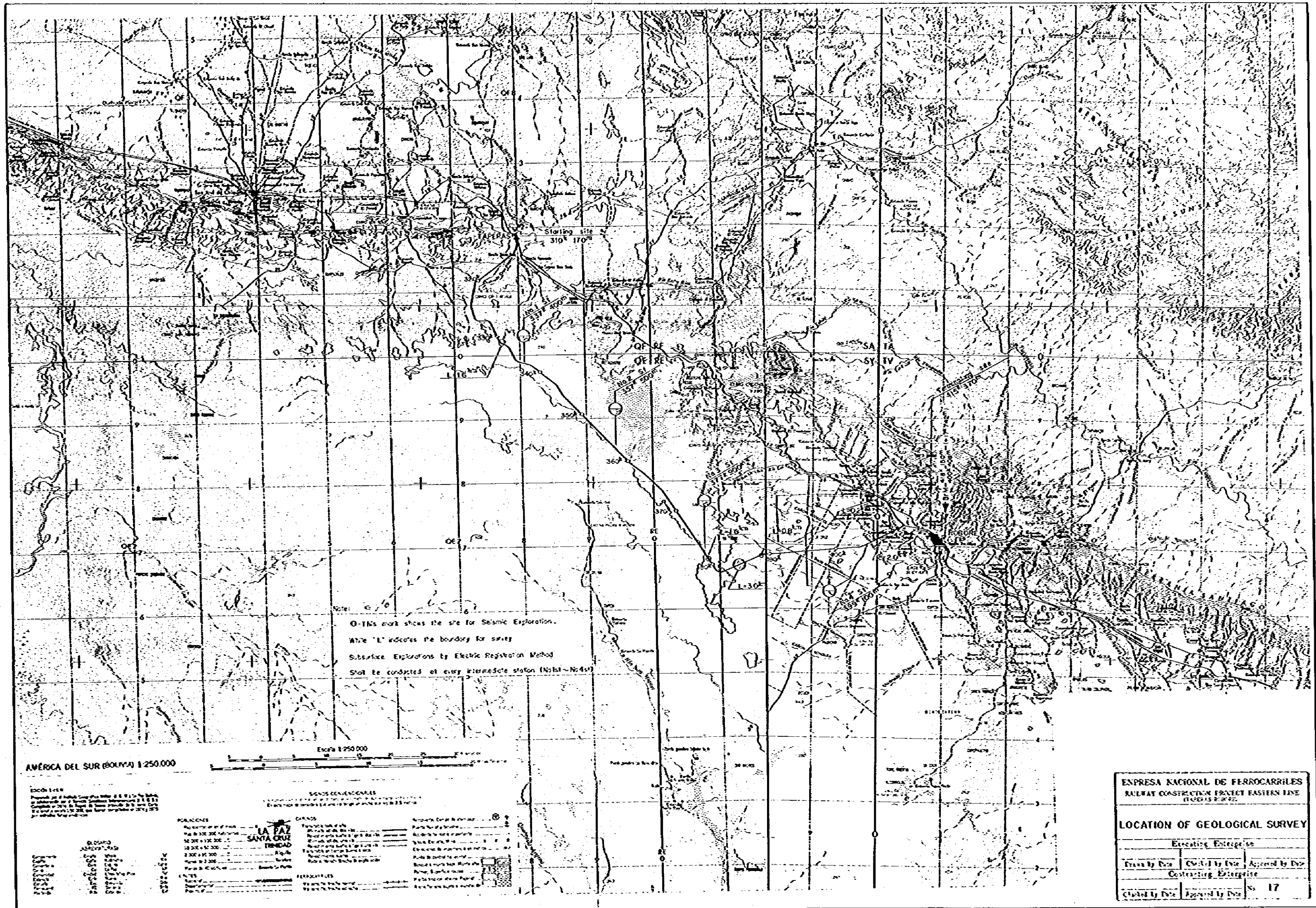


BC=416.582<sup>m</sup> EC=417.112<sup>m</sup>  
R=500<sup>m</sup>



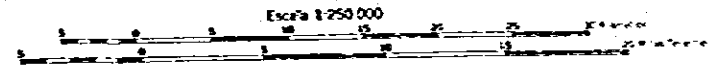
350  
250

EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINE		
(MILLAS 8.300-8.301)		
RAILWAY PROFILE (Sheet 3 of 3)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No 16



Note:  
 O - This mark shows the site for Seismic Exploration.  
 While 'L' indicates the boundary for safety  
 Subsurface Explorations by Electric Registration Method  
 Shall be conducted at every intermediate station (Notas No. 41)

AMÉRICA DEL SUR (BOLIVIA) 1:250,000



ESCALA 1:250,000  
 Propiedad de la Empresa Nacional de Ferrocarriles  
 Elaborada por el Servicio Geológico Militar de Bolivia  
 Actualizada en 1974. Se permite la reproducción de esta obra  
 siempre que se cite la fuente original.

SIGNOS CONVENCIONALES	
<b>PUNTALES</b>	<b>CANALES</b>
<ul style="list-style-type: none"> <li>Alto</li> <li>Medio</li> <li>Bajo</li> <li>Alto</li> <li>Medio</li> <li>Bajo</li> <li>Alto</li> <li>Medio</li> <li>Bajo</li> </ul>	<ul style="list-style-type: none"> <li>Canal de navegación</li> <li>Canal de riego</li> <li>Canal de drenaje</li> <li>Canal de irrigación</li> <li>Canal de riego</li> <li>Canal de drenaje</li> <li>Canal de irrigación</li> <li>Canal de riego</li> <li>Canal de drenaje</li> <li>Canal de irrigación</li> </ul>
<b>FERROCARRILES</b>	<b>OTROS</b>
<ul style="list-style-type: none"> <li>Carretera principal</li> <li>Carretera secundaria</li> <li>Carretera terciaria</li> <li>Carretera terciaria</li> <li>Carretera terciaria</li> <li>Carretera terciaria</li> <li>Carretera terciaria</li> <li>Carretera terciaria</li> <li>Carretera terciaria</li> <li>Carretera terciaria</li> </ul>	<ul style="list-style-type: none"> <li>Estación</li> <li>Estación</li> <li>Estación</li> <li>Estación</li> <li>Estación</li> <li>Estación</li> <li>Estación</li> <li>Estación</li> <li>Estación</li> <li>Estación</li> </ul>

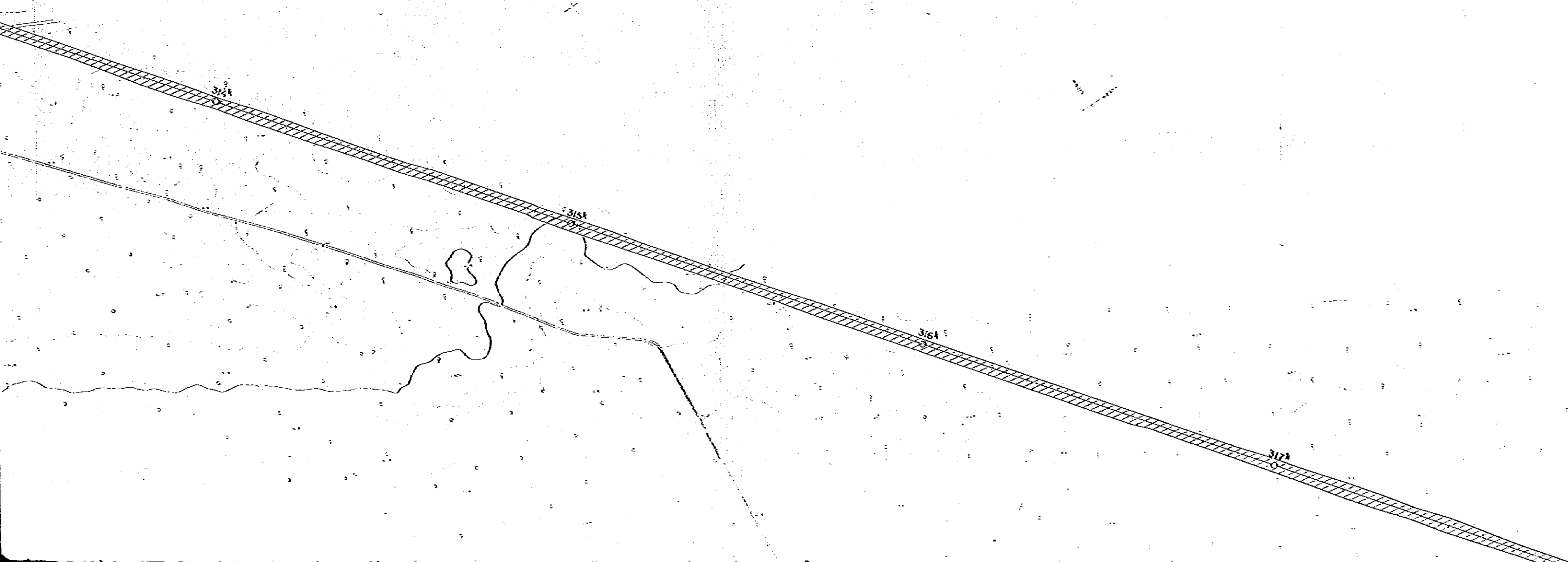
EMPRESA NACIONAL DE FERROCARRILES  
 RAILWAY CONSTRUCTION PROJECT EASTERN LINE  
 (EAGLES R.F.P.C.)

**LOCATION OF GEOLOGICAL SURVEY**

Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No. 17



RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)



NO. 1



**LEGEND**

**ROADS TRAILS ETC.**

Highway .....  
 Road .....  
 Trail .....  
 Path .....

**RAILWAYS ETC.**

Station .....  
 Railway .....

**VEGETATION**

Forest .....  
 Orchard .....  
 Field .....  
 Pasture .....  
 Swamp .....

**MISCELLANEOUS**

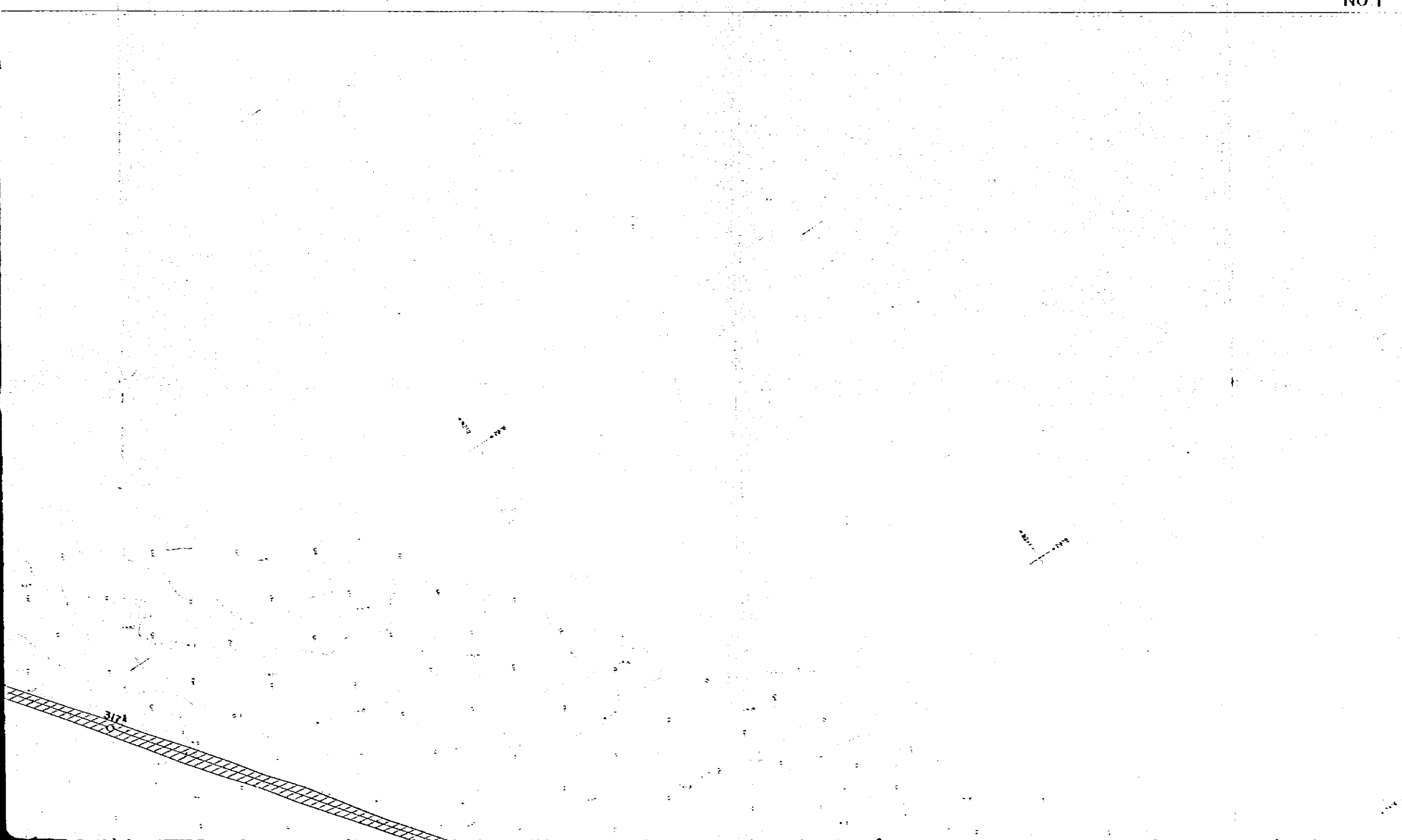
Enclosure .....  
 Canal .....  
 River .....  
 Creek .....

**HYDROGRAPHY**

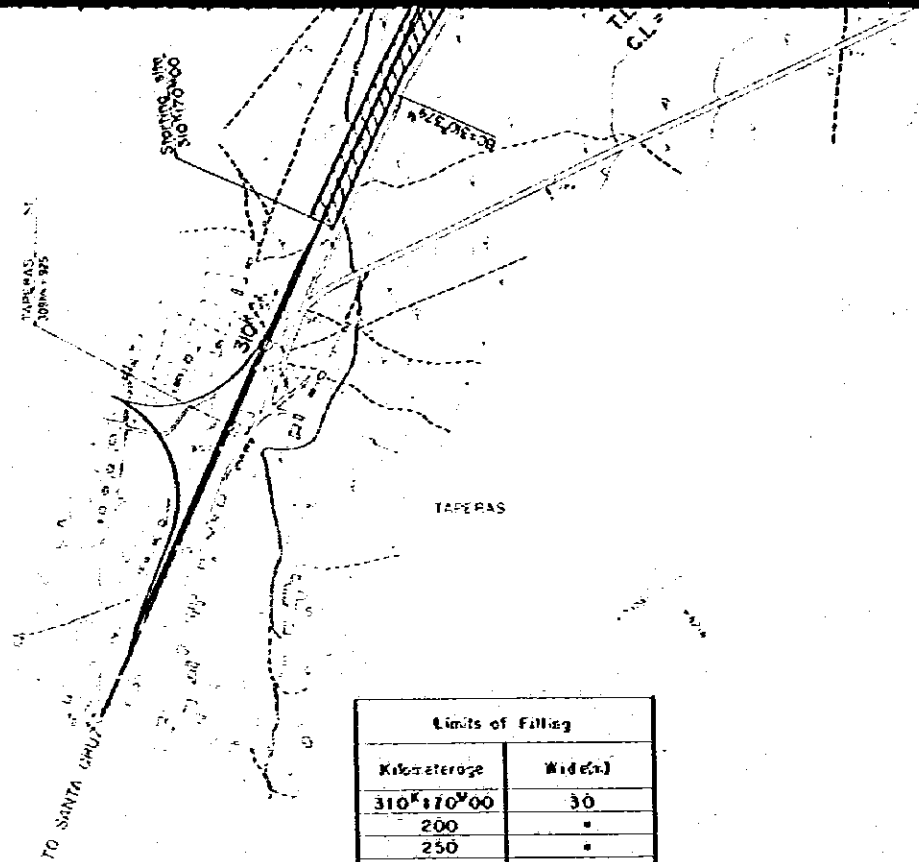
Watercourse .....  
 Pond .....

**CONTOURS AND TRAVERSE POINTS**

Contour .....  
 Traverse Point .....



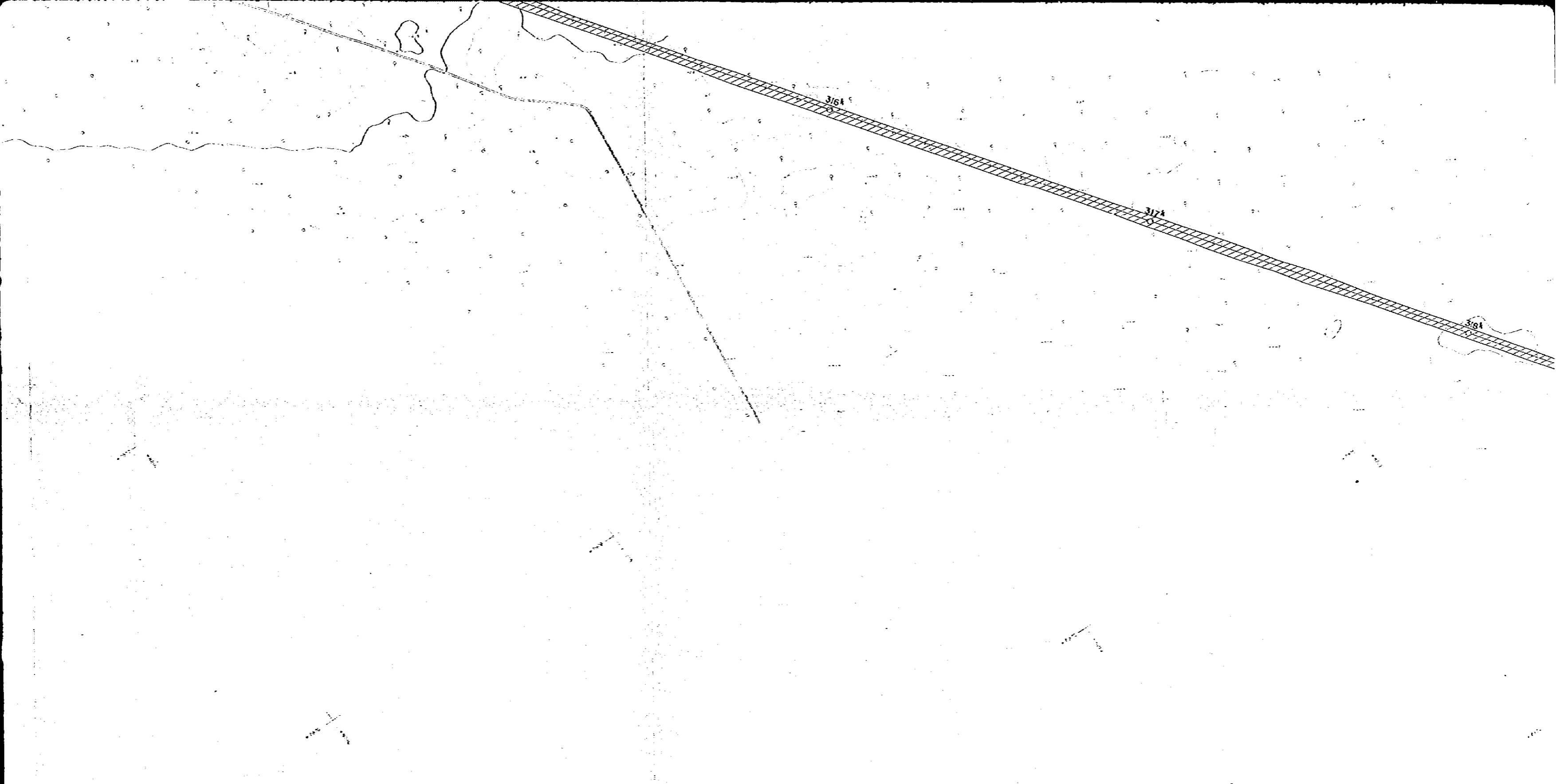




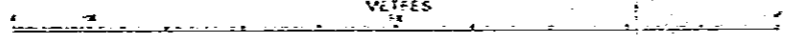
Limits of Filling	
Kilometrage	Wide (m)
310 <sup>K</sup> 170 <sup>M</sup> 00	30
200	"
250	"
300	"
400	"
500	36.3
600	"
700	"
800	"
900	"
311 <sup>K</sup> 000	"
100	30
150	"
200	"
300	36
400	53
500	"
600	49
700	42
800	34
900	30
312 <sup>K</sup> 000	"
100	46
200	47
250	30
300	36
400	60
500	58
600	47
700	42
800	37
850	30
900	31.1
313 <sup>K</sup> 000	30
100	"
200	"
300	"
400	"
500	31
530	30

Limits of Filling	
Kilometrage	Wide (m)
313 <sup>K</sup> 590 <sup>M</sup> 00	30
600	31.1
700	"
800	36.3
900	"
314 <sup>K</sup> 000	30
100	36.3
200	"
300	32.2
400	30
500	"
530	"
600	"
700	"
800	"
830	"
900	31.1
315 <sup>K</sup> 000	36.3
100	"
200	30
300	"
400	"
500	"
600	31.1
700	36.3
800	"
900	"
316 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	32.2
750	30
800	"
900	31
317 <sup>K</sup> 000	36

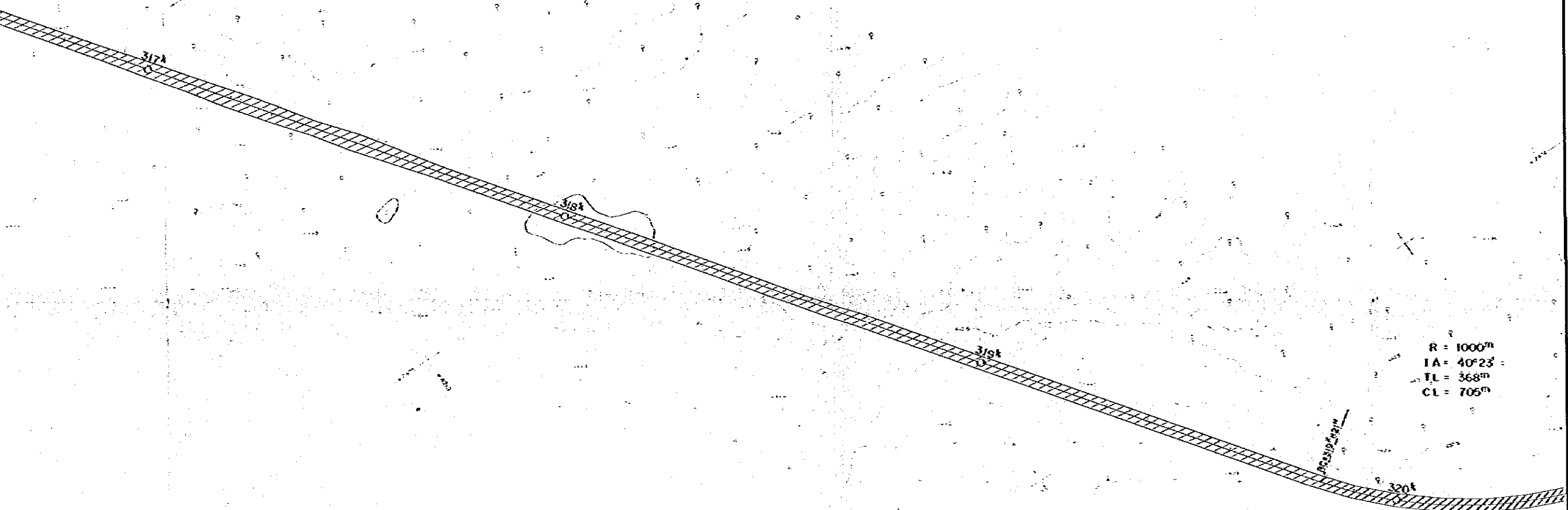
Limits of Filling	
Kilometrage	Wide (m)
317 <sup>K</sup> 000 <sup>M</sup> 00	36
100	"
200	42
300	"
400	34
500	42
600	36
700	30
800	"
850	"
900	"
318 <sup>K</sup> 000	31.1
100	30
200	32.2
250	30
300	"
400	"
450	"
500	"
600	"
650	"
700	"
800	"
900	"
319 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
320 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"



SCALE 1:5,000  
METERS



- Faint: Faint  
 Water: Water  
**MISCELLANEOUS**  
 Elevation: Elevation  
 Contour: Contour  
 Road: Road  
 Canal: Canal  
**HYDROGRAPHY**  
 Pond: Pond  
 Stream: Stream  
 Bay: Bay  
**CONTOURS AND TRAVERSE POINTS**  
 Traverse Point: Traverse Point  
 Spot Height: Spot Height  
 Survey Point: Survey Point  
 Leveling Point: Leveling Point



R = 1000<sup>m</sup>  
 IA = 40°23'  
 TL = 368<sup>m</sup>  
 CL = 705<sup>m</sup>

IP 3

<b>EMPRESA NACIONAL DE FERROCARRILES</b> <b>RAILWAY CONSTRUCTION PROJECT EASTERN LINE</b> <small>(1170143-2-80-82)</small>		
<b>LIMIT OF FELLING</b> (Sheet 1 of 12)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No 18

1. Photogrammetric—June 1980
2. Control Point Survey—June 1980
3. Detail Completion—October 1980
4. Datum Station—IGM Triangulation Point  
 Vana  
 IGM Leveling Point  
 LL 151 LL 153  
 LL 129 LL 131  
 LL 143 EG 27

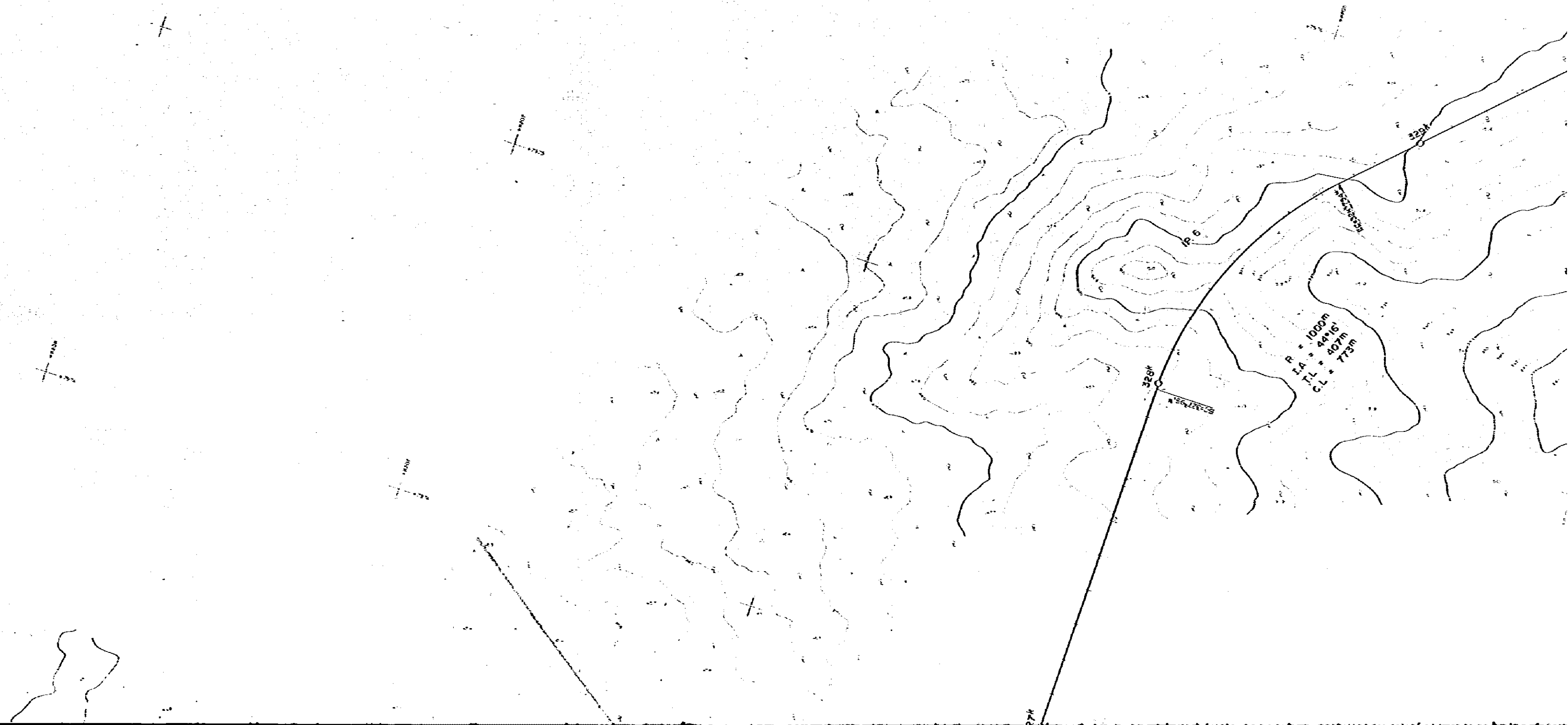
1 : 5000  
BOLIVIA

RAILWAY

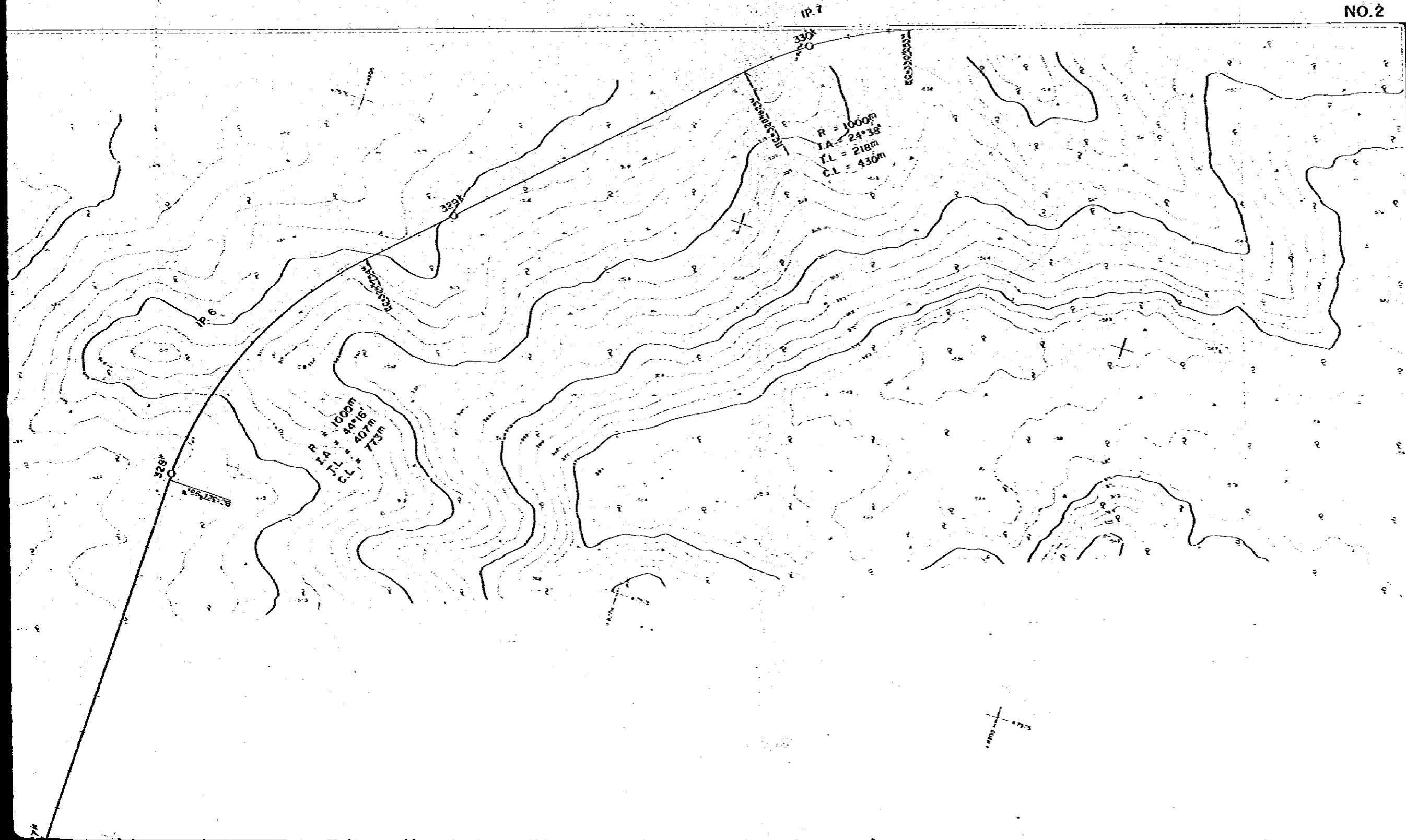


Limits of Feasibility	
Distance	Width (m)
320-400	30
500	.
600	.
700	.

# RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)



NO.2



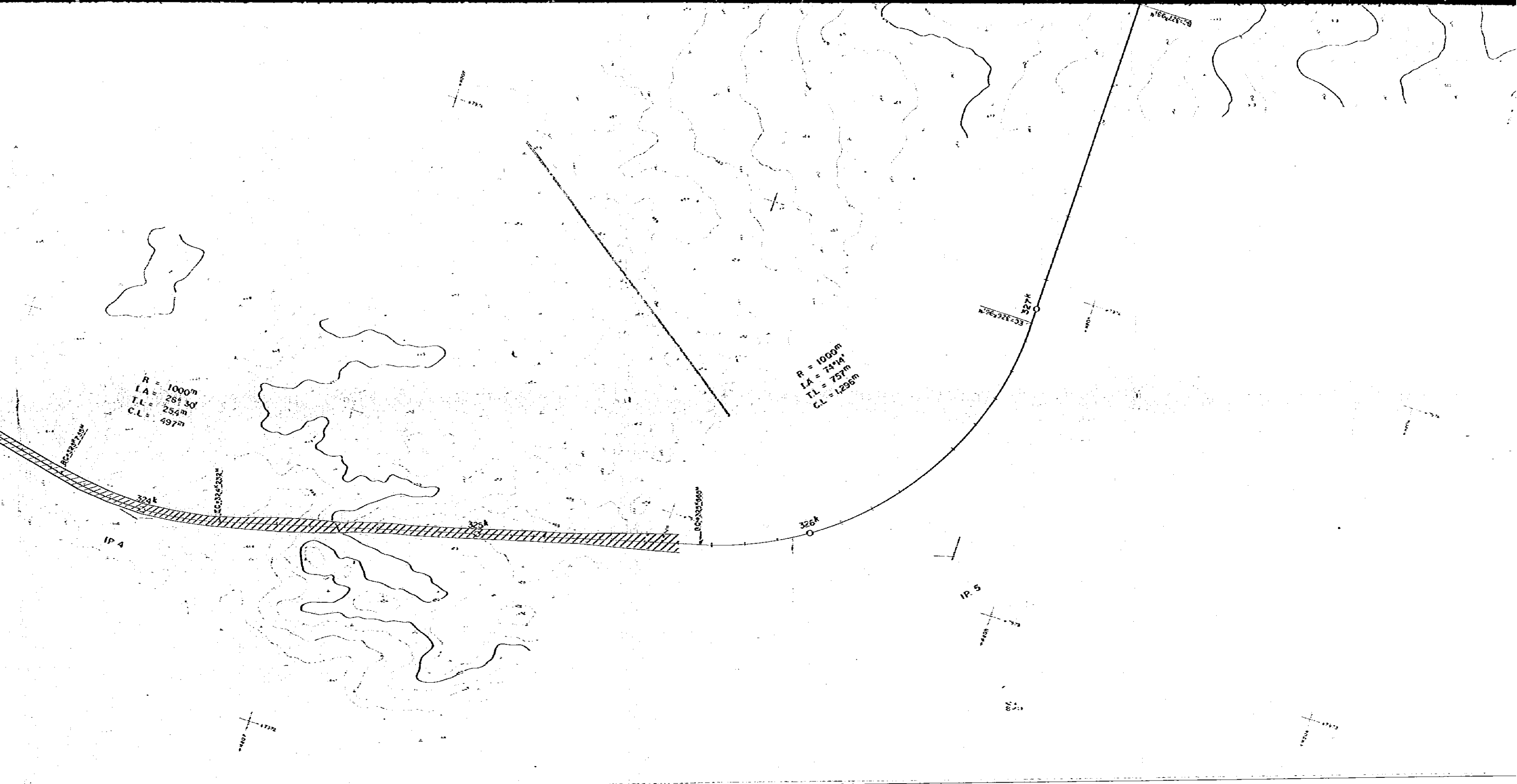
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1:50,000  
1:100,000



LEGEND

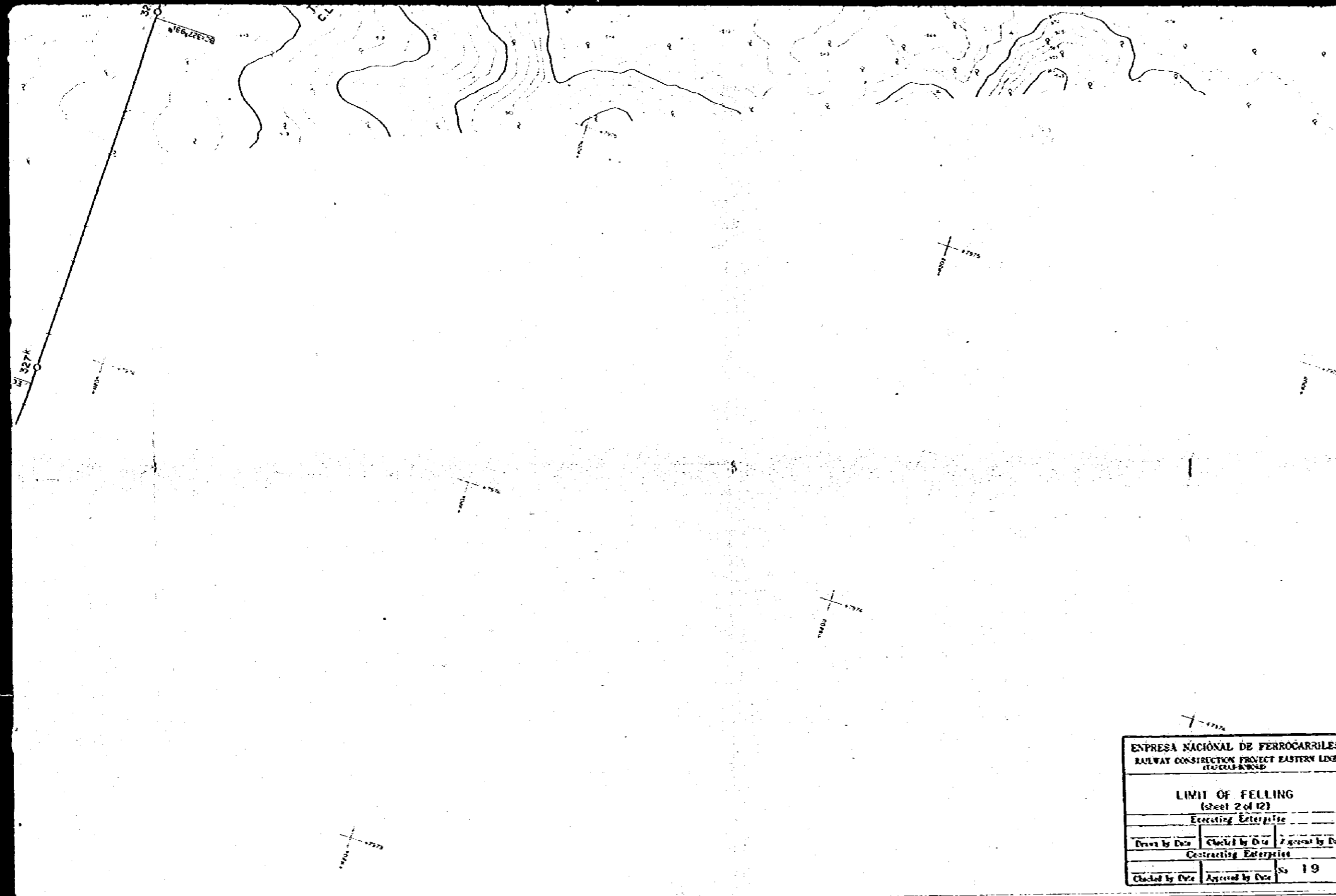
ROADS, TRACKS ETC.	
Asphalt	-----
Gravel	-----
Earth	-----
RAILWAYS ETC.	
Single	-----
Double	-----
VEGETATION	
Forest	-----
Shrub	-----
Grass	-----
MISCELLANEOUS	
Electric	-----
Water	-----
HYDROGRAPHY	
Water	-----
CONTOURS AND TRAVERSE POINTS	
Contour	-----
Traverse Point	-----

Limits of Felling	
Knee Change	Wide (m)
320 <sup>K</sup> 400 <sup>K</sup> 00	30
500	"
600	"
700	"
800	"
900	"
321 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
322 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	31
323 <sup>K</sup> 000	31
100	"
200	30
300	30
400	"
500	"
600	"
700	"



SCALE 1:5,000  
METRES





- MISCELLANEOUS**
- 1. Contour Interval 10 M
  - 2. Spot Height 10 M
  - 3. Spot Height 5 M
  - 4. Spot Height 1 M
- HYDROGRAPHY**
- 1. River
  - 2. Stream
  - 3. Canal
  - 4. Trench
- CONTROLS AND TRAVERSE POINTS**
- 1. Control Point
  - 2. Traverse Point
  - 3. Station Point
  - 4. Bench Mark

**ENTRESA NACIONAL DE FERROCARRILES**  
RAILWAY CONSTRUCTION PROJECT EASTERN LINE  
(TUOGRU-ROSA)

**LIMIT OF FELLING**  
(Sheet 2 of 12)

Executing Enterprise

Drawn by Date	Checked by Date	Agreed by Date
Contracting Enterprise		
Checked by Date	Agreed by Date	No 19

1. Photographic Flight - June 1950
2. Control Point Survey - June 1950
3. Detail Contouring - Oct 1950
4. Control Station - 10 M Triangulation Point  
No 1  
10 M Leveling Point  
LL 151 LL 153  
LL 152 LL 151  
LL 153 B322

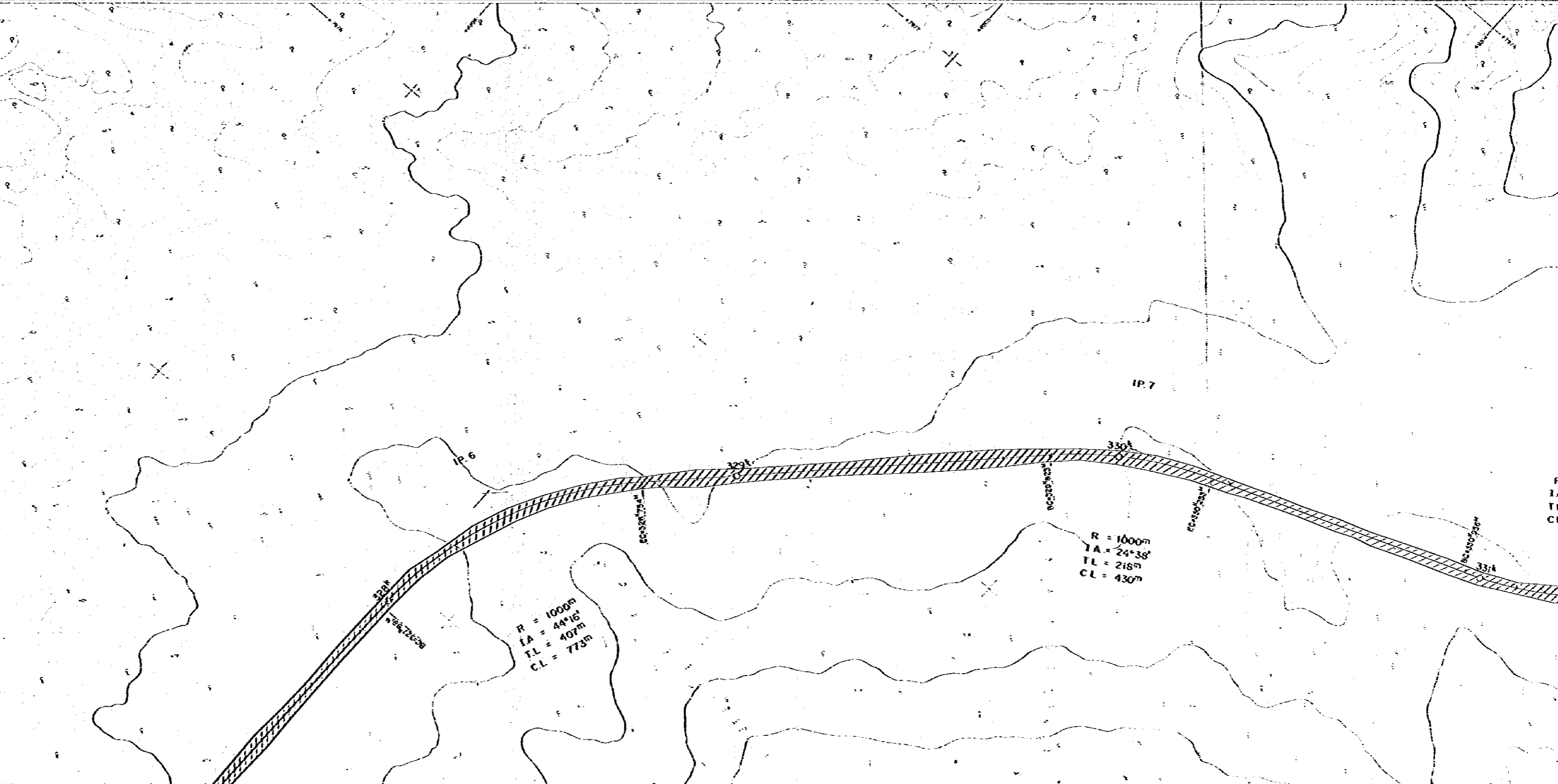
1 : 5000  
BOLIVIA



Limits of Felling	
Kilometrage	Wide(m)
327 100 00	30
200	"
340	34
400	37
500	44
600	35
700	31
800	33
900	"
328 000	"
100	36
190	30
200	"
300	40.3
400	"
500	36.3
600	"
700	"
750	30
800	34
900	49
329 000	36
100	34
200	37
300	"
400	42
500	49
600	"
700	46
800	34
900	30
930	"
330 000	36.3
100	44.3
200	40.3
300	36.3
350	30

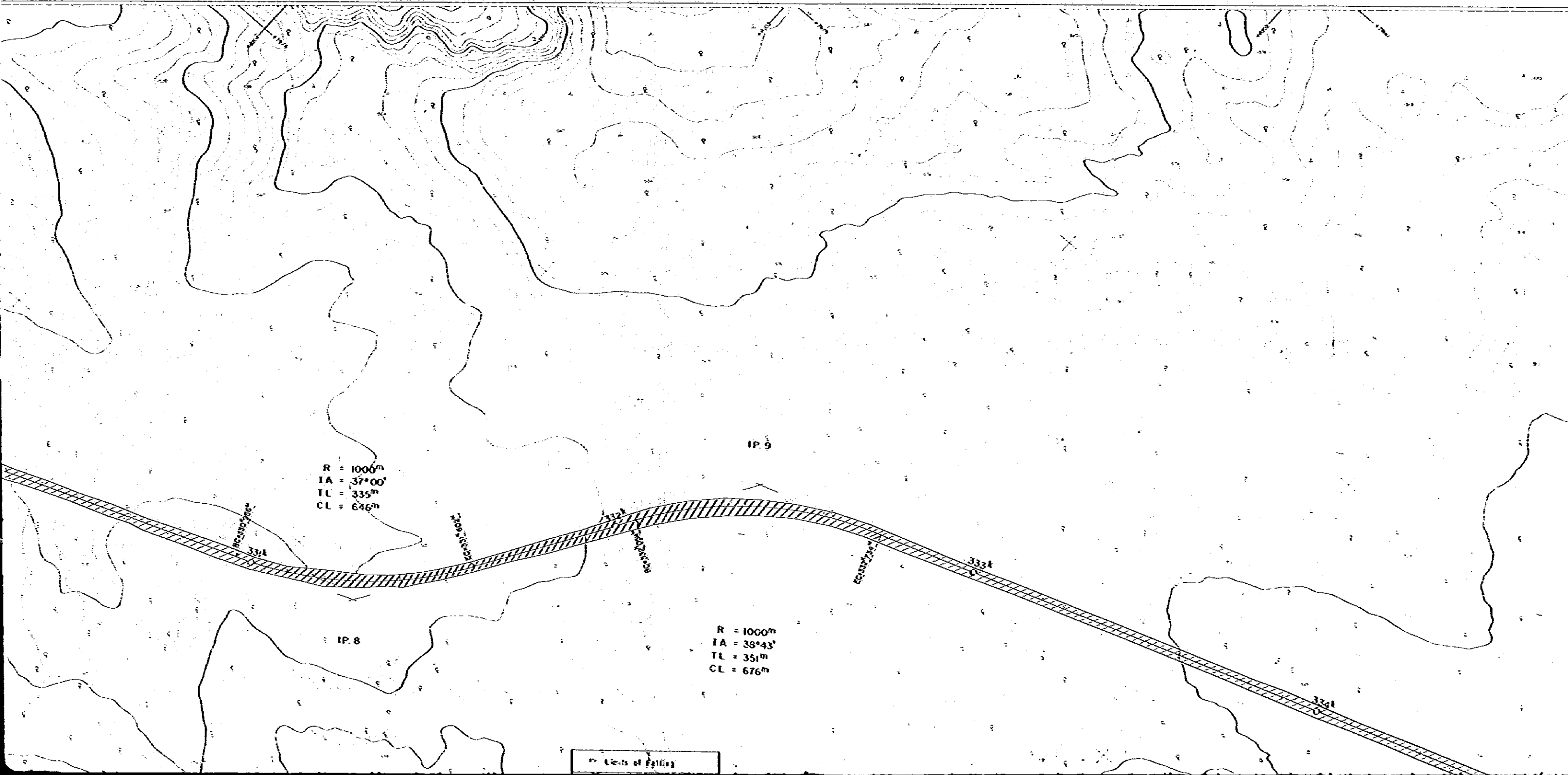
# RAILWAY CONSTRUCTION PROJECT (TAP

Limits of Felling	
Kikesterage	W (m)
327 100 60'	30
200	"
340	34
400	37
500	44
600	34
700	31
800	33
900	"
328 000	"
100	36
190	30
200	"
300	40.3
400	"
500	36.3
600	"
700	"
750	30
800	34
900	49
329 000	36
100	34
200	37
300	"
400	42
500	49
600	"
700	46
800	34
900	30
930	"
330 000	36.3
100	44.3
200	40.3
300	36.3
350	30



R  
IA  
TL  
CL

# CTION PROJECT (TAPERAS - ROBORE)

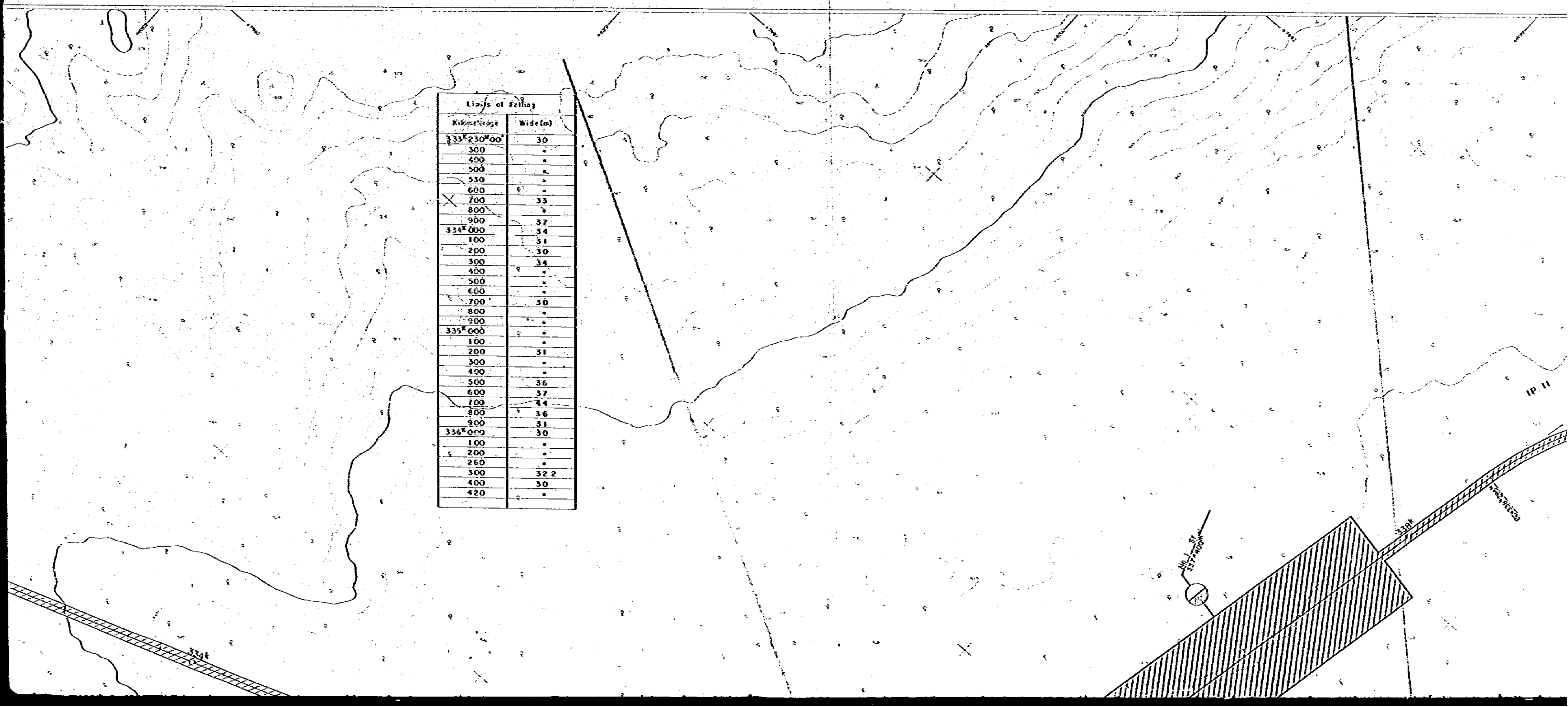


Limits of Felling	
Kilometrage	Wide
333 <sup>o</sup> 230 <sup>o</sup> 00'	
300	
400	
500	
530	
600	
700	
800	
900	
334 <sup>o</sup> 000	
100	
200	
300	
400	
500	
600	
700	
800	
900	
335 <sup>o</sup> 000	
100	
200	
300	
400	
500	
600	
700	
800	
900	
336 <sup>o</sup> 000	
100	
200	
260	
300	
400	
420	

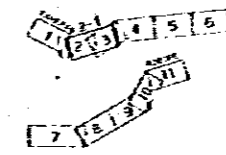
Limits of Felling

Limits of Fellag

Kilometrage	Wide (m)
333° 230' 00"	30
300	"
400	"
500	"
530	"
600	"
700	33
800	"
900	37
334° 000	34
100	31
200	30
300	34
400	"
500	"
600	"
700	30
800	"
900	"
335° 000	"
100	"
200	31
300	"
400	"
500	36
600	37
700	44
800	36
900	31
336° 000	30
100	"
200	"
260	"
300	32.2
400	30
420	"



NO.2-1



- LEGEND**
- ROADS TRACKS ETC.**
- Asphalt
  - Gravel
  - Earth
- RAILWAYS ETC.**
- Single
  - Double
- VEGETATION**
- Deciduous
  - Conifer
  - Shrub
  - Field
  - Forest
- MISCELLANEOUS**
- Excavation
  - Canal
  - Ditch
  - Well
- HYDROGRAPHY**
- Water
  - Swamp
- CONTOURS AND TRAVERSE POINTS**
- Contour
  - Traverse Point
  - Spot Elevation
  - Leveling Point

Fathoms	
Wide (m)	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	
85	
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
100	

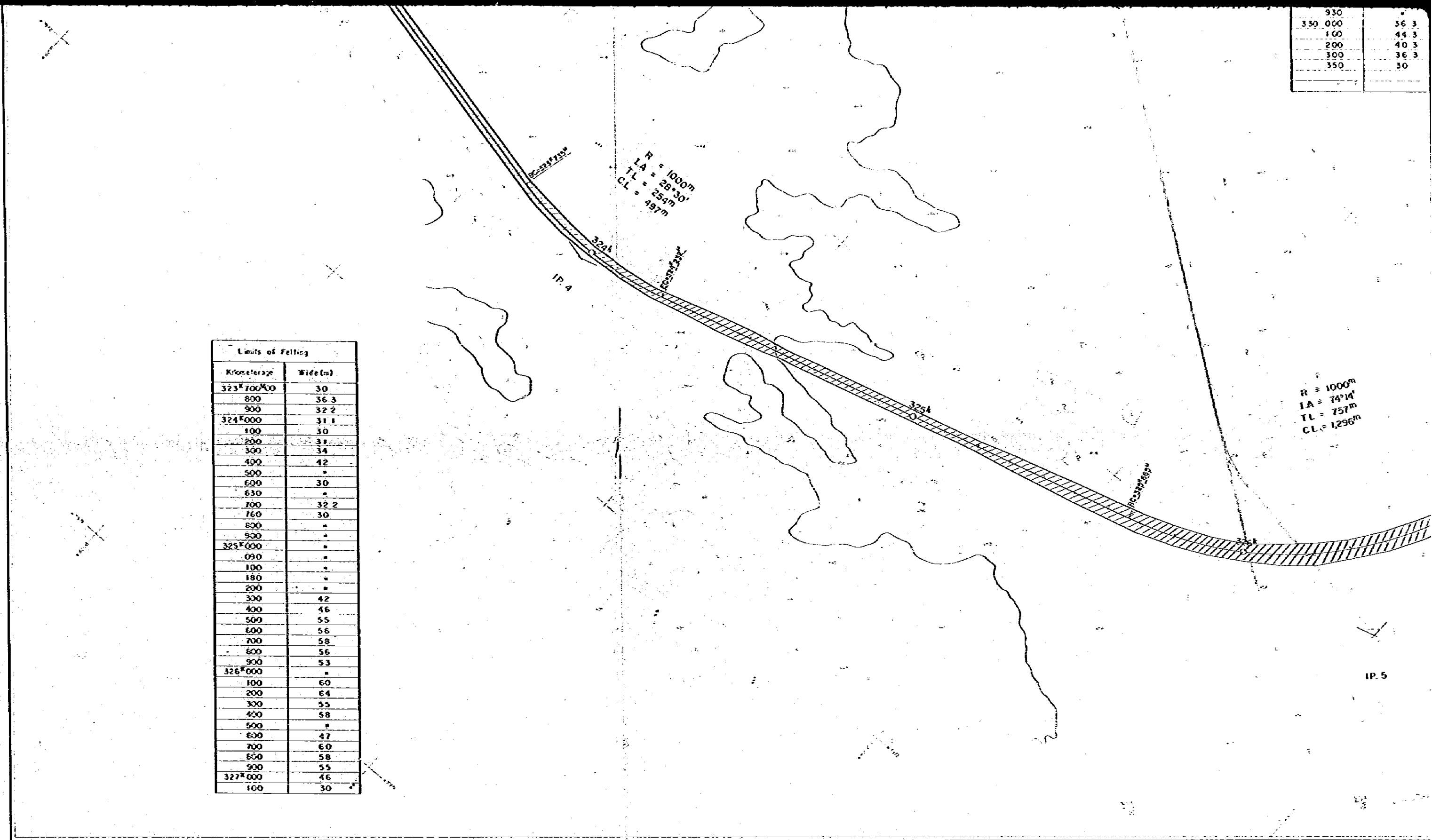


R = 1000m  
 IA = 29°07'  
 TL = 280m  
 CL = 508m

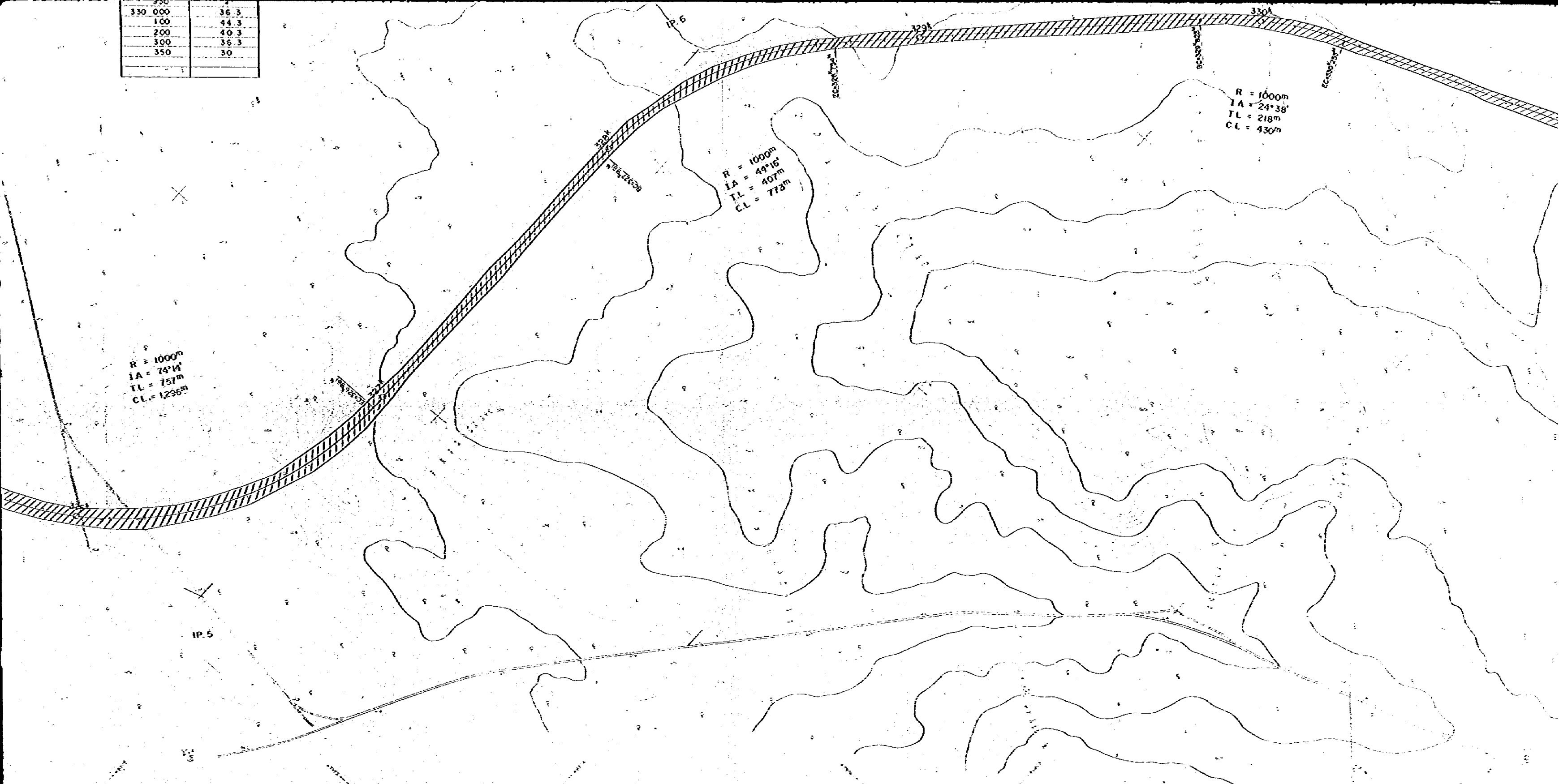
No. 1  
 3077400m

930	36.3
330 000	44.3
100	40.3
200	36.3
300	30
350	

Limits of Felling	
Kroneterage	Wide (m)
323 <sup>K</sup> 700 <sup>K</sup> 00	30
800	36.3
900	32.2
324 <sup>K</sup> 000	31.1
100	30
200	31
300	34
400	42
500	*
600	30
630	*
700	32.2
760	30
800	*
900	*
325 <sup>K</sup> 000	*
000	*
100	*
180	*
200	*
300	42
400	46
500	55
600	56
700	58
800	56
900	53
326 <sup>K</sup> 000	*
100	60
200	64
300	55
400	58
500	*
600	47
700	60
800	58
900	55
327 <sup>K</sup> 000	46
100	30



350	36.3
330	44.3
200	40.3
300	36.3
350	30



SCALE 1:5,000  
 METERS



R = 1000m  
 IA = 37°00'  
 TL = 335m  
 CL = 646m

IP. 9

R = 1000m  
 IA = 38°43'  
 TL = 351m  
 CL = 676m

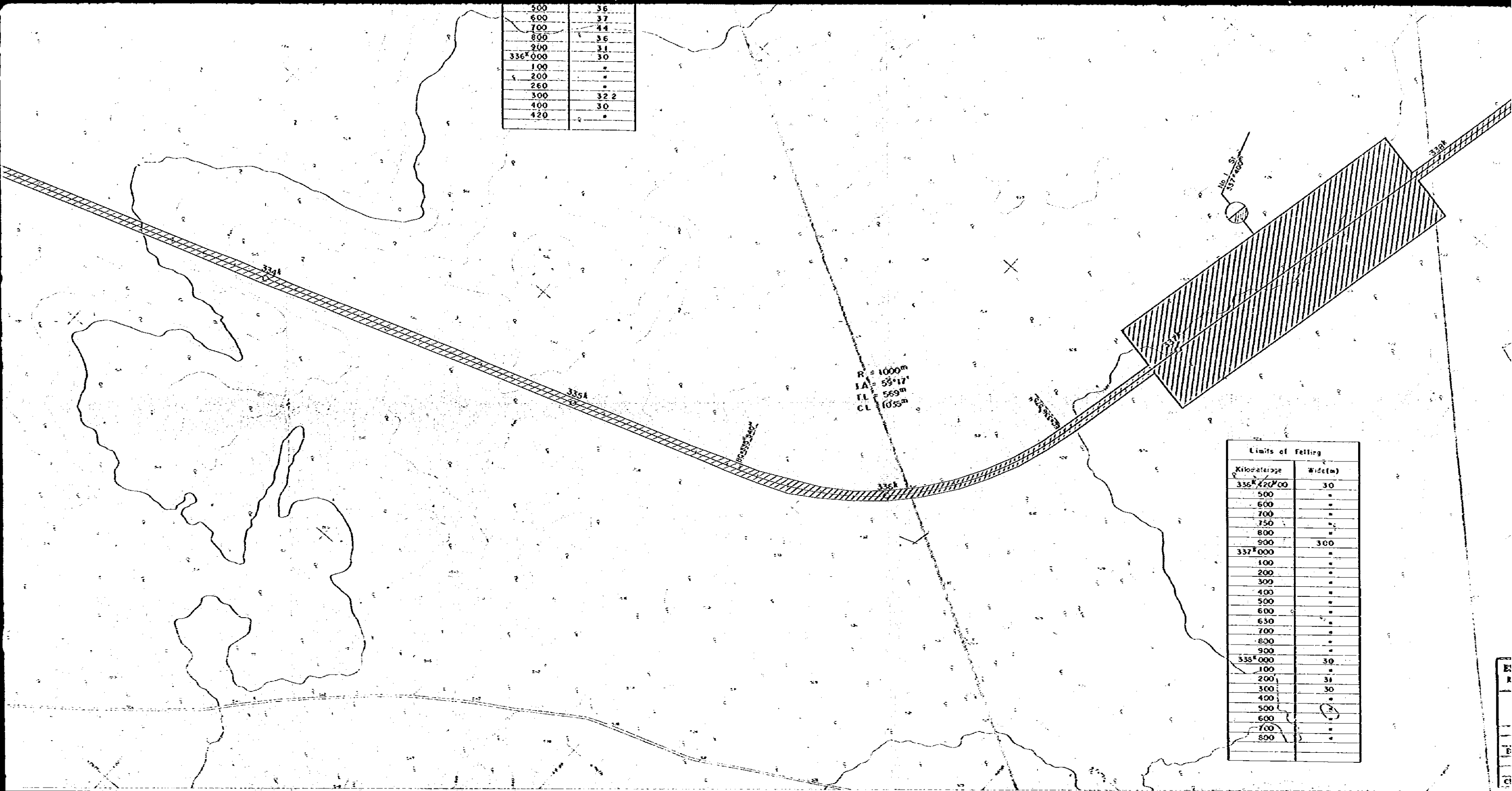
IP. 8

600	37
700	44
800	36
900	31
336°000	30
100	"
200	"
260	"
300	32.2
400	30
420	"

Limits of Felling	
Kilometerage	Wide(m)
330°000	30
400	34
500	30
600	36
650	30
700	36.3
800	"
900	40.3
331°000	36.3
030	30
100	"
200	46
300	36
360	30
400	36.3
450	30
500	"
600	"
680	"
700	31.1
800	36.3
900	"
332°000	40.3
100	48.3
200	"
300	"
400	44.3
500	40.3
600	"
700	36.3
800	"
900	31.1
333°000	30
020	"
100	"
200	"
230	"

SCALE 1:5,000  
 METERS

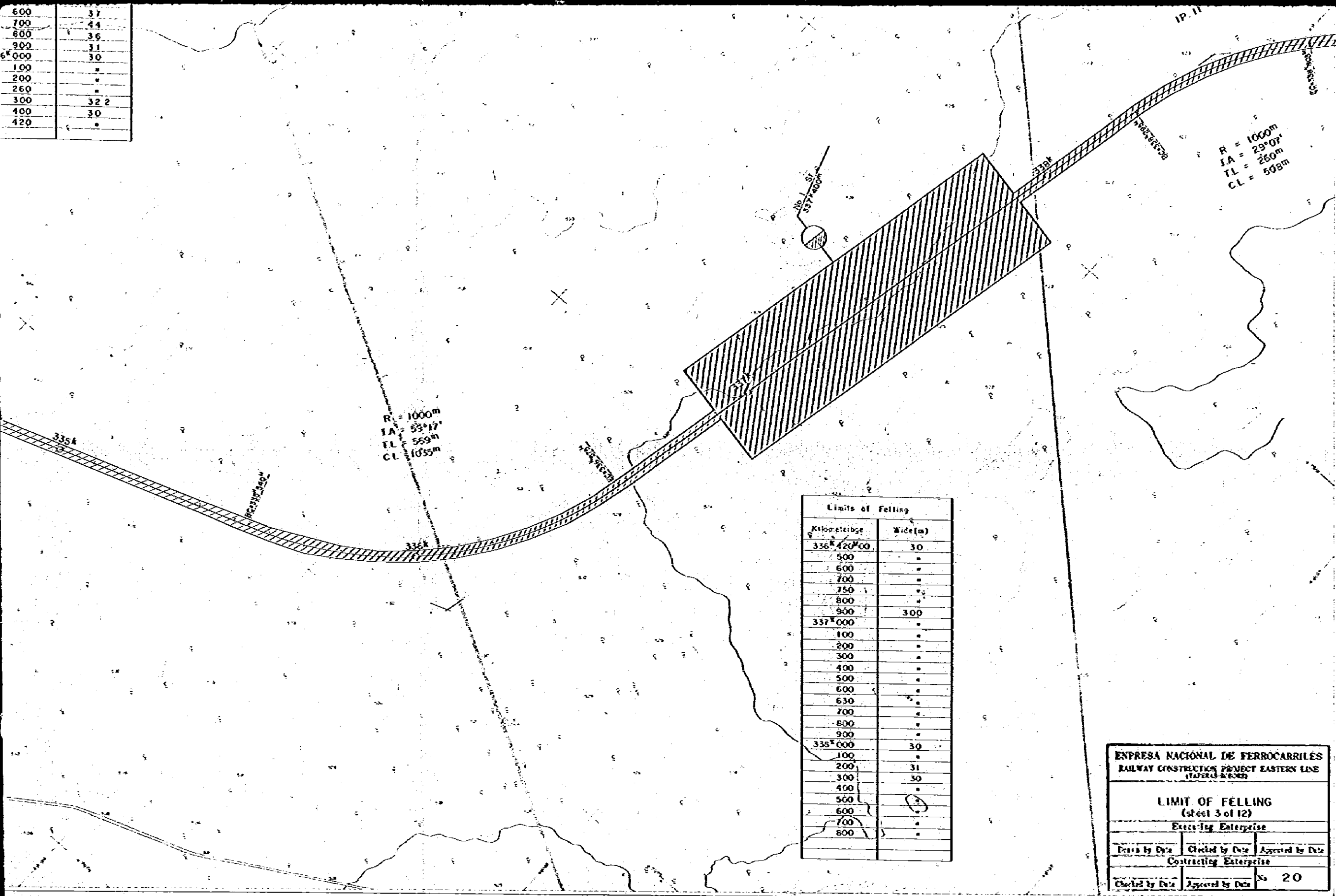
500	36
600	37
700	44
800	36
900	31
336*000	30
100	"
200	"
260	"
300	32.2
400	30
420	"



$R = 1000m$   
 $IA = 53^{\circ}17'$   
 $TL = 569m$   
 $CL = 1055m$

Limits of Felling	
Kilometerage	Wide(m)
336*420*00	30
500	"
600	"
700	"
750	"
800	"
900	300
337*000	"
100	"
200	"
300	"
400	"
500	"
600	"
650	"
700	"
800	"
900	"
338*000	30
100	"
200	31
300	30
400	"
500	"
600	"
700	"
800	"

600	37
700	44
800	36
900	31
1000	30
100	"
200	"
260	"
300	32.2
400	30
420	"



Limits of Felling	
Kilometerage	Width(m)
336+420/00	30
500	"
600	"
700	"
750	"
800	"
900	300
337+000	"
100	"
200	"
300	"
400	"
500	"
600	"
630	"
700	"
800	"
900	"
338+000	30
100	"
200	31
300	30
400	"
500	"
600	"
700	"
800	"

**EMPRESA NACIONAL DE FERROCARRILES**  
**RAILWAY CONSTRUCTION PROJECT EASTERN LINE**  
(TOWER 2-6000)

**LIMIT OF FELLING**  
(sheet 3 of 12)

Executed Enterprise

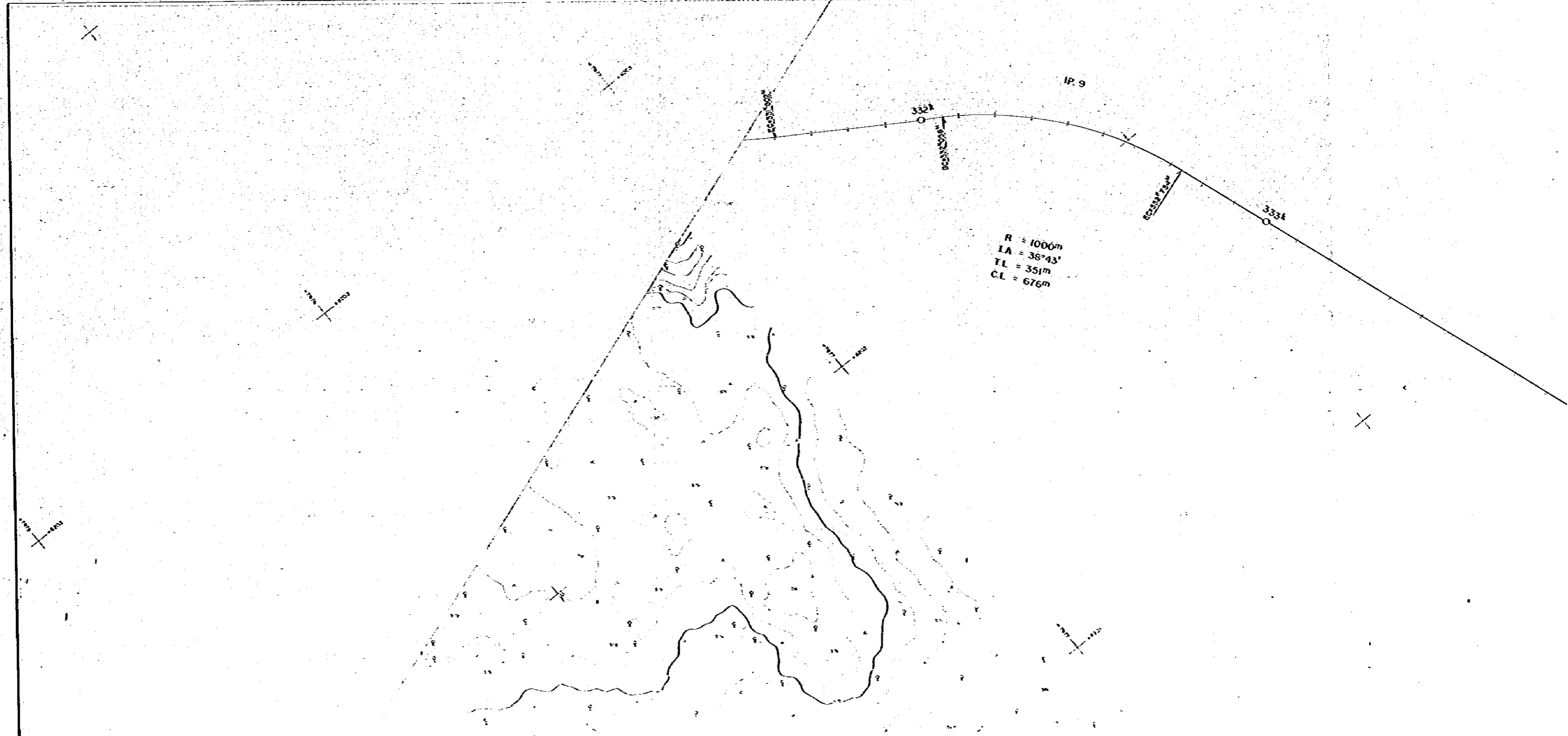
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No 20

- LEGENDA**
- MISCELLANEOUS**
- Extension
  - Curve
  - Line
  - Level
- HYDROGRAPHY**
- Water Level
  - Water Flow
- ORITOURS AND TRAVERSE POINTS**
- Station
  - Traverse Point
- Scale: 1:5000  
 Date: 1950  
 No. 20

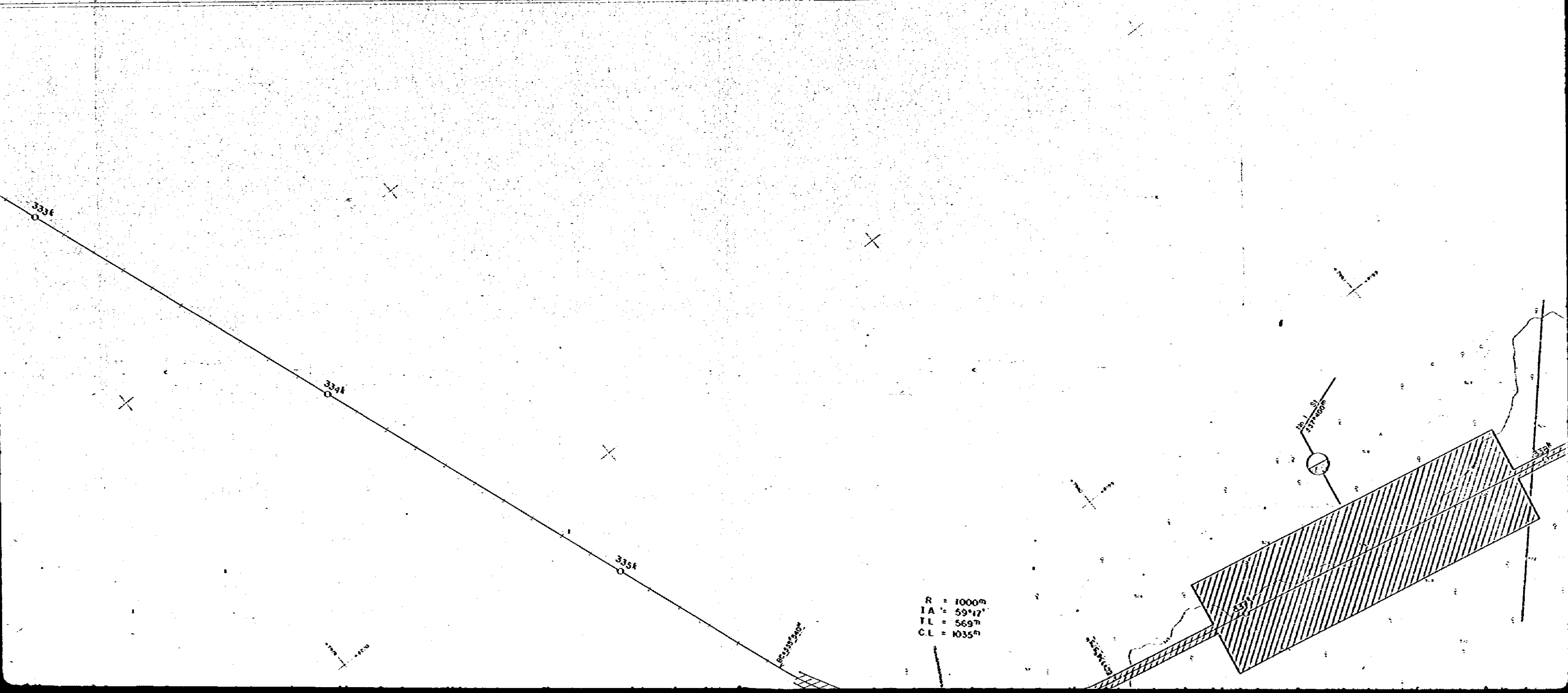
- Photographic Flight - June 1950
  - Control Point Survey - June 1950
  - Detail Contouring - October 1950
  - Detail Stationing - 10 M. Trajectory Point
- Scale  
 1:5000  
 LL 151 LL 152  
 LL 153 LL 154  
 LL 155 00 27

1 : 5000  
BOLIVIA

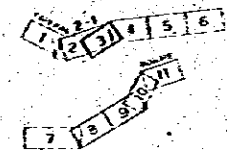
RAILWAY C



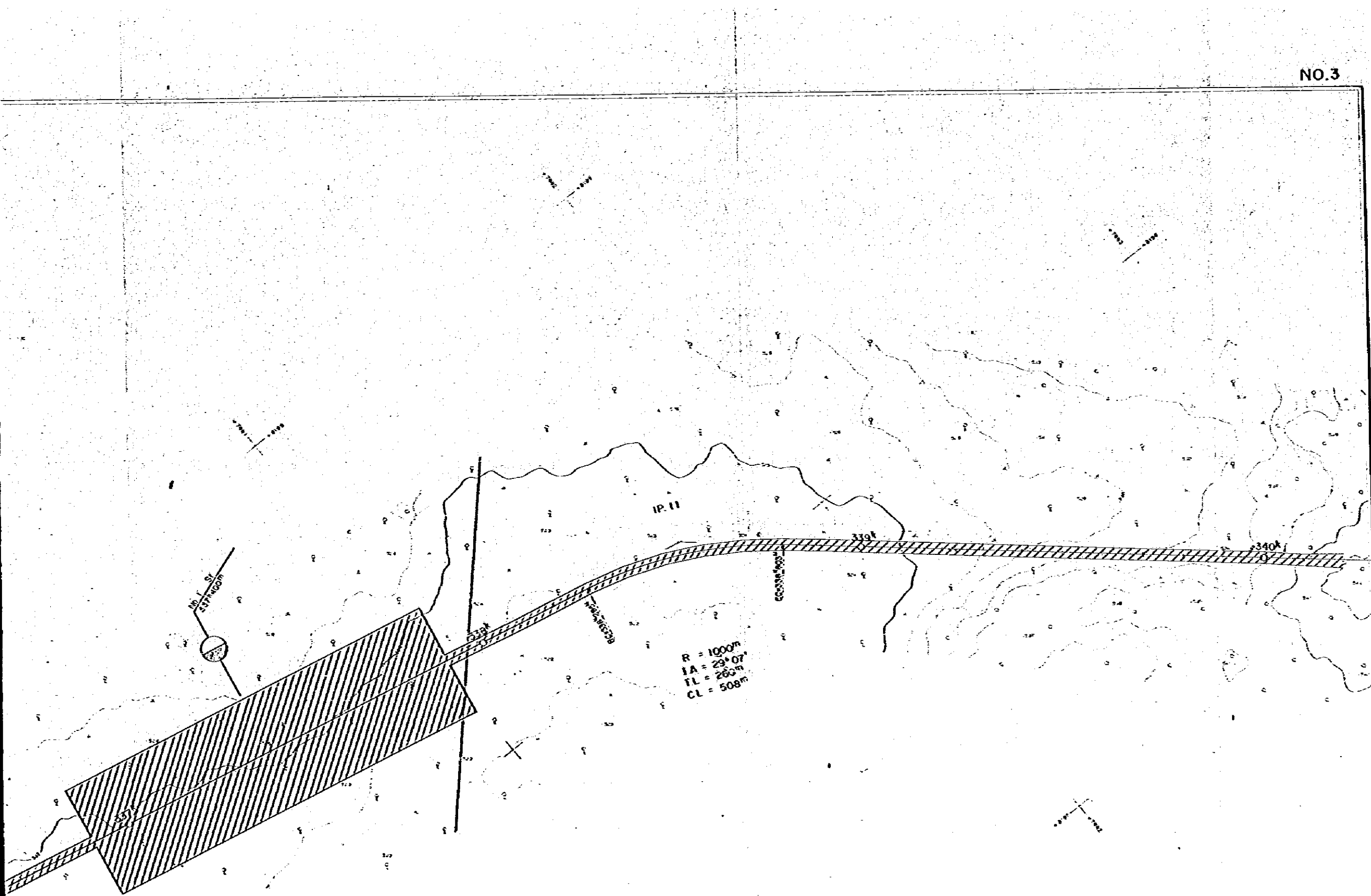
# RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)



NO.3



- LEGEND**
- ROADS TRACKS ETC.**
- Road
  - Village Road
  - Foot path
- RAILWAYS ETC.**
- Station
  - Water Over
- VEGETATIONS**
- Coffee
  - Opium
  - Trees
  - Field
  - Paddy
  - Wet Land
- MISCELLANEOUS**
- Enclosure
  - Canal
  - Rail
  - City
- HYDROGRAPHY**
- River
  - Stream
- CONTROLS AND TRAVERSE POINTS**
- Triangulation
  - Spot Height
  - Survey Point
  - Leveling Point

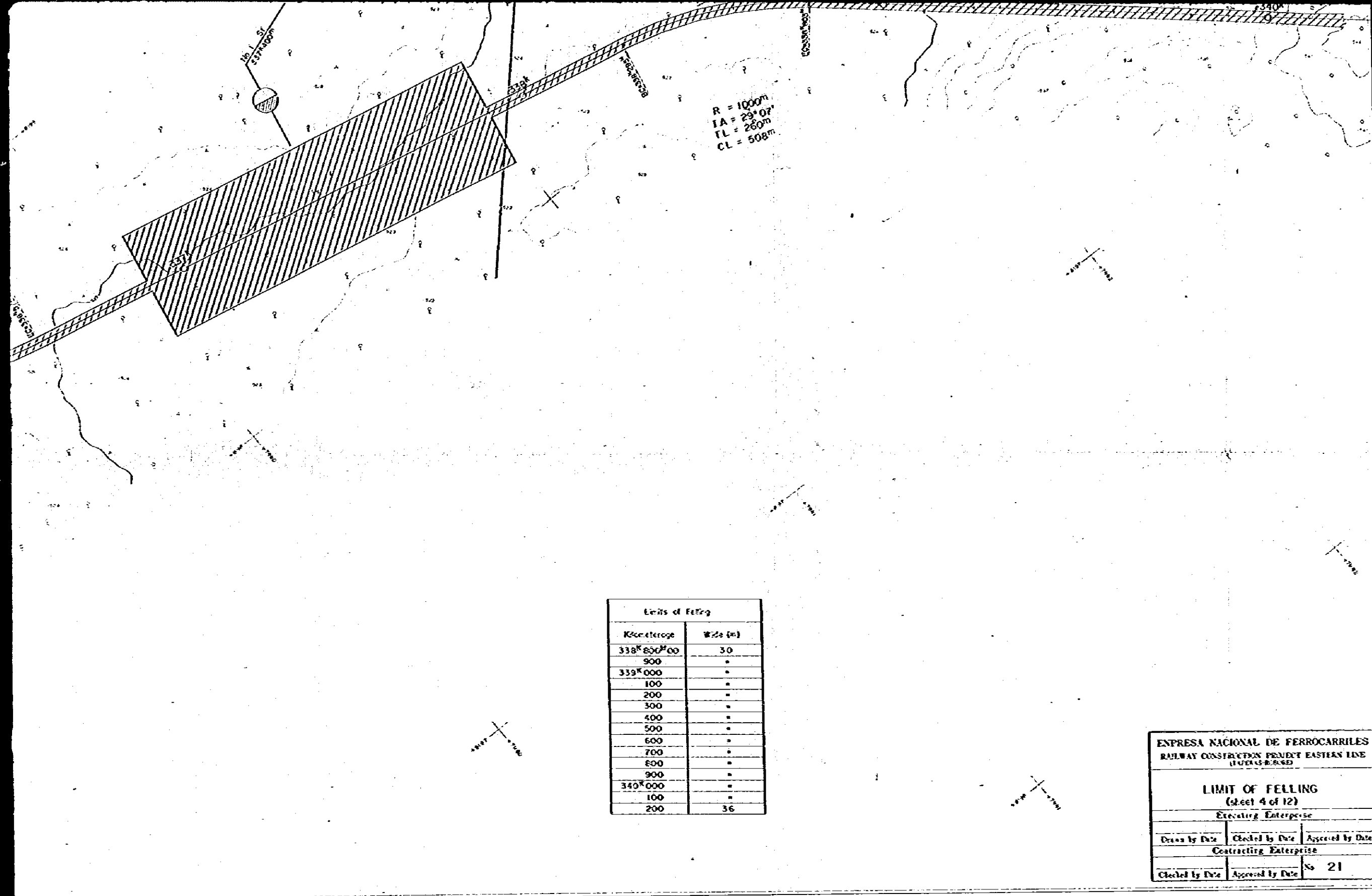




NO.3 JAPAN INTERNATIONAL COOPERATION AGENCY







- MISCELLANEOUS
- Contours: 10m intervals
  - Contours: 5m intervals
  - Contours: 2m intervals
  - Contours: 1m intervals
- HYDROGRAPHY
- Pool, Lake, Pond
  - River, Stream
- By: R.M.
- CONTOURS AND TRAVERSE POINTS
- Traverse Point
  - Spot Height in meters
  - Survey Point: 31 CA 8533
  - Leaving Point: 8 GM 026045

Limits of Felling	
Kilometrage	Width (m)
338 <sup>000</sup> 00	30
900	"
339 <sup>000</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
340 <sup>000</sup> 000	"
100	"
200	36

EMPRESA NACIONAL DE FERROCARRILES  
RAILWAY CONSTRUCTION PROJECT EASTERN LINE  
(1000 MILES)

**LIMIT OF FELLING**  
(Sheet 4 of 12)

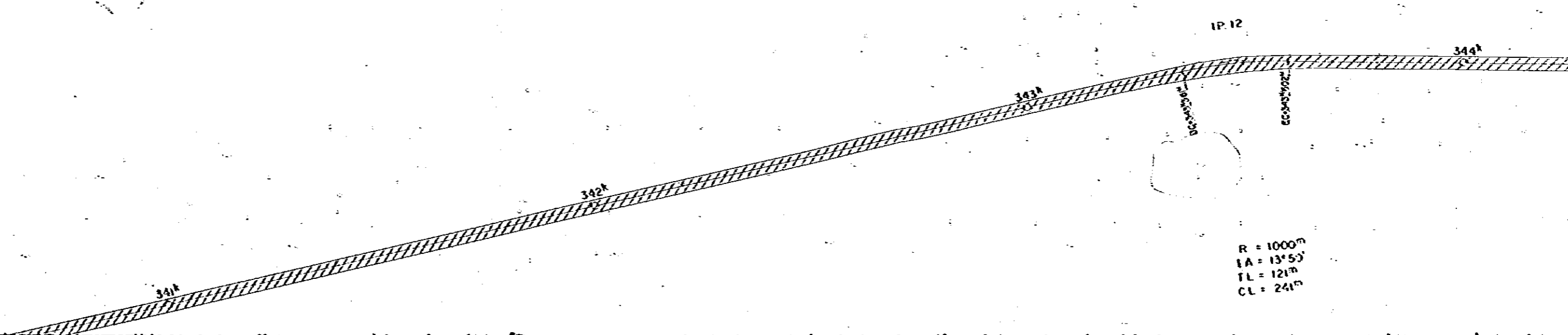
Executing Enterprise

Drawn by Date	Checked by Date	Accepted by Date
Contracting Enterprise		
Checked by Date	Accepted by Date	Ns 21

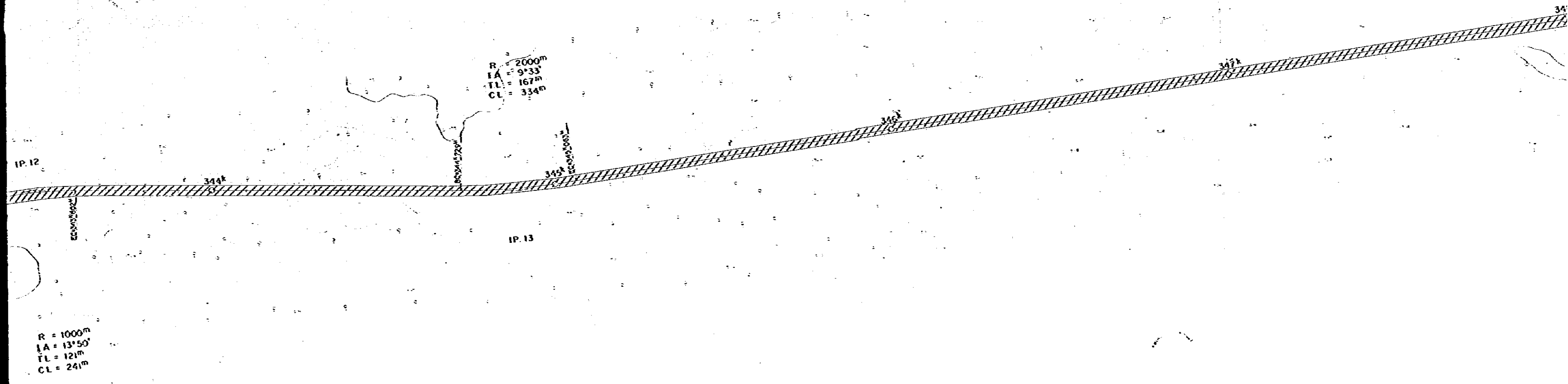
1. Photographic Flight—June 1930
  2. Control Point Survey—June 1930
  3. Detail Contouring—October 1930
  4. Detail Stationing—10 M. Transverse Point
- Maria  
LG M Leaving Point  
LL 151 LL 153  
LL 152 LL 154  
LL 155 EG 27

I : 5000  
BOLIVIA

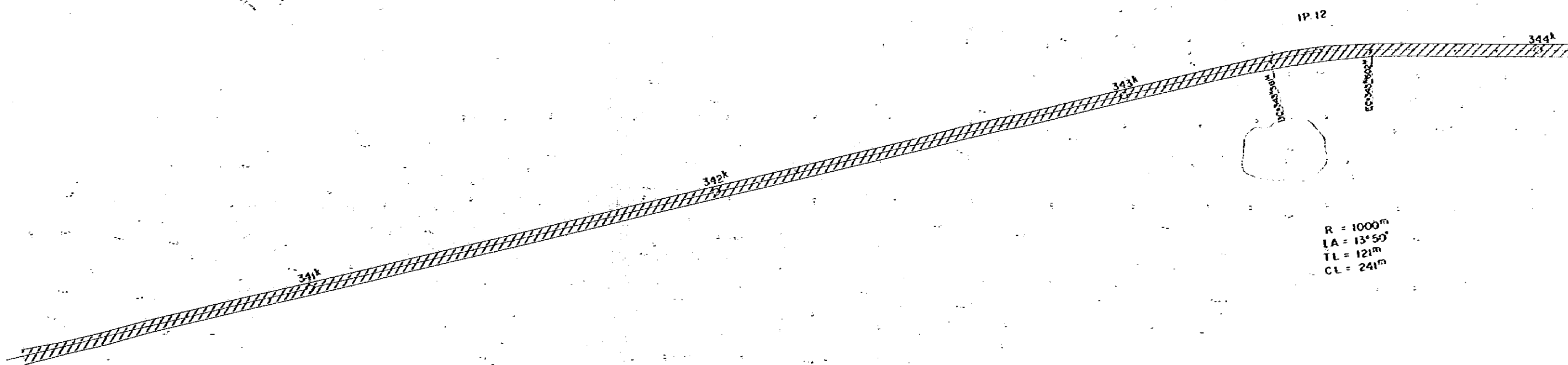
RAILWAY



# RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)







CL = 334m

IP. 13

Limits of Felling	
Kilometrage	Wide(m)
340 <sup>K</sup> 200 <sup>M</sup> 00	36
300	.
400	30
500	.
600	.
700	31
800	30
900	.
341 <sup>K</sup> 000	.
100	.
200	.
300	.
400	.
500	.
600	.
700	.
800	.
900	.
342 <sup>K</sup> 000	.
100	.
200	.
300	.
400	.
500	.
600	.
700	.
750	.
800	.
900	.
343 <sup>K</sup> 000	.
100	.
200	.
220	.
300	.
400	36.3
500	.

Limits of Felling	
Kilometrage	Wide (m)
343 <sup>K</sup> 500 <sup>M</sup> 00	36.3
600	30
700	.
800	.
900	.
344 <sup>K</sup> 000	.
100	.
200	.
300	.
400	.
500	.
600	.
700	.
800	.
850	.
900	.
345 <sup>K</sup> 000	.
100	.
200	.
300	.
350	.
400	.
450	.
500	.
550	.
600	.
700	.
800	.
890	.
900	.
346 <sup>K</sup> 000	.
100	.
190	.
200	.
300	.
400	.

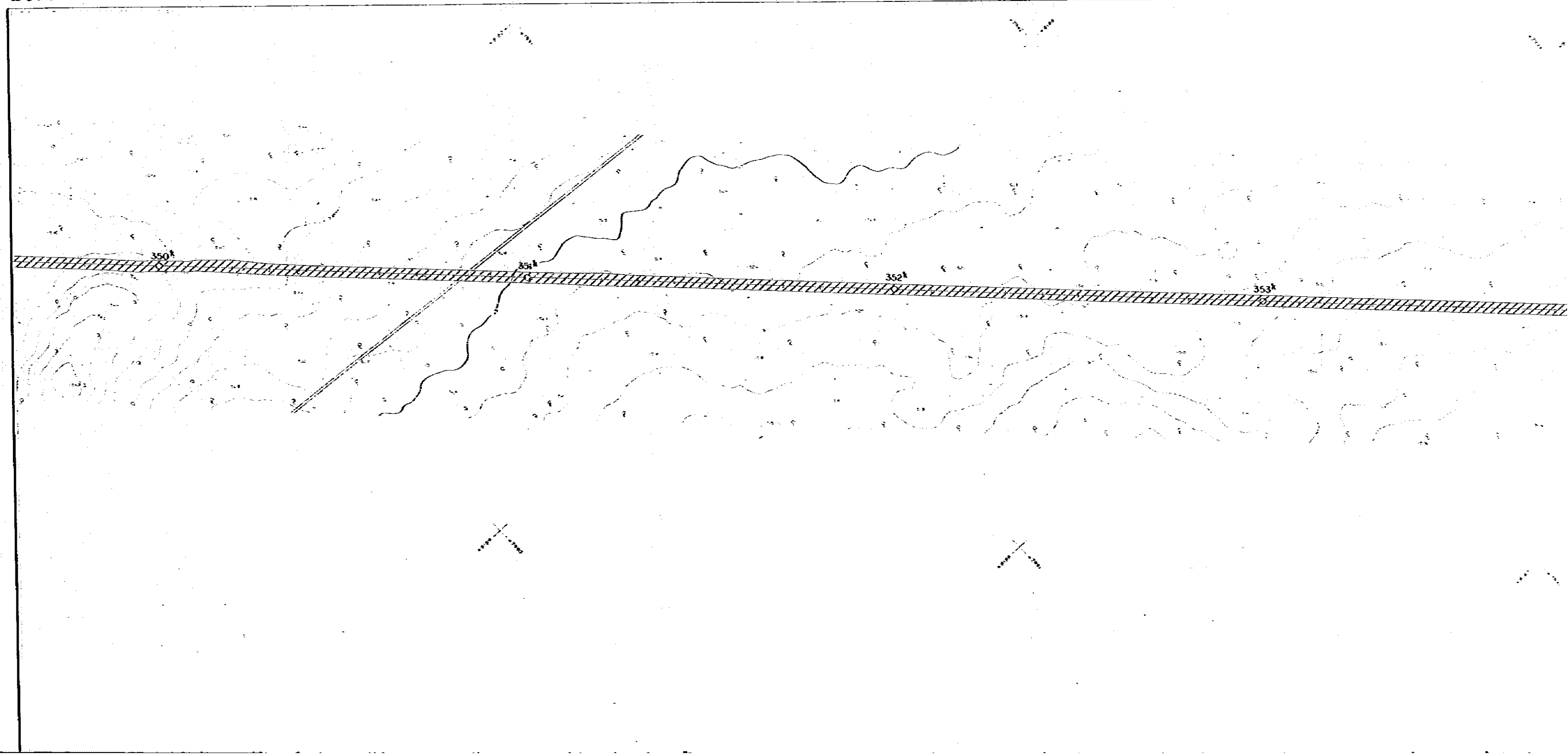
Limits of Felling	
Kilometrage	Wide (m)
346 <sup>K</sup> 400 <sup>M</sup> 00	30
500	.
600	.
700	.
800	.
900	.
347 <sup>K</sup> 000	.
100	.
200	.
300	.
400	.
500	.
600	.
700	.
710	.
800	36.3
900	.
348 <sup>K</sup> 000	.
100	.
200	.
250	30
300	.
400	.
500	31
600	.
700	.
800	.
900	30
349 <sup>K</sup> 000	.
100	.
200	.
300	.
400	.
500	.
600	.

SCALE 1:10,000  
METERS



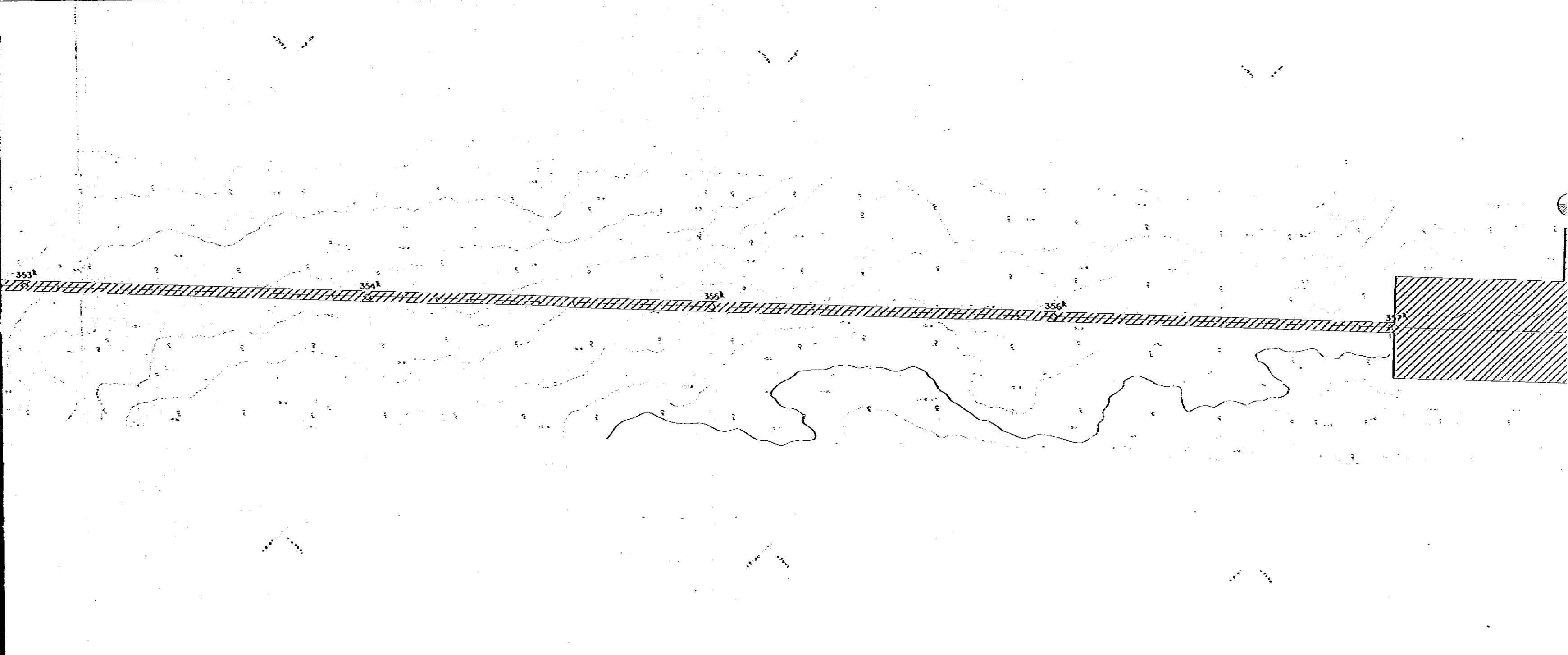
1 : 5000  
BOLIVIA

RAILWAY C





# RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)

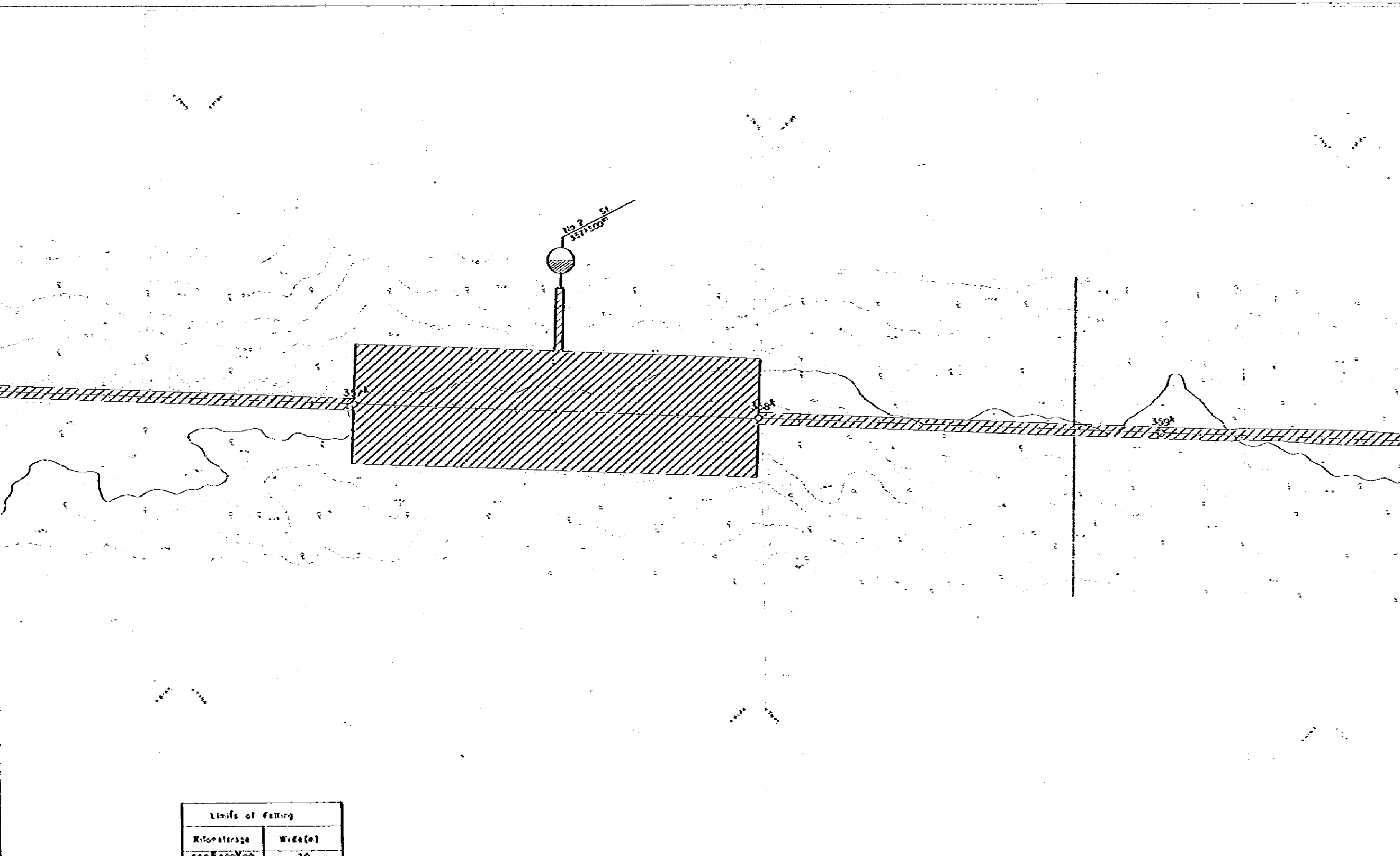


Limits of Felling

Limits of Felling

Limits of Felling

NO.5



7 2 3 4 5 6



- LEGEND**
- ROADS TRAILS ETC.**
- As
  - Exp As
  - Trail
- PALANYS ETC.**
- Palany
  - Palany
- VEGETATION**
- Forest
  - Open
  - Thicket
  - Shrub
  - Grass
  - Woods
- MISCELLANEOUS**
- Water
  - Swamp
  - Rock
  - Cliff
- HYDROGRAPHY**
- Stream
  - Run
- CONTOURS AND TRVERSE POINTS**
- Contour
  - Spot Height
  - Spot Height
  - Spot Height

Limits of Filing	
Kilometrage	Wide(m)
356°400'00	30



Limits of Felling	
Kilometrage	Wide(m)
349 <sup>K</sup> 600 <sup>M</sup> 00	30
700	"
800	"
850	"
900	"
950	"
350 <sup>K</sup> 000	"
080	"
100	"
200	36.3
300	31.1
400	30
500	"
600	"
700	"
800	"
900	"
351 <sup>K</sup> 000	31
100	30
200	36
300	31
400	30
500	"
600	"
700	"
800	"
900	"
352 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
353 <sup>K</sup> 000	"

Limits of Felling	
Kilometrage	Wide(m)
353 <sup>K</sup> 000 <sup>M</sup> 00	30
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
354 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"
500	"
550	"
600	"
700	"
800	"
900	"
355 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
760	"
800	"
900	"
940	"
356 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"

Limits of Felling	
Kilometrage	Wide(m)
356 <sup>K</sup> 400 <sup>M</sup> 00	30
500	"
600	"
700	"
800	"
900	"
357 <sup>K</sup> 000	300
100	"
200	"
300	"
400	"
480	48.7
500	300
520	"
600	"
700	"
800	"
900	"
358 <sup>K</sup> 000	"
100	30
200	"
300	"
390	"
400	"
500	"
520	"
600	"
700	"
800	"
900	"
359 <sup>K</sup> 000	"
100	"
180	"
200	"
300	31.1
400	36.3
500	"
600	30

SCALE 1:5,000  
METRES

Limits of Felling	
Kilometrage	Wide(m)
356 <sup>K</sup> 400 <sup>M</sup> 00	30
500	"
600	"
700	"
800	"
900	"
357 <sup>K</sup> 000	300
100	"
200	"
300	"
400	"
480	487
500	300
520	"
600	"
700	"
800	"
900	"
358 <sup>K</sup> 000	"
100	30
200	"
300	"
390	"
400	"
500	"
520	"
600	"
700	"
800	"
900	"
359 <sup>K</sup> 000	"
100	"
180	"
200	"
300	31.1
400	36.3
500	"
600	30

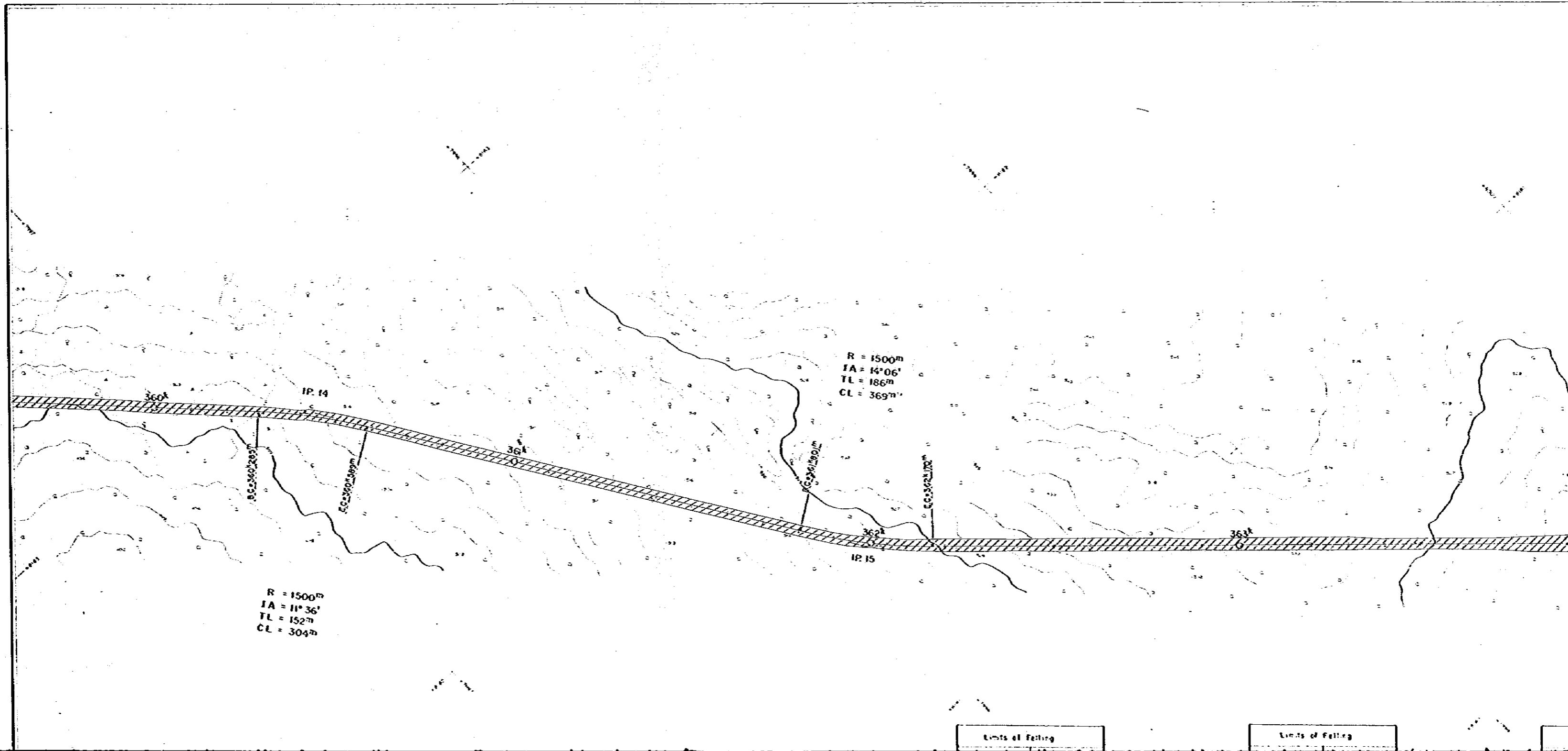
<b>EMPRESA NACIONAL DE FERROCARRILES</b> <b>RAILWAY CONSTRUCTION PROJECT EASTERN LINE</b> <small>(TUPICU-ROSA)</small>		
<b>LIMIT OF FELLING</b> <small>(Sheet 6 of 12)</small>		
Executing Enterprise		
Drawn by Date	Checked by Date	Agreed by Date
Contracting Enterprise		
Checked by Date	Agreed by Date	No 23

- PLAN
- PROYECTO
- MISCELLANEOUS
- ESTADO
- CONDICIONES
- PLAN
- CONDICIONES
- HYDROGRAPHY
- ESTADO
- CONDICIONES
- PLAN
- CONDICIONES
- CONTOURS AND TRAVERSE POINTS
- ESTADO
- CONDICIONES
- PLAN
- CONDICIONES
- ESTADO
- CONDICIONES

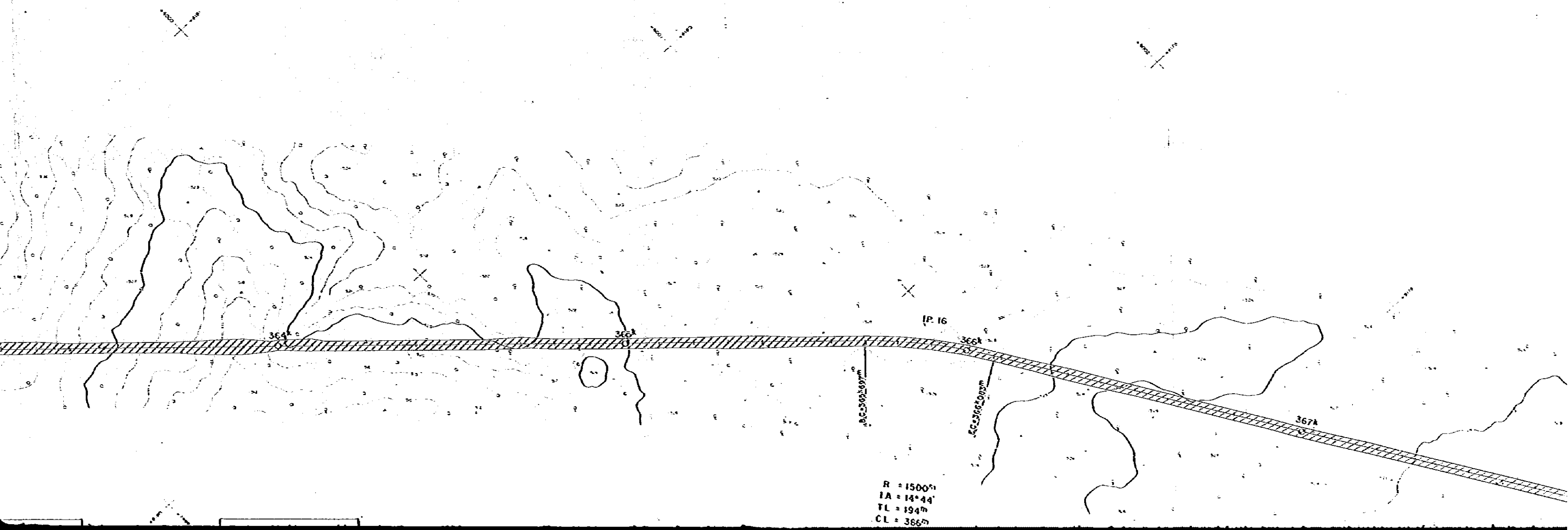
- 1. Photographic Reconnaissance June 1959
  - 2. Control Point Survey June 1960
  - 3. Detail Computation October 1960
  - 4. Detail Stationing 1:60,000 Topographic Plan
- 1000 Ceiling Point  
 LL 151 LL 153  
 LL 155 LL 157  
 LL 159 LL 161

1 : 5000  
BOLIVIA

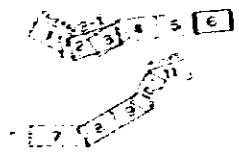
RAILWAY C



# RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)



NO.6



**LEGEND**

**ROADS, TRACKS, ETC.**

By ...

Track ...

Foot ...

**RAILWAYS, ETC.**

Single ...

Double ...

**VEGETATIONS**

Cultivated ...

Orchard ...

Tea ...

Rubber ...

Palm ...

Non ...

**MISCELLANEOUS**

Enclosure ...

Grass ...

Path ...

Orchard ...

**HYDROGRAPHY**

Perennial ...

Intermittent ...

**CONTAINS AND TRAVERSE POINTS**

...

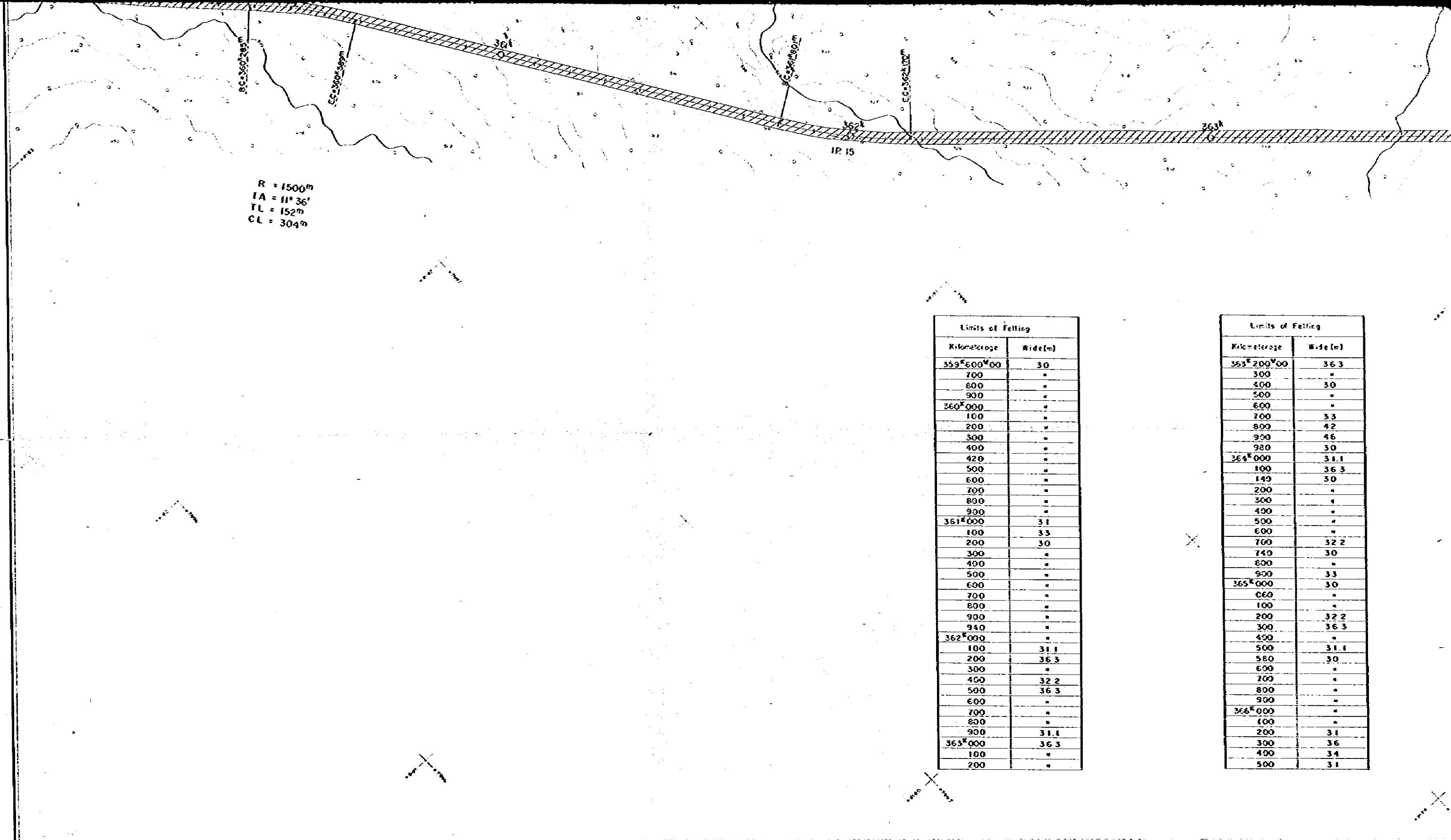
...

...

...





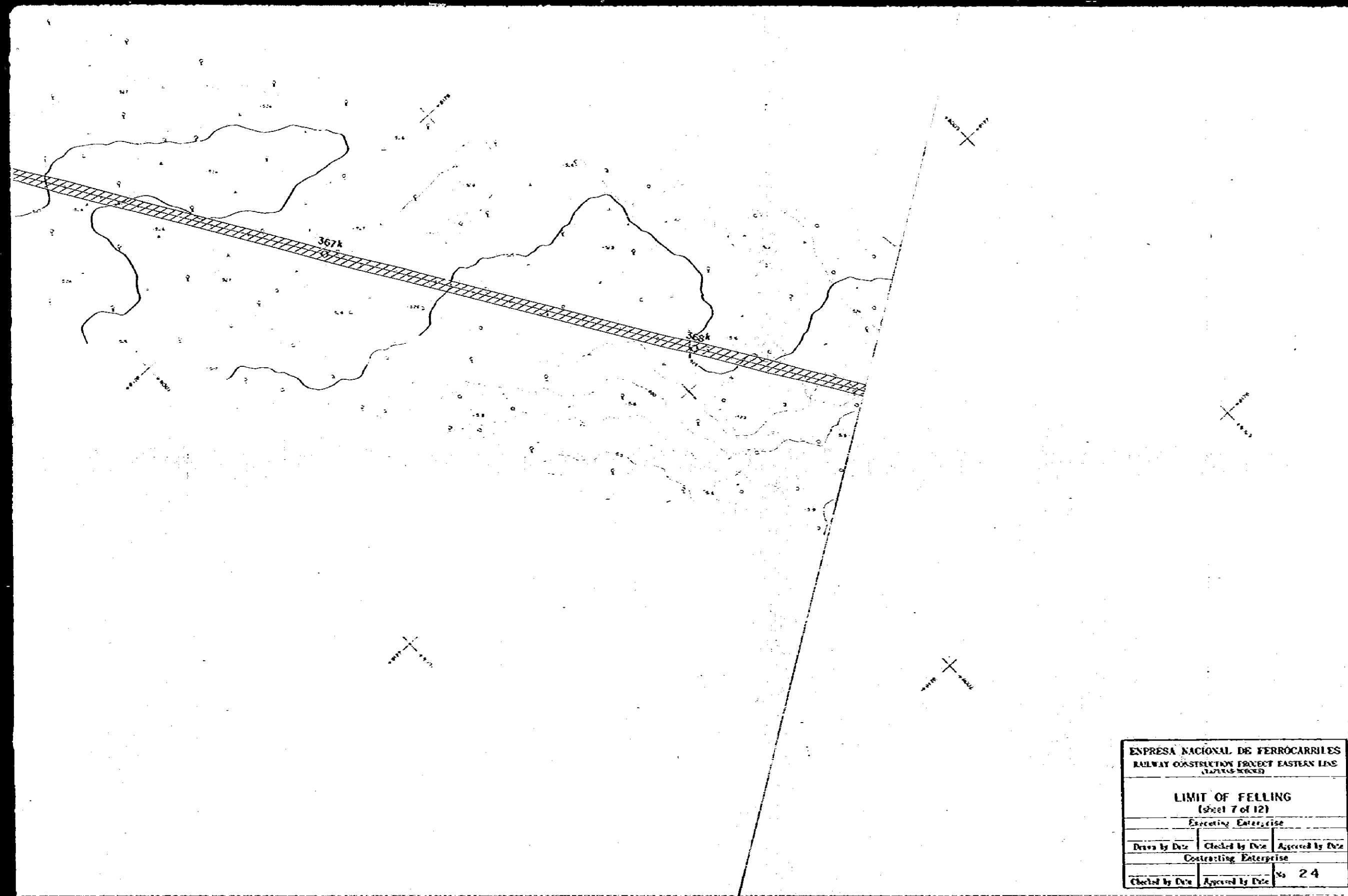


R = 1500m  
 IA = 11° 36'  
 TL = 152m  
 CL = 304m

Limits of Felling	
Kilometrage	Wide(m)
359 <sup>K</sup> 600 <sup>M</sup> 00	30
700	"
800	"
900	"
360 <sup>K</sup> 000	"
100	"
200	"
300	"
400	"
420	"
500	"
600	"
700	"
800	"
900	"
361 <sup>K</sup> 000	31
100	33
200	30
300	"
400	"
500	"
600	"
700	"
800	"
900	"
940	"
362 <sup>K</sup> 000	"
100	31.1
200	36.3
300	"
400	32.2
500	36.3
600	"
700	"
800	"
900	31.1
363 <sup>K</sup> 000	36.3
100	"
200	"

Limits of Felling	
Kilometrage	Wide(m)
363 <sup>K</sup> 200 <sup>M</sup> 00	36.3
300	"
400	30
500	"
600	"
700	33
800	42
900	46
930	30
364 <sup>K</sup> 000	31.1
100	36.3
140	30
200	"
300	"
400	"
500	"
600	"
700	32.2
740	30
800	"
900	33
365 <sup>K</sup> 000	30
060	"
100	"
200	32.2
300	36.3
400	"
500	31.1
580	30
600	"
700	"
800	"
900	"
366 <sup>K</sup> 000	"
100	"
200	31
300	36
400	34
500	31



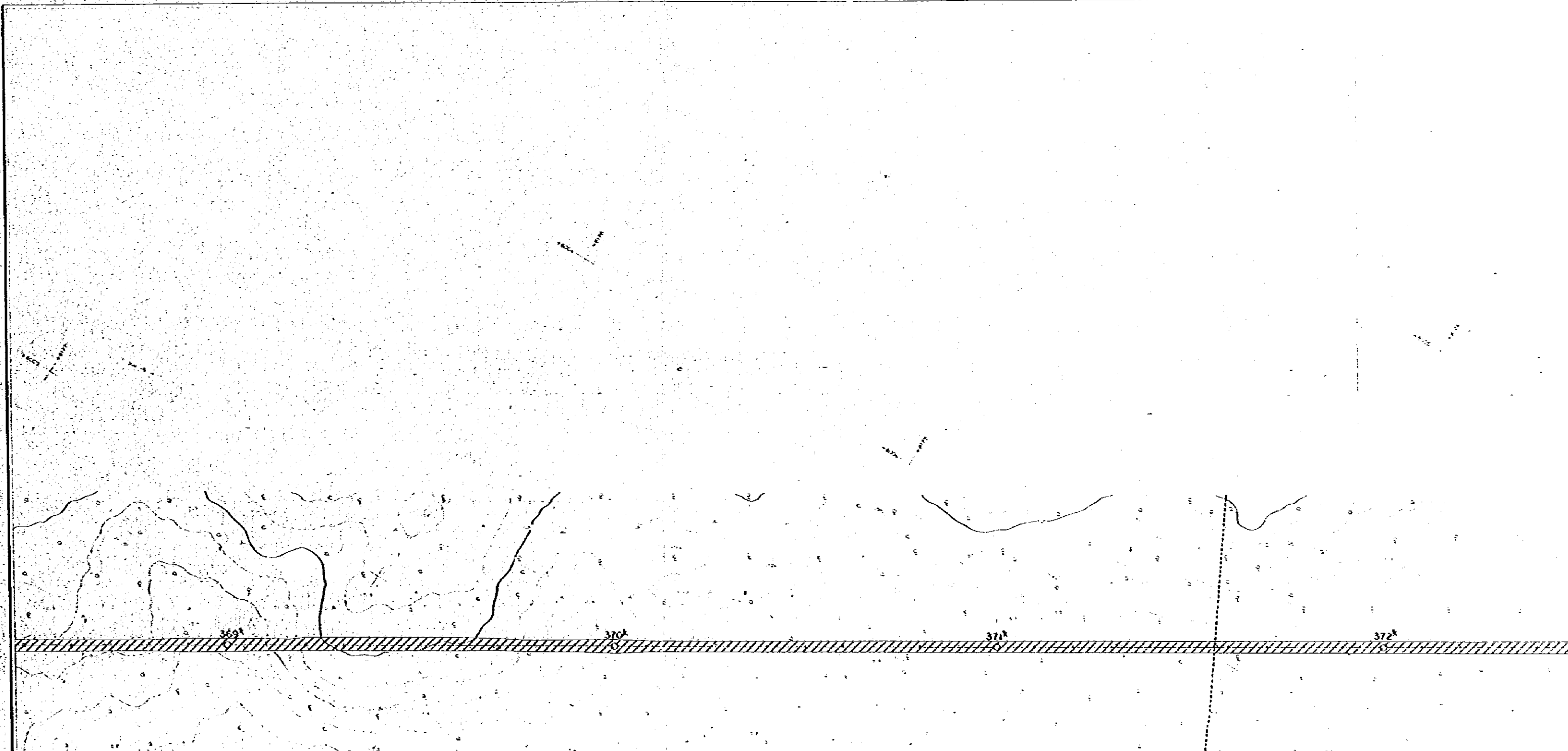


- Point
- Spot Height
- MISCELLANEOUS**
- Building
- Contour
- Peak
- OH
- HYDROGRAPHY**
- Public Water
- Run-off
- By Rail
- CONTOURS AND TRAVERSE POINTS**
- Traverse Point
- Spot Height
- Spot Height
- Leveling Point

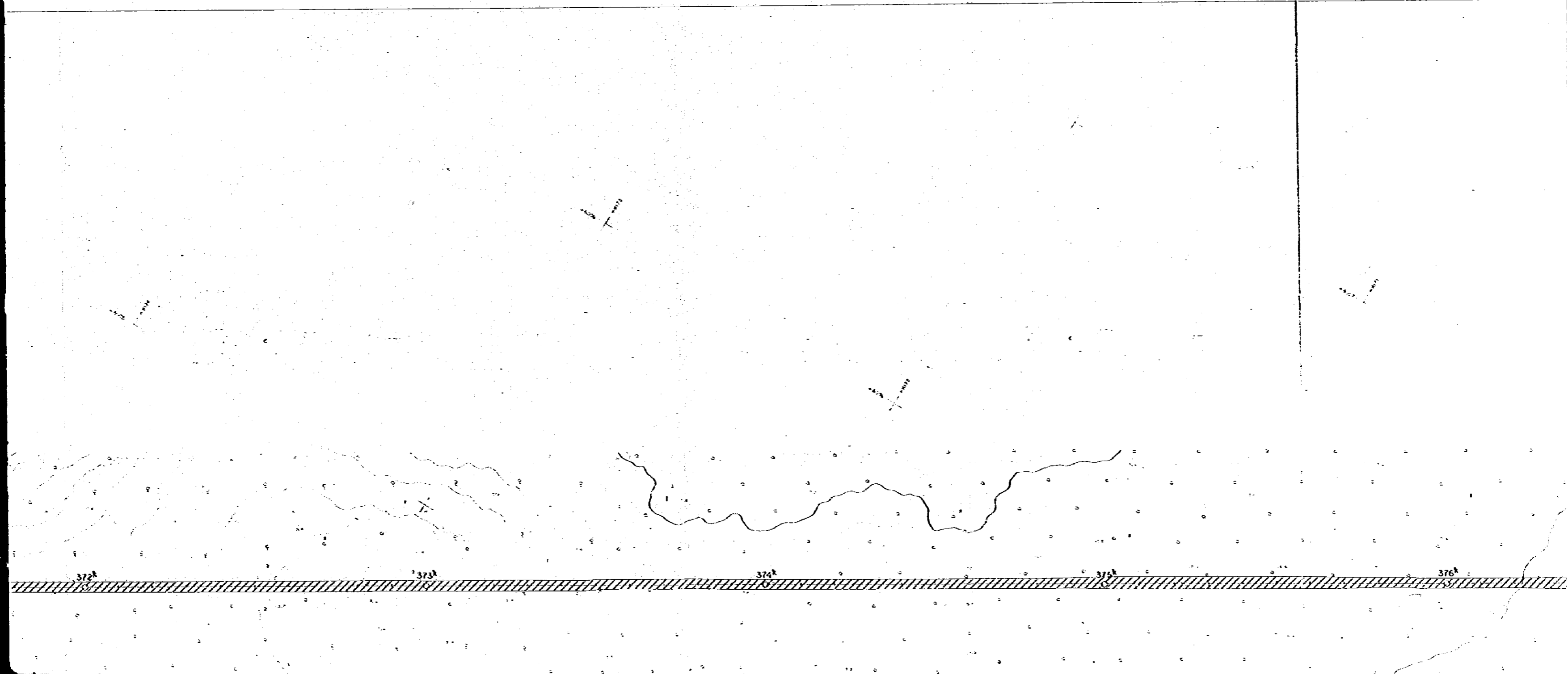
<b>EMPRESA NACIONAL DE FERROCARRILES</b> <b>RAILWAY CONSTRUCTION PROJECT EASTERN LINE</b> <small>(LÍNEAS NOROCCIDENTALES)</small>		
<b>LIMIT OF FELLING</b> (Sheet 7 of 12)		
<i>Executing Enterprise</i>		
Drawn by Date	Checked by Date	Approved by Date
<i>Contracting Enterprise</i>		
Checked by Date	Approved by Date	No 24

- 1. Photogrammetric — June 1980
- 2. Control Point Survey — June 1980
- 3. Detail Topographic — October 1980
- 4. Earth Station — 10 M. Trajectory Point
- Via a
- 16 V. Leveling Point
- LL 151 LL 153
- LL 189 LL 191
- LL 153 65 27

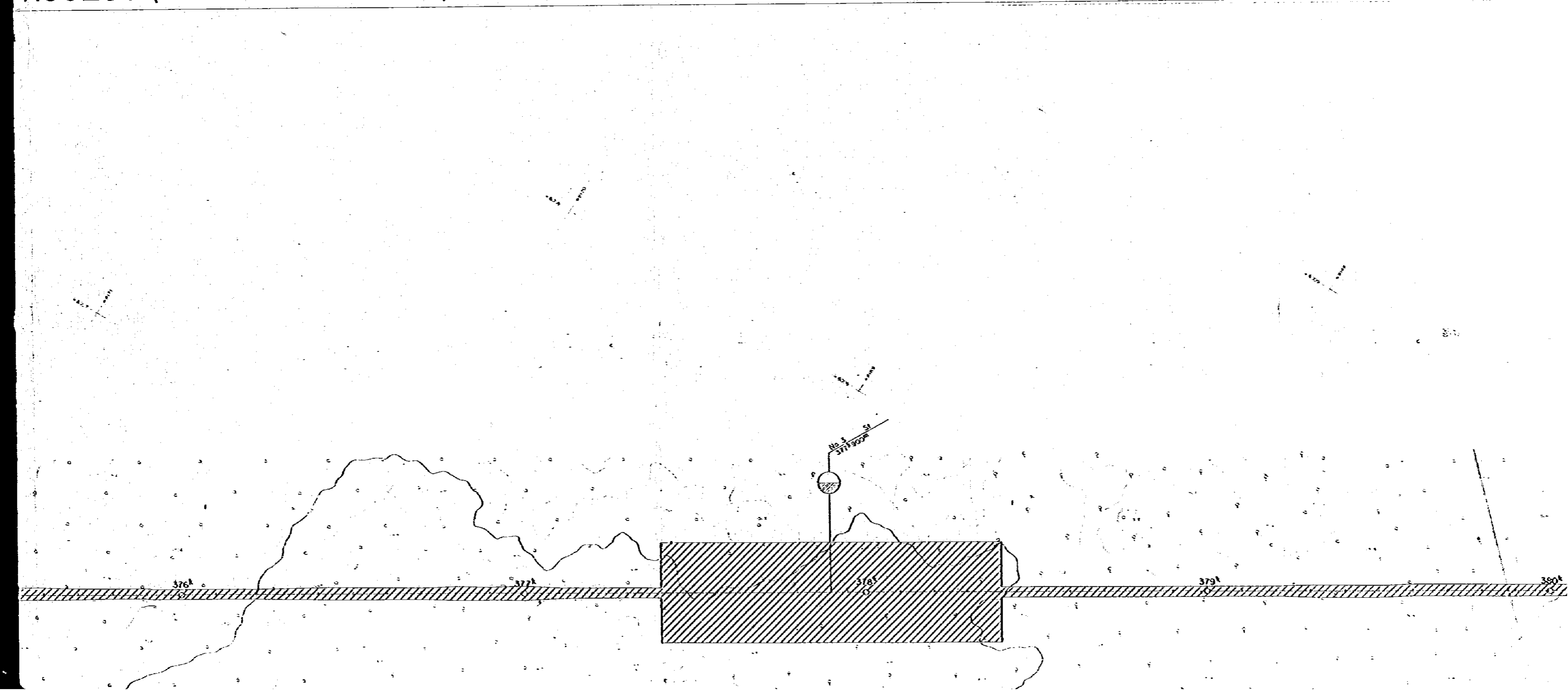
1 : 5000  
BOLIVIA

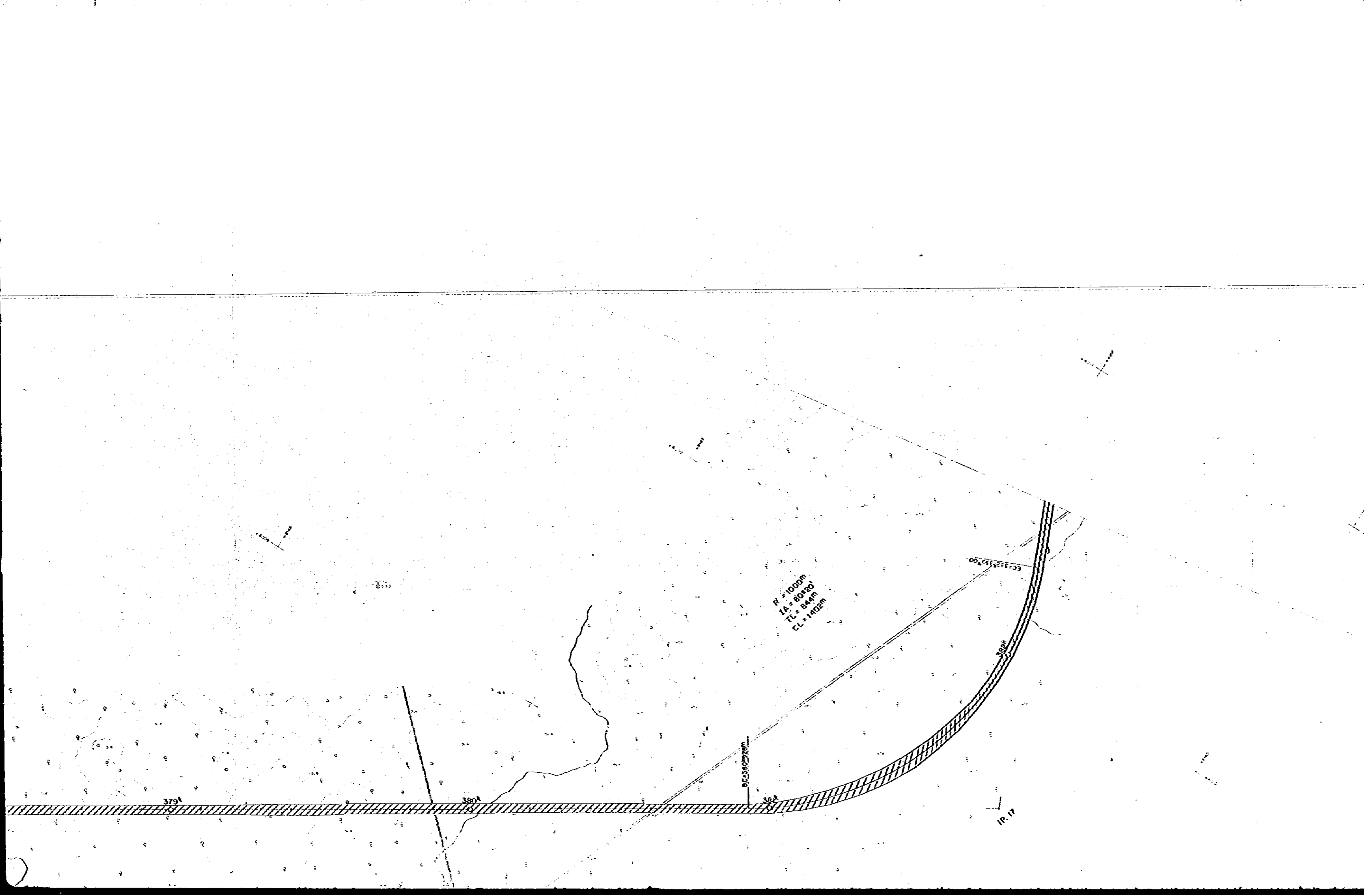


RAILWAY CONSTRUCTION PROJECT (TAPERAS)

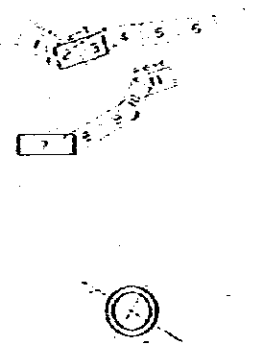
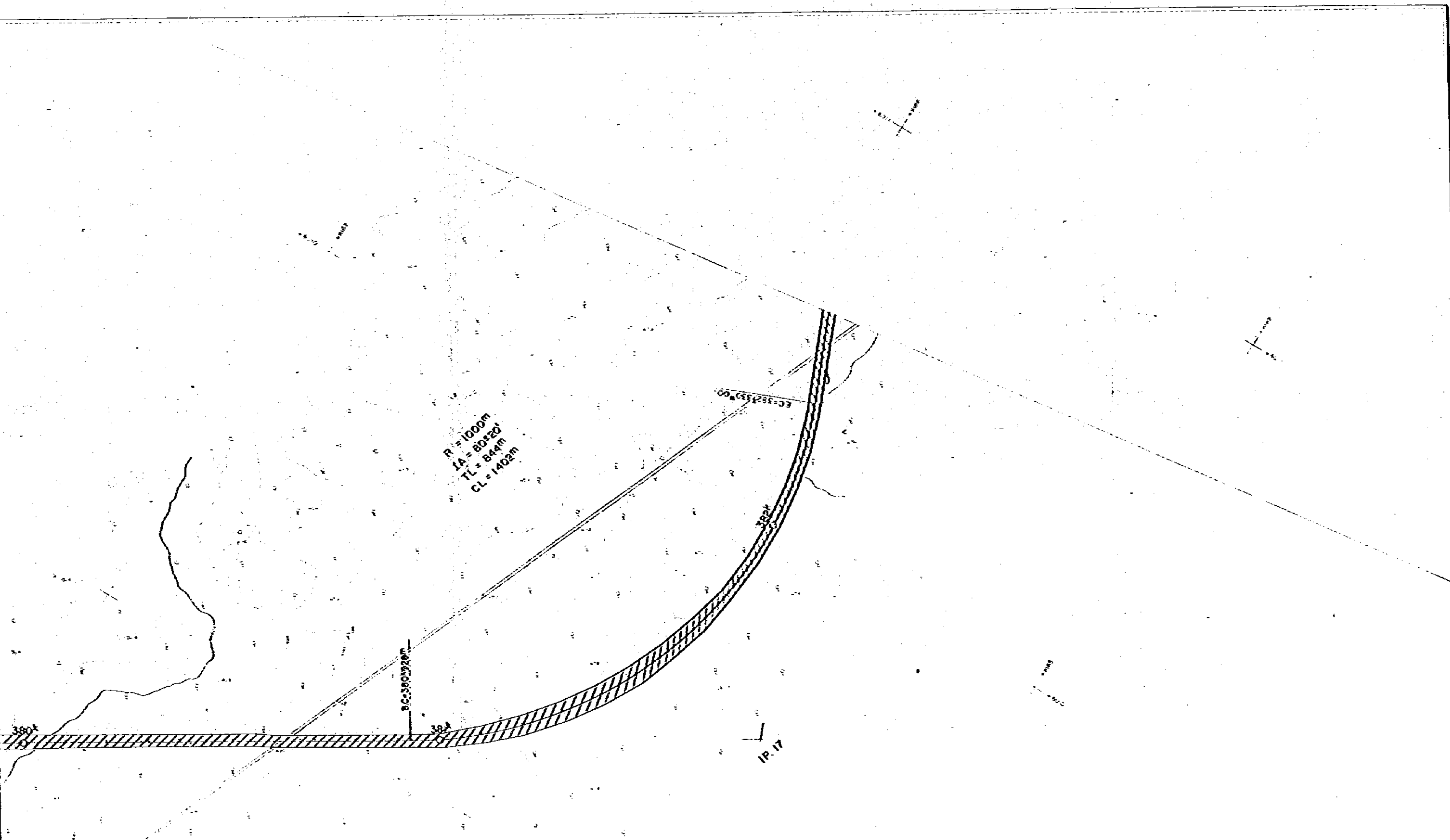


PROJECT (TAPERAS - BORE)





NO.7



**LEGEND**

**POSS. TRAPS ETC.**

By ...

TRAPS ...

By ...

**PALANIS ETC.**

By ...

By ...

**VEGETATIONS**

By ...

By ...

By ...

By ...

By ...

**MISCELLANEOUS**

By ...

By ...

By ...

By ...

**HYDROGRAPHY**

By ...

By ...

**CONTOURS AND TRAVERSE POINTS**

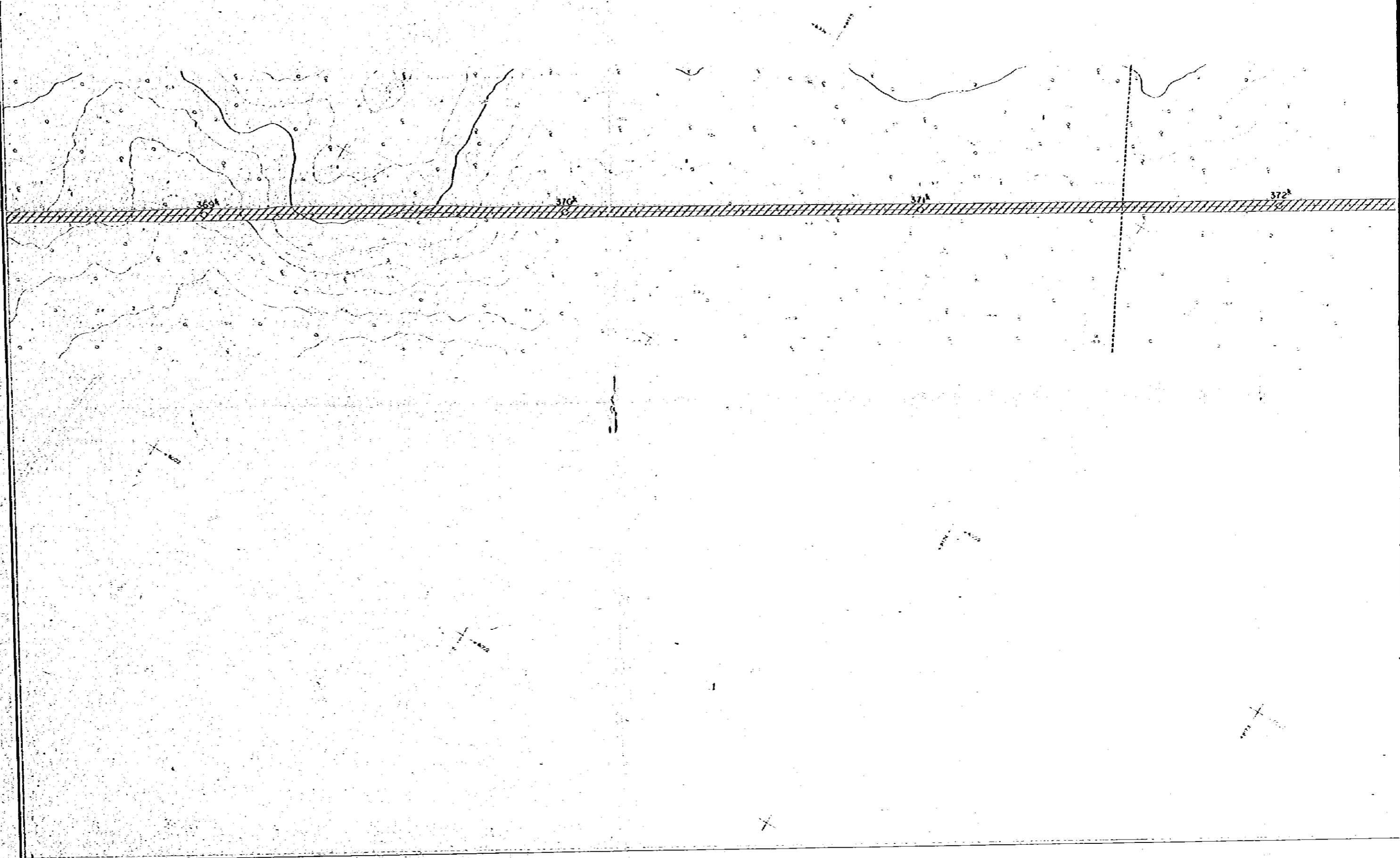
By ...

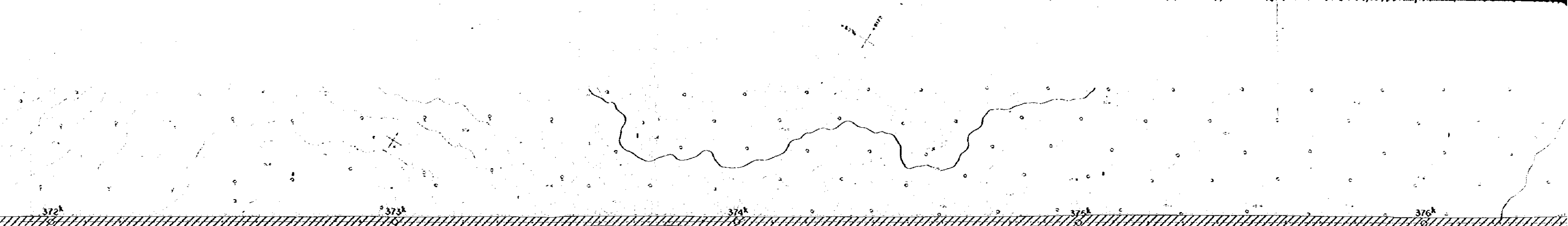
By ...

By ...

By ...







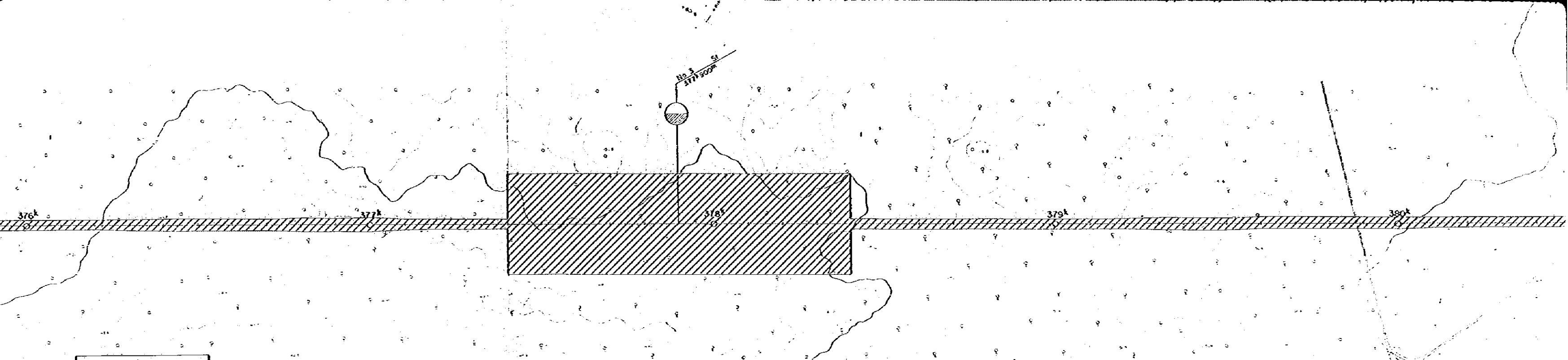
Limits of Felling	
Kilometrage	Wide (m)
368 <sup>k</sup> 000	30
500	"
600	"
700	"
800	"
900	36
369 <sup>k</sup> 000	34
100	30
150	"
200	36.3
300	"
400	"
500	"
600	"
700	31.1
750	30
800	"
900	33
370 <sup>k</sup> 000	36
100	30
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
371 <sup>k</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
372 <sup>k</sup> 000	"

Limits of Felling	
Kilometrage	Wide (m)
372 <sup>k</sup> 000	30
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	33
373 <sup>k</sup> 000	31
100	33
200	"
300	30
400	"
450	"
500	31.1
600	30
700	31.1
800	30
900	"
374 <sup>k</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
375 <sup>k</sup> 000	36.3
100	"
200	"
300	"
400	"
500	"
600	"
700	32.2

Limits of Felling	
Kilometrage	Wide (m)
375 <sup>k</sup> 700	30
800	"
900	"
920	"
376 <sup>k</sup> 000	"
100	"
200	"
300	34
400	36
500	"
600	"
700	"
800	42
900	37
377 <sup>k</sup> 000	42
100	34
200	30
300	"
400	300
450	"
500	"
600	"
650	"
700	"
800	"
900	"
378 <sup>k</sup> 000	"
100	"
200	"
300	"
380	"
400	"
500	30
600	"
700	"
740	"
800	"
900	"
379 <sup>k</sup> 000	"

Limits of Felling	
Kilometrage	Wide (m)
379 <sup>k</sup> 000	30
100	"
150	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
380 <sup>k</sup> 000	"
100	"
200	"
300	"
400	"
500	"
550	"
600	"
700	"
800	"
900	"
381 <sup>k</sup> 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
382 <sup>k</sup> 000	"
100	"
200	"
300	"
400	"
500	"

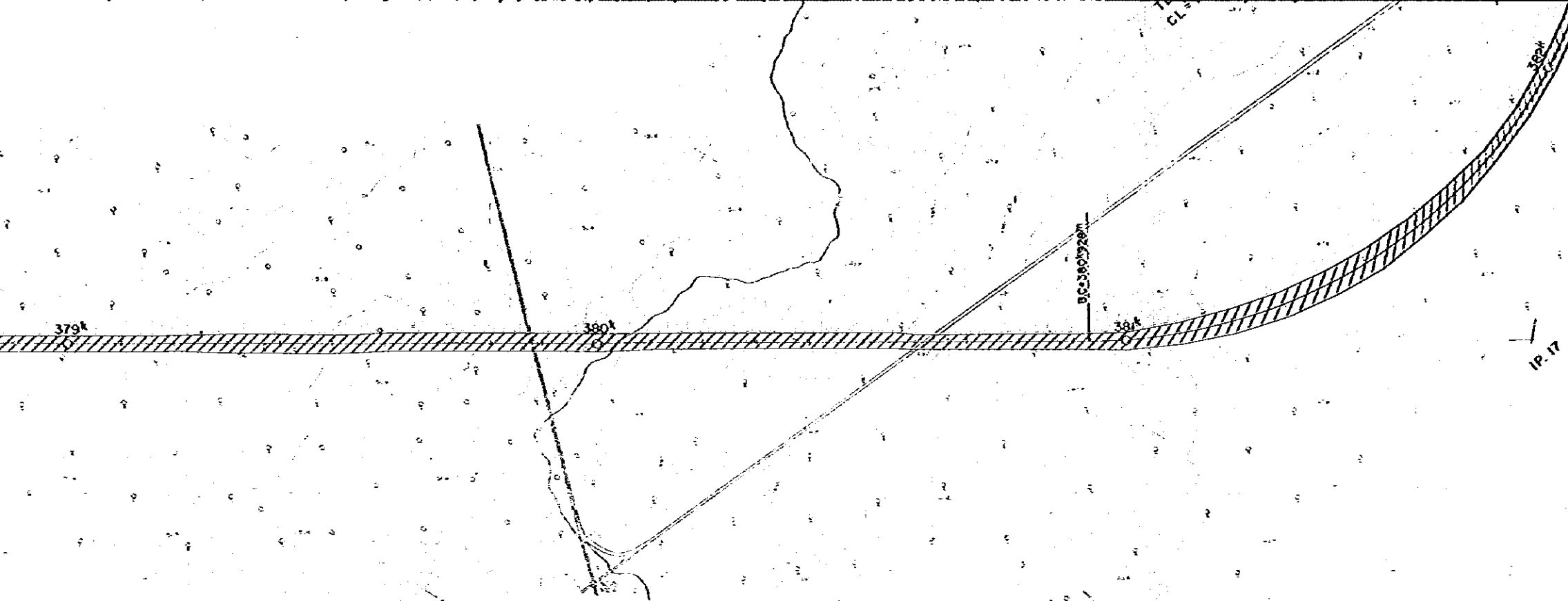
SCALE 1:5,000  
METRES



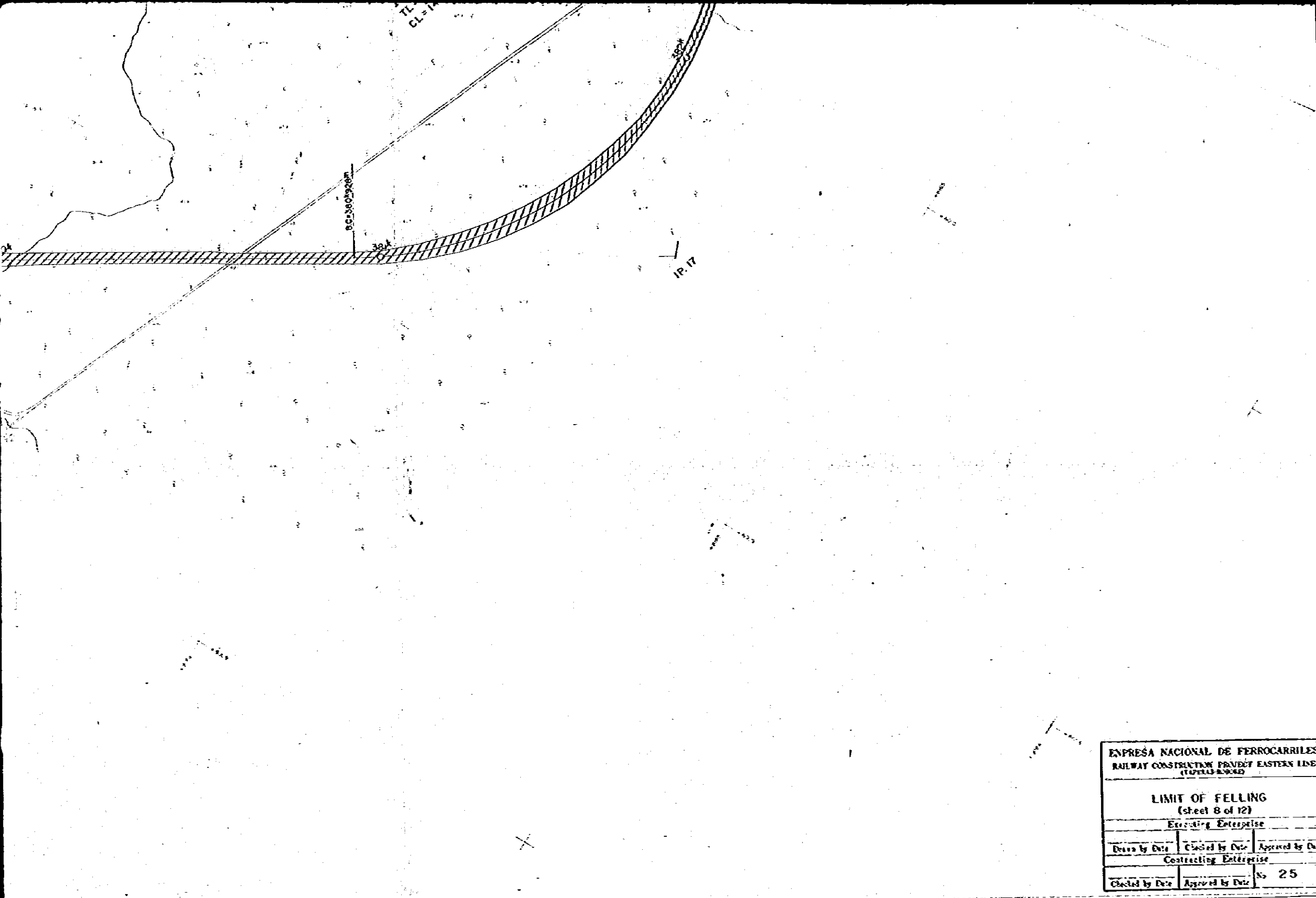
**Limits of Felling**

Kilometrage	Wide(m)
<b>379<sup>000</sup>00</b>	<b>300</b>
100	"
150	"
200	32.2
300	36.3
400	"
500	"
600	"
700	"
800	"
900	"
<b>380<sup>000</sup>00</b>	<b>"</b>
100	32.2
200	31.1
300	30
400	31.1
500	30
550	"
600	"
700	"
800	"
900	31
<b>381<sup>000</sup>00</b>	<b>34</b>
100	42
200	47
300	49
400	51
500	"
600	44
700	42
800	30
900	31
<b>382<sup>000</sup>00</b>	<b>"</b>
100	30
200	"
300	"
400	"
500	"

Scale 1:5,000  
METRES



EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN RBY (TAPEAS-B-0-42)		
<b>LIMIT OF FELLING</b> (sheet 8 of 12)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No 25



- MISCELLANEOUS
- HYDROGRAPHY
- CONTOURS AND TRAVERSE POINTS

**EMPRESA NACIONAL DE FERROCARRILES**  
**RAILWAY CONSTRUCTION PROJECT EASTERN LINE**  
(1971-1980)

**LIMIT OF FELLING**  
(sheet 8 of 12)

Executing Enterprise

Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No. 25

1. Photographic Flight—June 1980
  2. Control Point Survey—June 1980
  3. Detail Completion—October 1980
  4. Data Sheet—10 M Traverse Point
- Via  
 10 M Leveling Point  
 LL 151 LL 153  
 LL 129 LL 191  
 LL 130 BQ 27