REPUBLIC OF BOLIVIA

BOLIVIAN NATIONAL RAILWAYS' REHABILITATION PROGRAM FINAL REPORT

VOLUME I

APPENDIX

MARCH 1980

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

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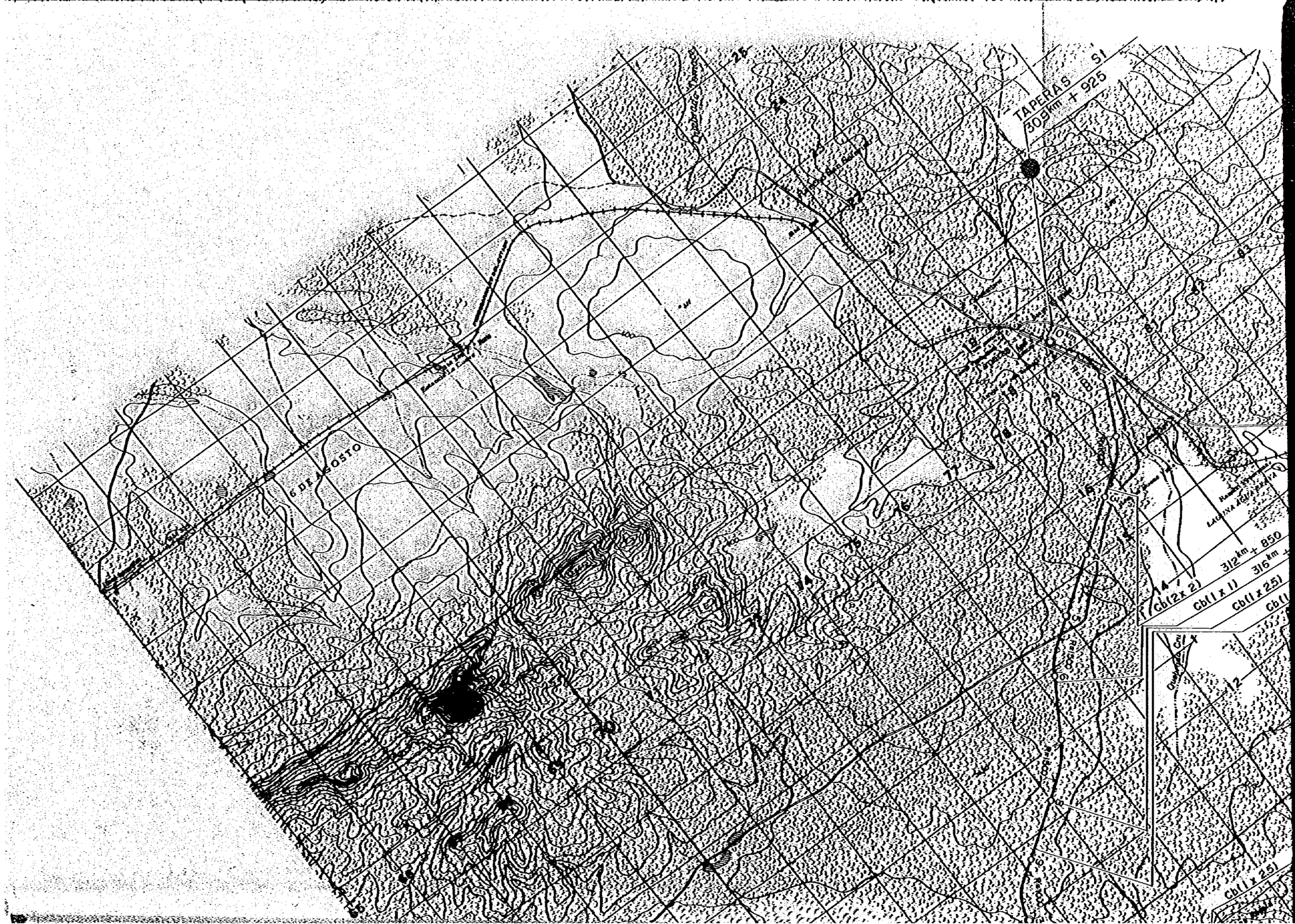
DETAIL REHABILITATION PLAN FOR EASTERN LINE

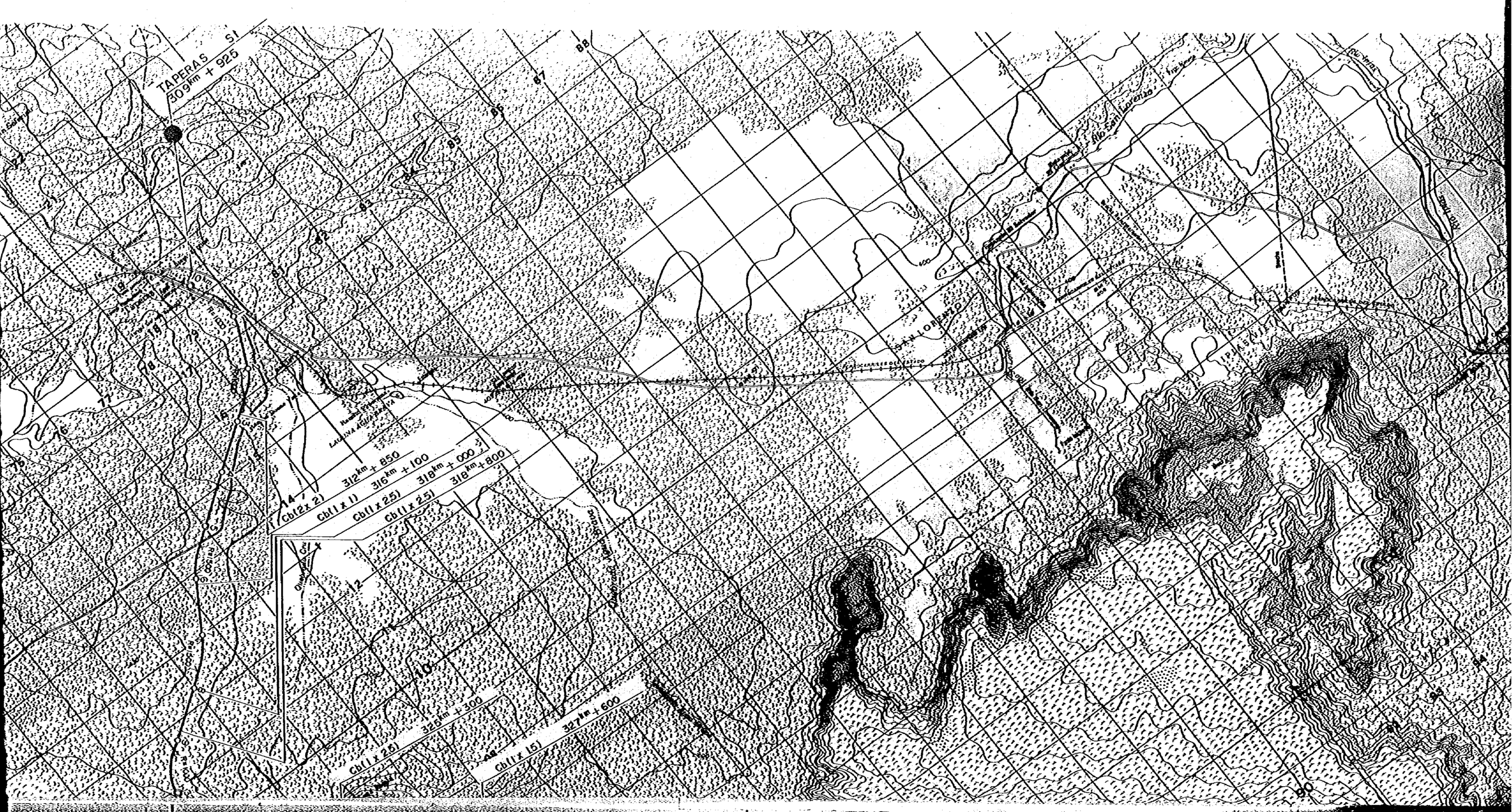
(ALTERNATIVE – B)

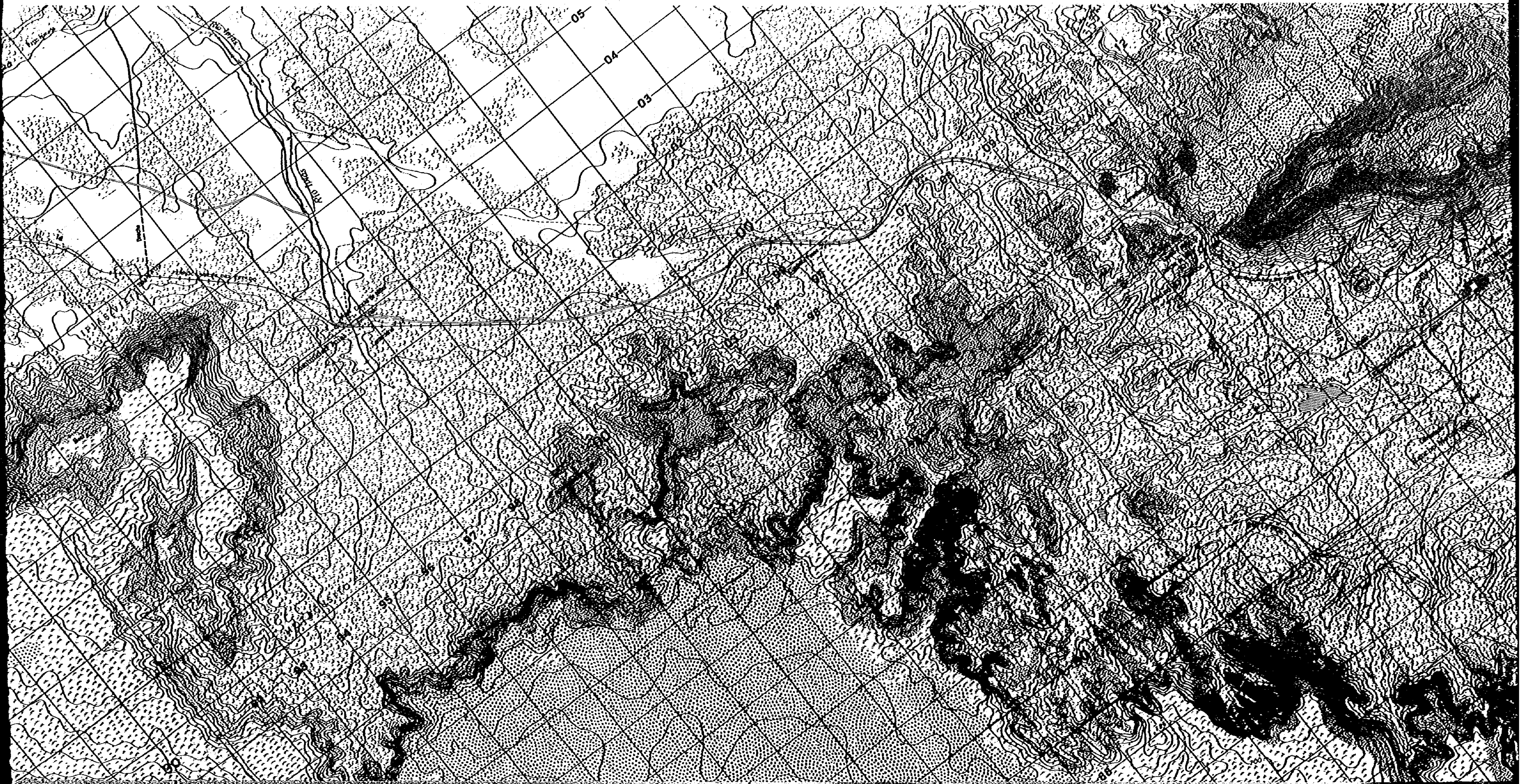
Drawing – 1	Railway Plan (Scale 1 / 50,000)	Drawing – 12	Design of Box Culvert (2.5 x 2.5^{m}) Station 325^{km} + 300^{m}
Drawing – 2	Longitudinal Profile (Scale 1/50,000, 1/4,000)	Drawing – 13	Design of Box Culvert (1.5 x 1.0^{m}) Station 327^{km} + 600^{m}
Drawing – 3	Typical Design of Double Open Culvert	Drawing – 14	Design of Box Culvert (4.5 x 3.0^{m}) Station 362^{km} + 900^{m}
Drawing – 4	Typical Design of Abutment	Drawing – 15	Design of Box Culvert (4.0 x 3.0^{m}) Station 364^{km} + 100^{m}
Drawing – 5	Typical Design of Pier	Drawing – 16	Design of Box Culvert Station 367^{km} + 100^{m}
Drawing – 6	Typical Design of Through Girder (TG - 15)	Drawing – 17	Design of Box Culvert Station 375^{km} + 000^{m}
Drawing – 7	Typical Design of Through Girder (TG – 20)	Drawing – 18	Design of Bridge Station 384^{km} + 500^{m}
Drawing – 8	Design of Box Culvert (2.0 x 2.5^{m}) Station 312^{km} + 850^{m}	Drawing – 19	Design of Bridge Station 404^{km} + 505^{m} Station 407^{km} + 900^{m}
Drawing – 9	Design of Box Culvert (1.0 x 1.0^{m}) Station 316^{km} + 100^{m}	Drawing – 20	Design of Box Culvert Station 406^{km} + 500^{m}
Drawing – 10	Design of Box Culvert (2.5 x 2.0^{m}) Station 318^{km} + 000^{m}	Drawing – 21	Design of Bridge Station 397^{km} + 390^{m}
Drawing – 11	Design of Box Culvert (2.5 x 2.0^{m}) Station 318^{km} + 800^{m}		

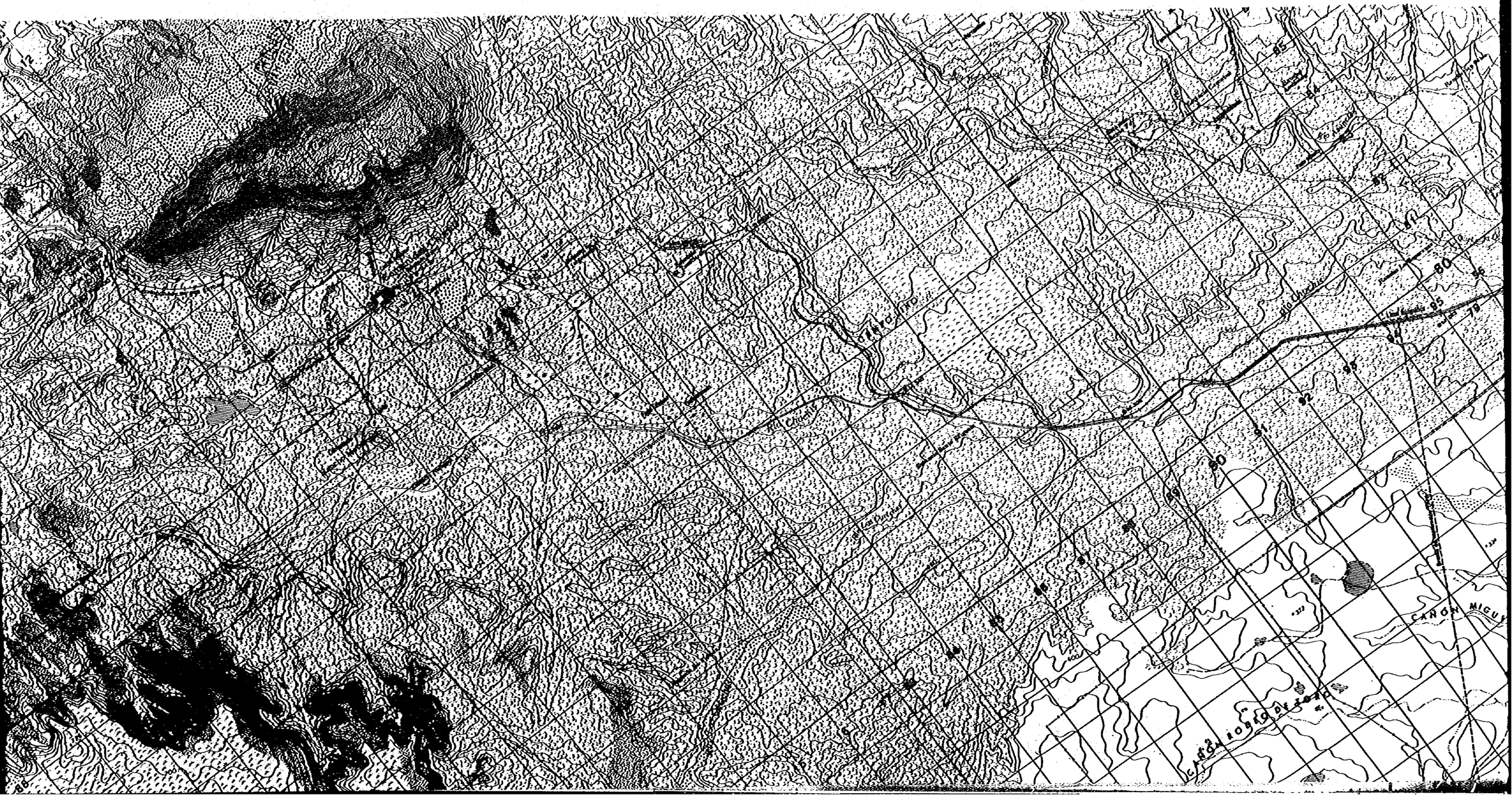
Main structures table
(Alternative - B)

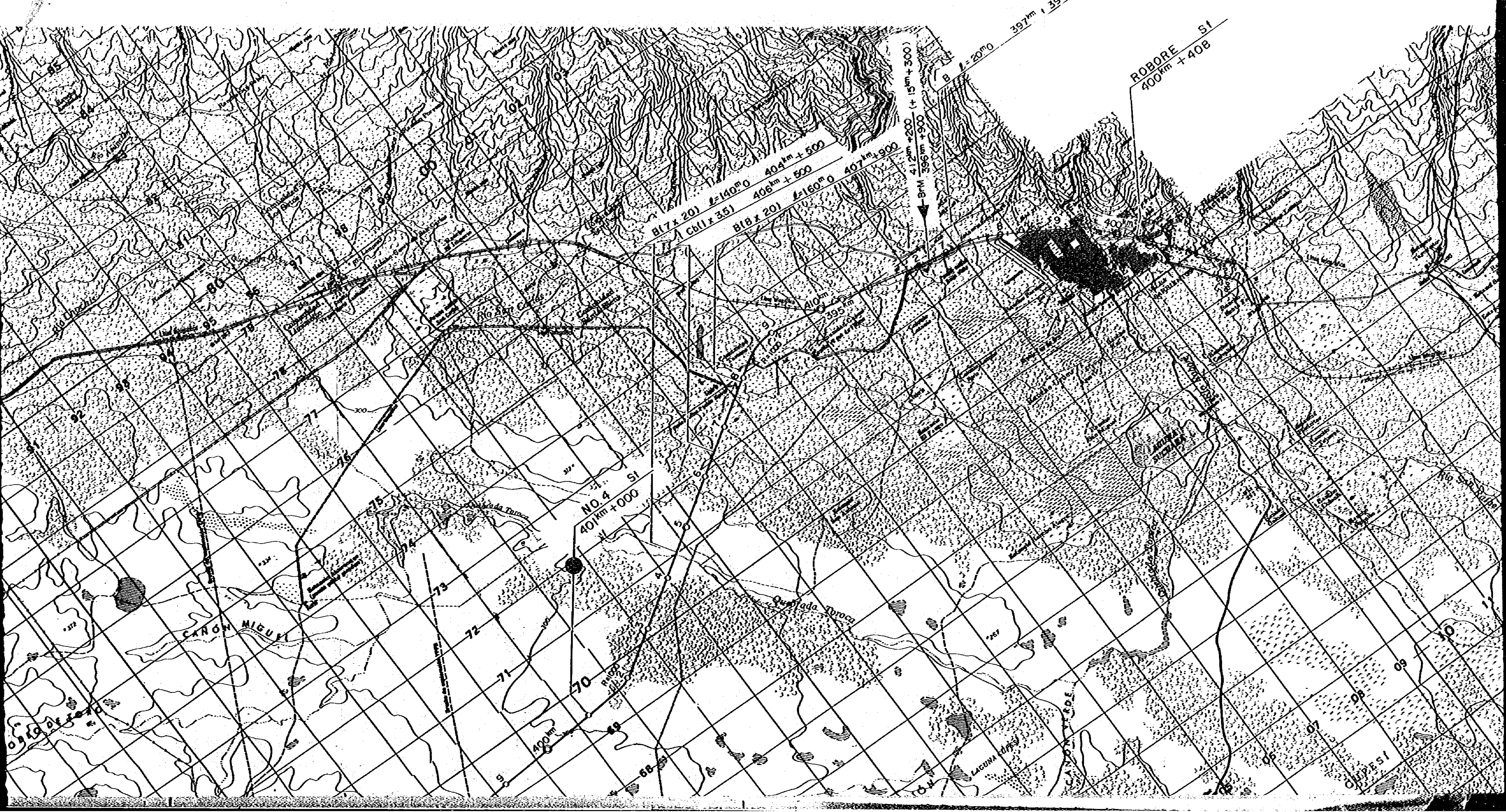
Kilometerage	Structures	
$312^{km} + 850^{m}$	double box culvert	$2.0^{m} \times 2.5^{m}$ (b x h)
$316^{km} + 100^{m}$	box culvert	1.0 x 1.0
$318^{km} + 000^{m}$	〃	2.5 x 2.0
$318^{km} + 800^{m}$	〃	2.5 x 2.0
$325^{km} + 300^{m}$	〃	2.5 x 2.5
$327^{km} + 600^{m}$	〃	1.5 x 1.0
$334^{km} \sim 361^{km}$	double open culvert	135 Place
$362^{km} + 900^{m}$	box culvert	4.5 x 3.0
$364^{km} + 100^{m}$	double box culvert	4.0 x 3.0
$367^{km} + 100^{m}$	〃	4.5 x 3.5
$370^{km} \sim 373^{km}$	double open culvert	15 Place
$375^{km} + 000^{m}$	box culvert	3.5 x 3.5
$384^{km} + 500^{m}$	Bridges	$2 \times 15.0^{m} = 30.0^{m}$
$404^{km} + 500^{m}$	〃	$7 \times 20.0^{m} = 140.0^{m}$
$406^{km} + 500^{m}$	box culvert	3.5 x 3.0
$407^{km} + 900^{m}$	Bridges	$8 \times 20.0^{m} = 160.0^{m}$
$397^{km} + 390^{m}$	Bridge	20.0^{m}


TAPERAS
308km + 925
6 DE AGOSTO
312km + 850
316km
Cb(1 x 1)
Cb(2x 2)
Cb(1 x 25)
Cb(1 x 25)


TAPERAS SI
309km + 925
312km + 850
316km + 100
318km + 000
318km+800
326km + 300
327km + 600
Cb(12x 2)
Cb(1 x 1)
Cb(1 x 25)
Cb(1 x 25)
Cb(1 x 26)
Cb(1 x 15)
SAN LORENZO
Río San Lorenzo

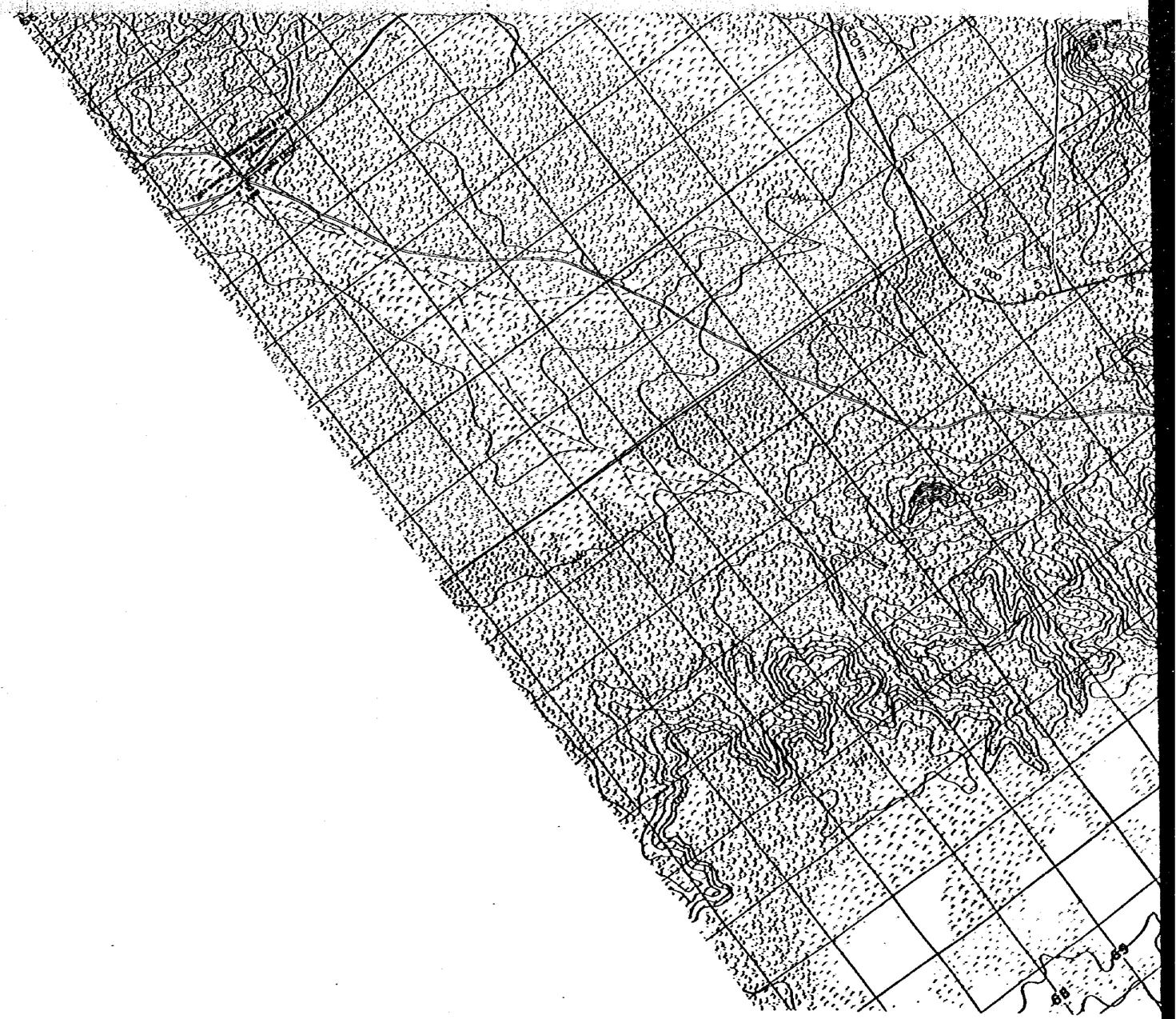

05
04
03

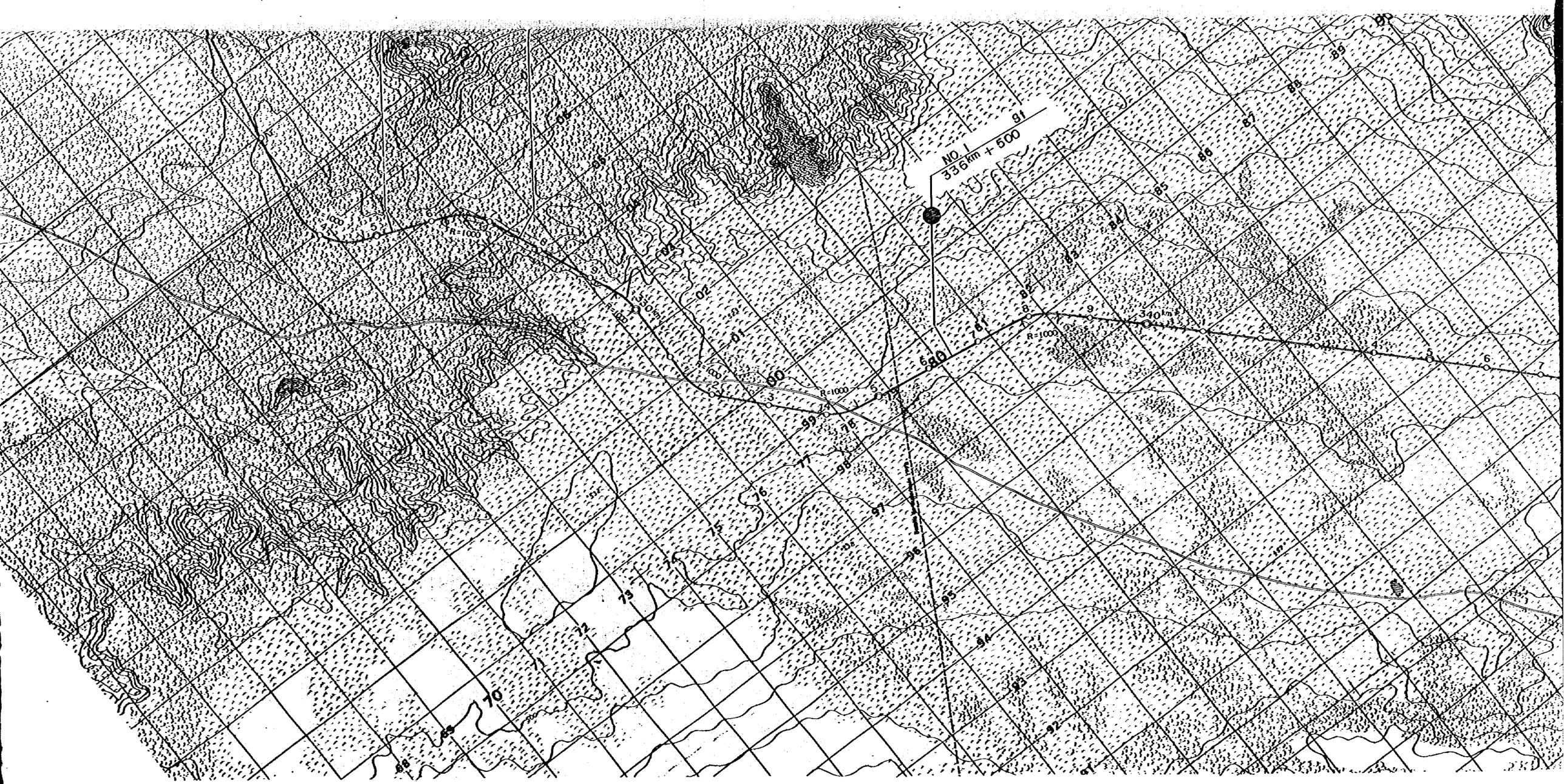

Rio Chama
CANON MIGUEL

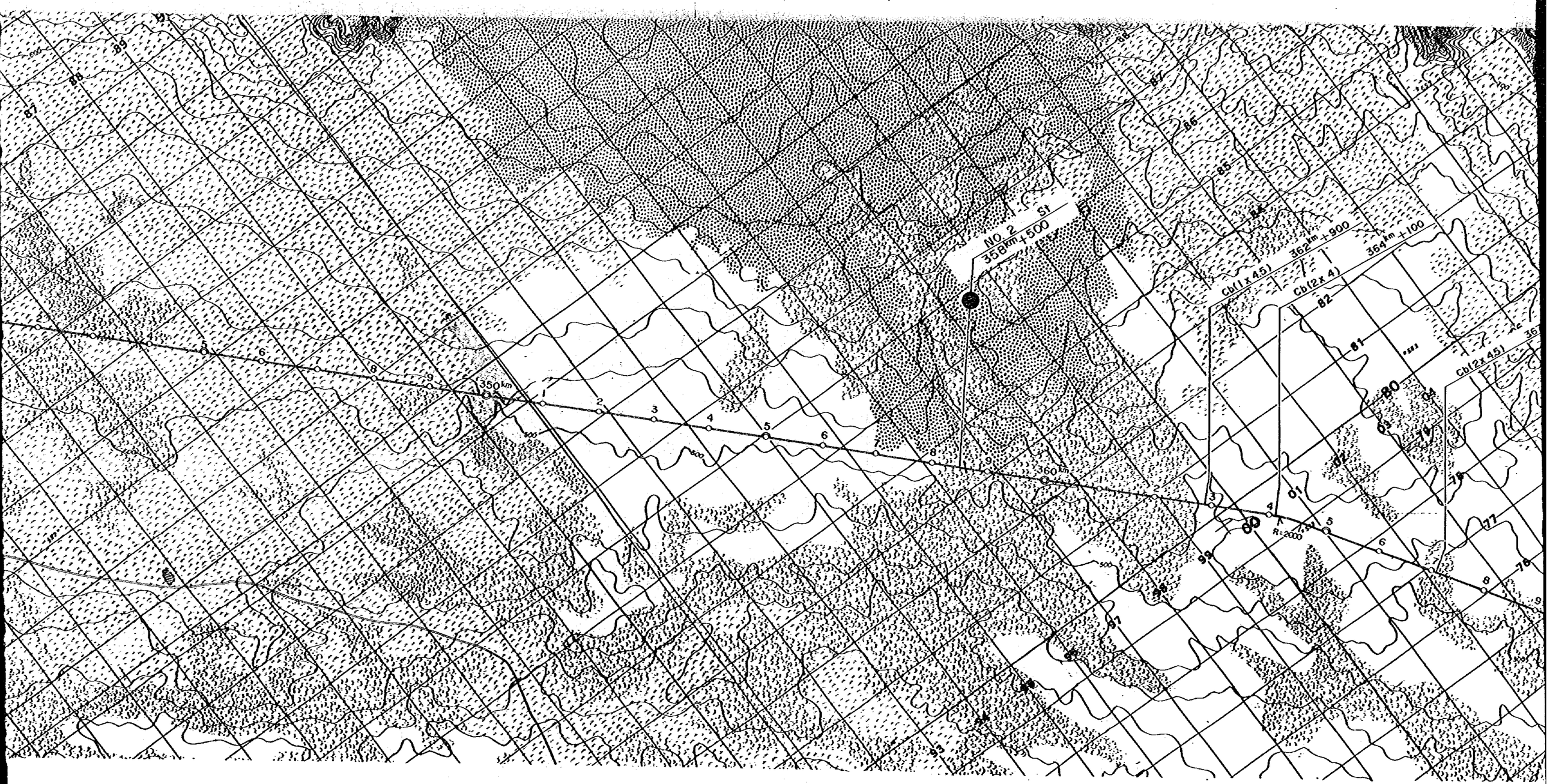


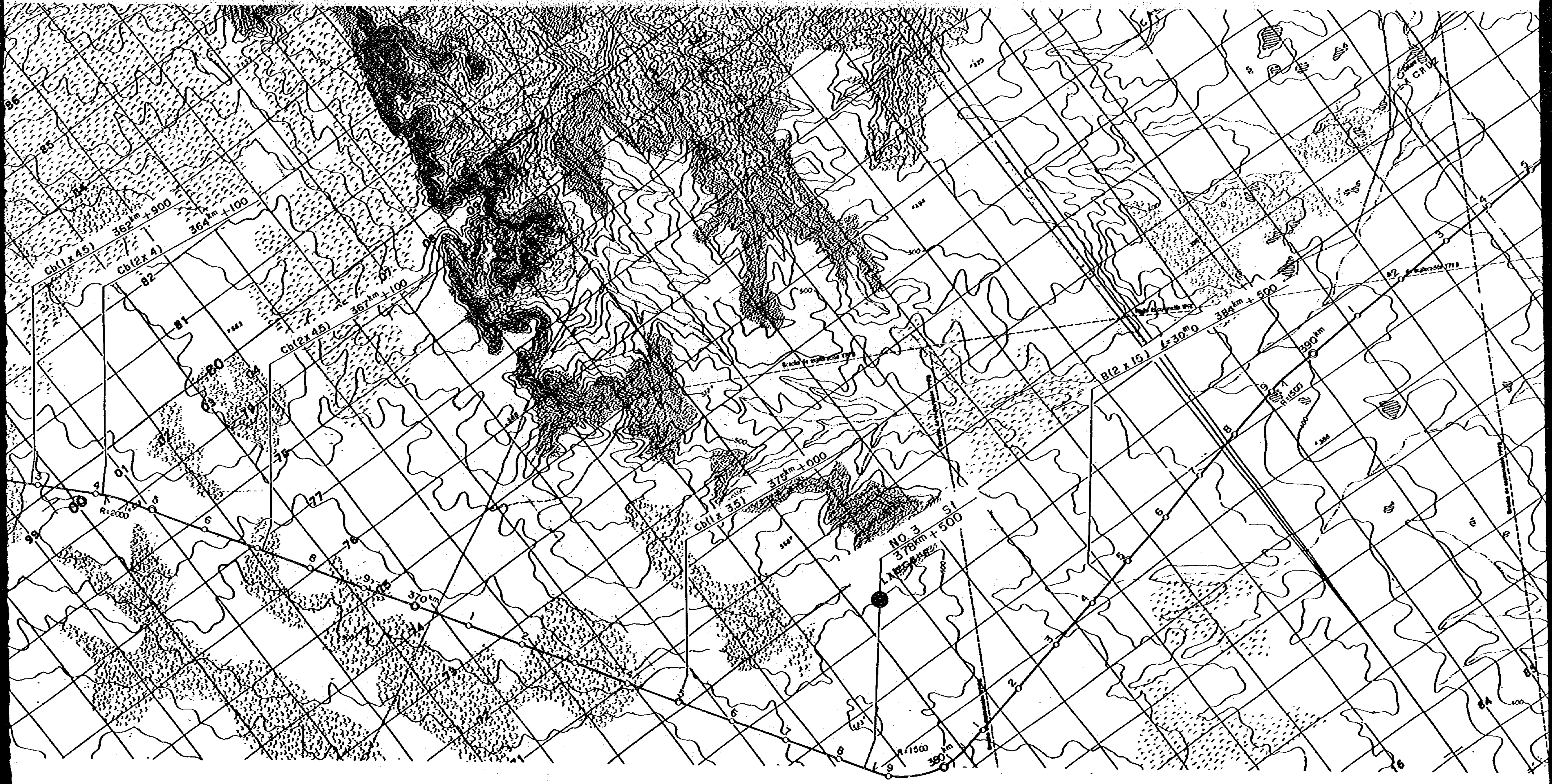
ROBORE S1
400km +408
B ℓ=20m 0 397km
B(7 x 20) ℓ=140m 0 404km + 500
Cb(1 x 3.5) 406km + 500
B(8 x 20) ℓ=160m 0 407km + 900
412km +200
396km +900
(+ 15km + 300)
BrM
NO. 4 S1
401km +000
395km
410km
400km
CAÑON MIGUEL
Quebrada Toroca
Rio San Carlos
LAGUNA

ROBORE 51
400km + 408
B ℓ=20m0 397km + 390
140m0 404km + 500
406km + 500
B(8 x 20) ℓ=160m0 407km + 900
BrM 412km + 200
396km + 900
(+ 15km + 300)
400km
410km
395km
Quebrada Toroca
LAGUNA

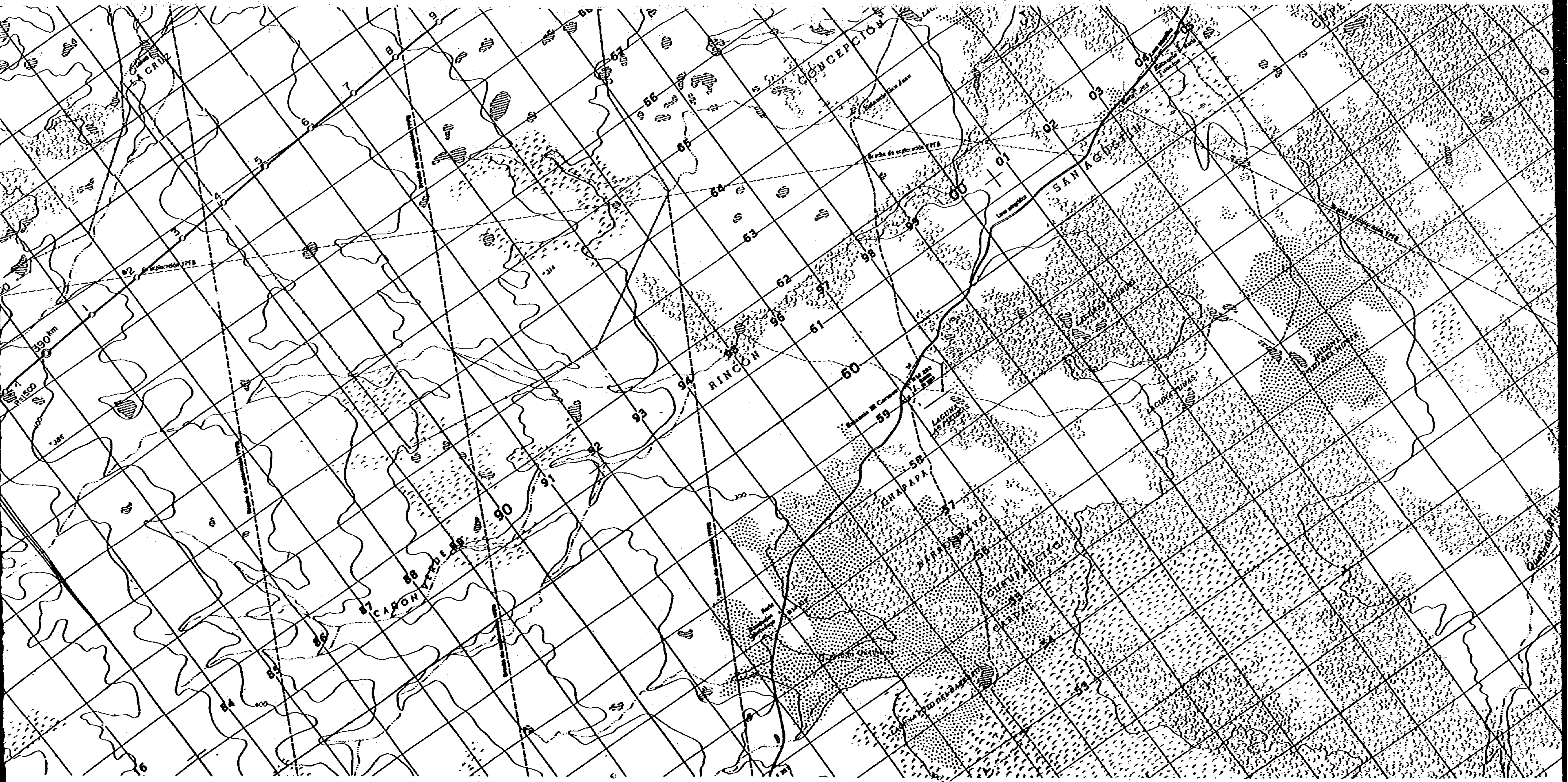


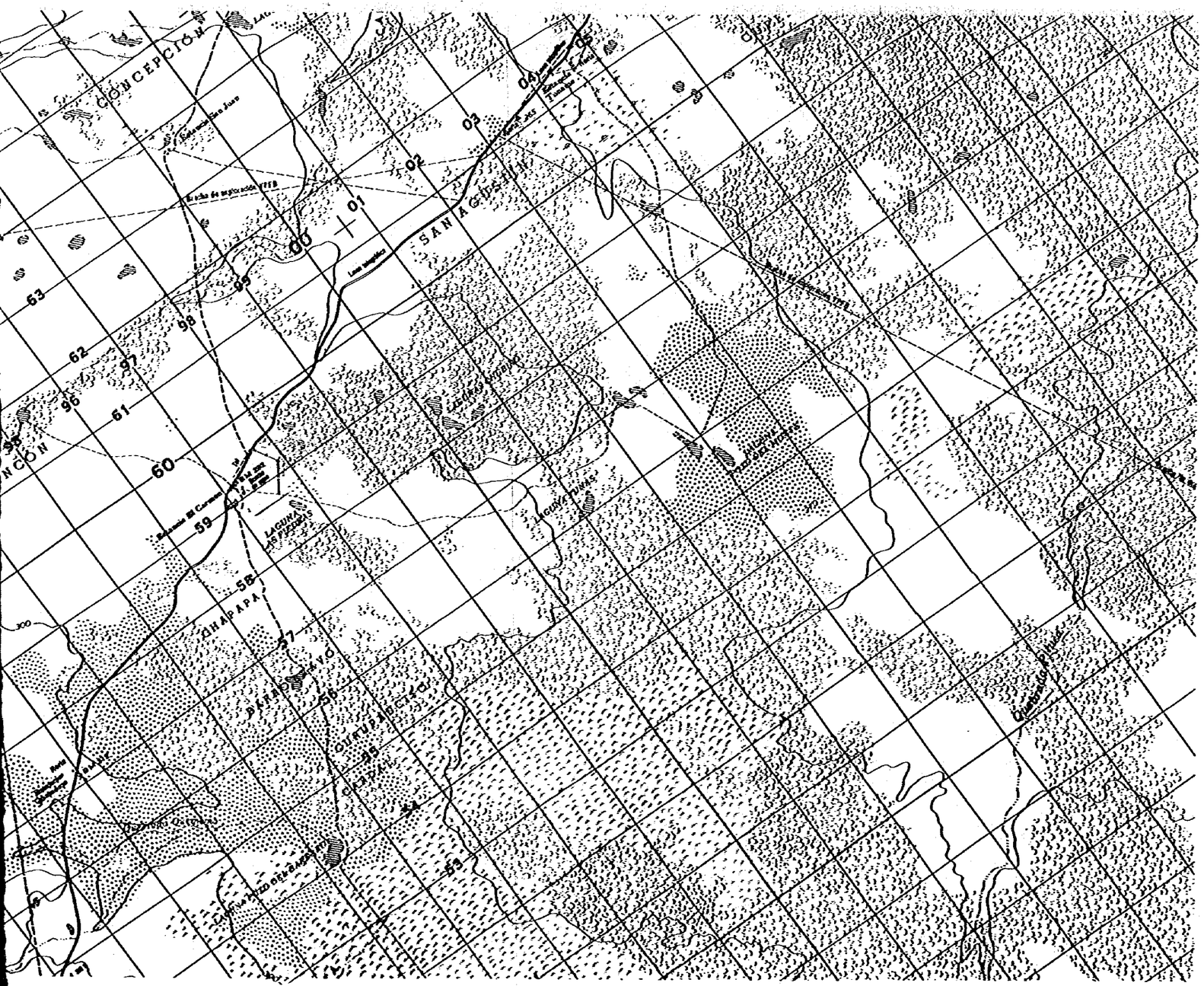

NO.1
336km+500
340km
R=1000
R=1000
R=1000
R=1000


NO 2
358km+500
St
362km+900
364km+100
Cb(1x45)
Cb(2x4)
Cb(2x45)
350km
360km
R=2000



Cb(1 x 45)
362km + 900
Cb(2 x 4)
364km + 100
Cb(2 x 4.5)
367km + 100
370km
Cb(1 x 3.5)
375km + 000
NO. 3
378km + 500
380km
B(2 x 15)
384km + 500
390km
R=2000
R=1500


LA CRUZ
CONCEPCION
SAN AGUSTIN
RINCON
CHAPAPA
390km



Drawing - 1

Railway Plan

Scale 1/50.000