

## INSTITUTO GEOGRÁFICO Y CATASTRAL

## TRABAJOS TOPOGRAFICOS 4

Grupo de comprobación

Término municipal de Alange (Zona 1ª)

Provincia de Badajoz

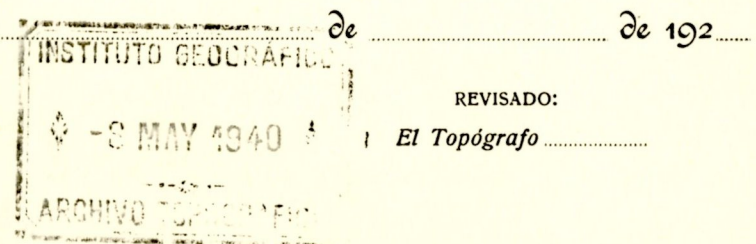
2.ª brigada.

It.º único de ampliación  
ITINERARIOS CON BRÚJULAIt.º de la carretera de 3.ª O de Alange a Valle de la  
Sera Cuaderno núm. único

Brújula de Satorius núm. 1605

cuya declinación es de 12° 18'

Observador: D. Recaredo C. Guis





*Termina en el punto...*

*Determina*

*Croquis y Notas*

*Brupula Sartorius* no 1605. *rexagimna*  
2 *anorma*; Los datos para su declina-  
ción constan en el folio 93 vuelto  
del cuaderno no 1 de perfiles interiores  
del término de Puebla de la Reina  
+ cuaderno 9,586 m.

Contiene este cuaderno 9.586 m  
de itinerario y 1293 m de destacajo

*Quinto*



Itinerario número único de ampliación  
 Empieza en el punto 13 de la D-N<sup>o</sup> 1 de Alange

Folio número 2

| Estaciones | Puntos Observados  | Lecturas de hilos     |          | Distancia Metros | Rumbos |        | Distancia Horiz. <sup>a</sup> Metros | Ángulos de per. diéctro o cenitales |           | Desniveles Calculados |
|------------|--------------------|-----------------------|----------|------------------|--------|--------|--------------------------------------|-------------------------------------|-----------|-----------------------|
|            |                    | central               | extremos |                  | N.     | S.     |                                      | Depresión                           | Elevación |                       |
| 13         | D-N <sup>o</sup> 1 | 1                     |          | 25               | 182 00 | 2 00   |                                      |                                     | 86 04     | + 1.7                 |
|            | 1                  | 13 D-N <sup>o</sup> 1 |          | 25               | 2 00   | 182 00 |                                      | 93 58                               |           | + 1.7                 |
|            |                    | 2                     |          | 61               | 138 45 | 316 45 |                                      |                                     | 86 55     | - 3.3                 |
|            | 2                  | 1                     |          | 61               | 318 45 | 138 45 |                                      | 93 10                               |           | + 3.4                 |
|            |                    | 3                     |          | 54               | 221 00 | 41 00  |                                      |                                     | 88 48     | + 1.1                 |
|            | 3                  | 2                     |          | 54               | 41 00  | 221 00 |                                      | 91 10                               |           | + 1.1                 |
|            |                    | 4                     |          | 150              | 134 30 | 314 30 |                                      | 92 06                               |           | - 5.5                 |
|            |                    | a                     |          | 71               | 139 15 | 319 15 |                                      | 92 27                               |           | - 3.0                 |
|            | 4                  | 3                     |          | 149              | 314 30 | 134 30 |                                      |                                     | 87 54     | - 5.4                 |
|            |                    | 5                     |          | 34               | 140 30 | 320 30 |                                      | 92 41                               |           | - 1.6                 |
|            | 5                  | 4                     |          | 34               | 320 15 | 140 15 |                                      |                                     | 87 20     | - 1.6                 |
|            |                    | 6                     |          | 115              | 157 15 | 337 15 |                                      | 93 52                               |           | - 7.7                 |
|            | 6                  | 5                     |          | 115              | 337 00 | 157 00 |                                      |                                     | 86 08     | - 7.7                 |
|            |                    | 7                     |          | 145              | 115 30 | 295 30 |                                      | 93 55                               |           | - 9.9                 |
|            | 7                  | 6                     |          | 145              | 295 30 | 115 30 |                                      |                                     | 86 02     | - 10.0                |
|            |                    | 8                     |          | 150              | 139 45 | 319 45 | 149                                  | 94 54                               |           | - 12.7                |

805

R

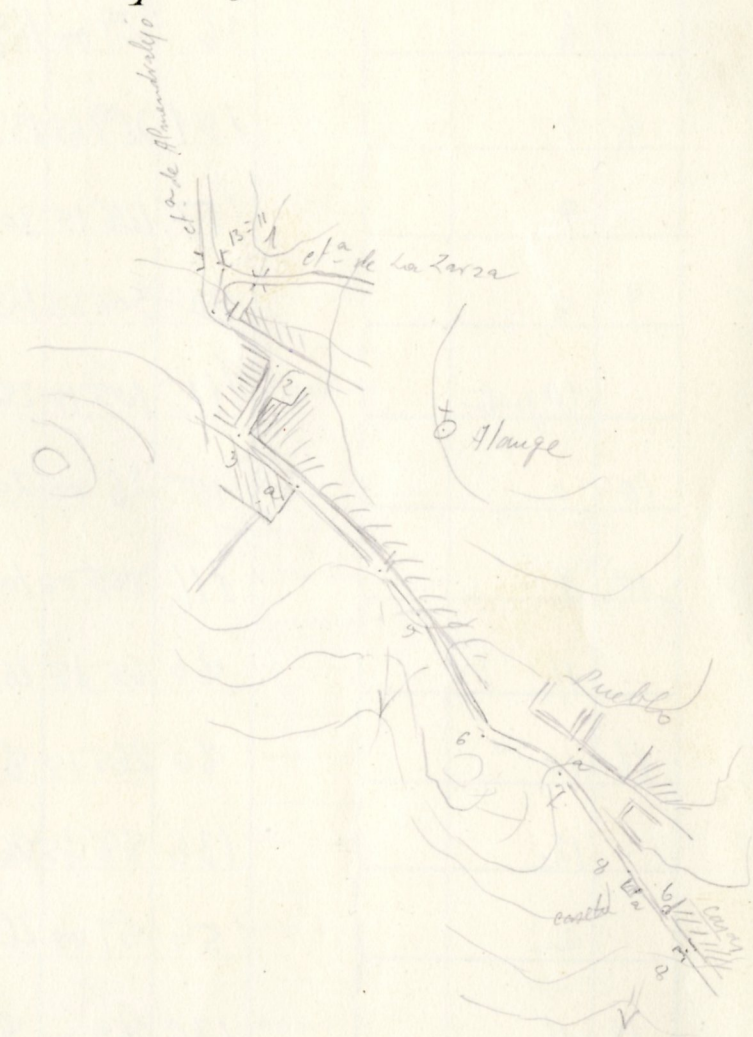
| Altitudes | Puntos                |
|-----------|-----------------------|
| 308.00    | 13 D-N <sup>o</sup> 1 |
| 309.71    |                       |
| 313.02    |                       |
| 314.13    |                       |
| 308.64    |                       |
| 311.12    |                       |
| 307.05    |                       |
| 299.36    |                       |
| 289.37    |                       |
| 276.68    |                       |

Mod. T. 12. a.

Termina en el punto 56 = M3. T. (de nivelación) de Alange con Palomas y Oliva de Mérida

Determina la carretera de 3<sup>er</sup> O. de Alange a Valle de la Jereña

Croquis y Notas



*Guirio*



| Estaciones | Puntos Observados | Lecturas de hilos |          | Distanc.<br>Metros | Rumbos |        | Distanc.<br>Horiz.<br>Metros | Angulos de per.<br>diante o cenitales |           | Desniveles<br>Calculados<br>+<br>- |
|------------|-------------------|-------------------|----------|--------------------|--------|--------|------------------------------|---------------------------------------|-----------|------------------------------------|
|            |                   | central           | extremos |                    | N.     | S.     |                              | Depresión                             | Elevación |                                    |
| 7          | a                 |                   |          | 26                 | 57 30  | 237 30 | 25                           |                                       | 79 37     | + 4.6                              |
| 8          | a                 |                   |          | 65                 | 313 30 | 133 30 | 64                           |                                       | 86 00     | + 4.5                              |
|            | b                 |                   |          | 36                 | 329 00 | 149 00 |                              |                                       | 85 59     | + 2.5                              |
| 8          | 7                 |                   |          | 151                | 319 45 | 139 45 | 150                          |                                       | 85 06     | - 12.8                             |
|            | 9                 |                   |          | 50                 | 128 15 | 308 15 | 49                           | 94 35                                 |           | - 4.0                              |
| 9          | 8                 |                   |          | 50                 | 308 30 | 128 30 | 49                           |                                       | 85 26     | - 4.0                              |
|            | 10 pte            |                   |          | 111                | 105 15 | 285 15 |                              | 93 27                                 |           | - 6.6                              |
| 10         | a                 |                   |          | 15                 | 26 00  | 206 00 |                              |                                       | 87 02     | + 0.8                              |
| 10         | 9                 |                   |          | 111                | 285 00 | 105 00 |                              |                                       | 86 38     | - 6.5                              |
|            | 11                |                   |          | 80                 | 85 15  | 265 15 |                              | 90 28                                 |           | - 0.6                              |
| 11         | 10                |                   |          | 80                 | 265 15 | 85 15  |                              |                                       | 89 33     | - 0.6                              |
|            | 12                |                   |          | 136                | 88 45  | 268 45 |                              | 91 49                                 |           | - 4.3                              |
|            | a                 |                   |          | 58                 | 89 00  | 269 00 |                              | 91 30                                 |           | - 1.5                              |
| 12         | 11                |                   |          | 136                | 269 00 | 89 00  |                              |                                       | 88 10     | - 4.3                              |
|            | 13                |                   |          | 74                 | 91 30  | 271 30 |                              |                                       | 88 55     | + 1.4                              |
| 13         | 12                |                   |          | 74                 | 271 45 | 91 45  |                              | 91 08                                 |           | + 1.5                              |

1.454

R

269.3 (4)

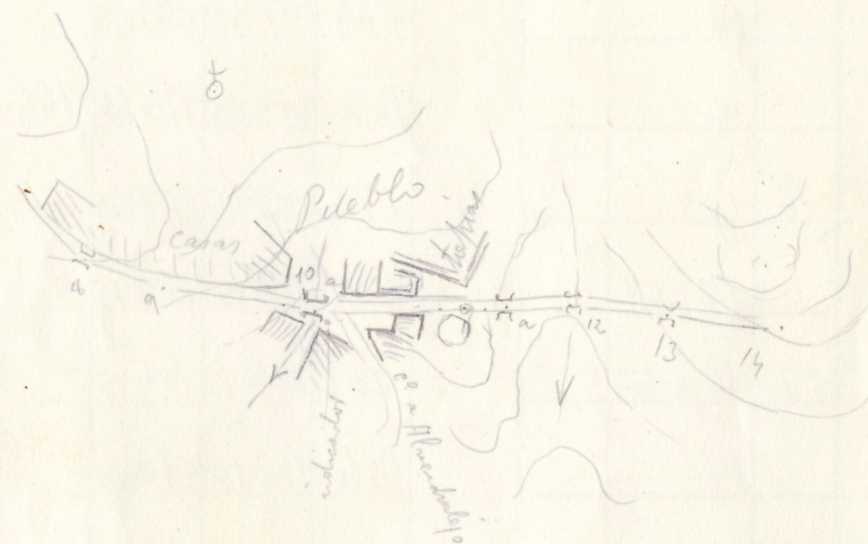
276'6

Termina en el punto .....

| Altitudes | Puntos |
|-----------|--------|
| 293.9     | a      |
| 281.1     | a      |
| 279.1     | b      |
| ,         |        |
| ,         |        |
| 272.6     | 9      |
| 266.0     | 10     |
| 266.8     | a      |
| ,         |        |
| ,         |        |
| 265.4     | 11     |
| 261.1     | 12     |
| 263.9     | a      |
| ,         |        |
| ,         |        |
| 262.6     | 13     |

Determina .....

Croquis y Notas



*Quinto*



Empieza en el

| Estaciones | Puntos Observados | Lecturas de hilos |          | Distancia Metros | Rumbos |       | Distancia Horiz. Metros | Angulos de pendiente o cenitales |           | Desniveles Calculados |
|------------|-------------------|-------------------|----------|------------------|--------|-------|-------------------------|----------------------------------|-----------|-----------------------|
|            |                   | central           | extremos |                  | N.     | S.    |                         | Depresión                        | Elevación |                       |
|            | 14                |                   |          | 1454<br>137      | 10630  | 28630 |                         | 0                                | 8700      | +7.1                  |
| 14         | 13                |                   |          | 136              | 28630  | 10630 |                         | 9306                             |           | 7.3                   |
|            | 15                |                   |          | 155              | 10800  | 28800 |                         | 9205                             |           | 5.6                   |
| 15         | 14                |                   |          | 155              | 28745  | 10745 |                         |                                  | 8757      | -5.5                  |
|            | 16                |                   |          | 174              | 10745  | 28745 |                         | 9119                             |           | -4.0                  |
|            | a                 |                   |          | 147              | 31345  | 13345 | 144                     |                                  | 8245      | -18.4                 |
| 16         | 15                |                   |          | 174              | 28745  | 10745 |                         |                                  | 8439      | 4.1                   |
|            | 17=K1             |                   |          | 248              | 10815  | 28815 |                         |                                  | 8750      | 9.3                   |
| K1=17      | 16 pte            |                   |          | 250              | 28615  | 10615 |                         | 9210                             |           | +9.3                  |
|            | 18                |                   |          | 194              | 13015  | 31015 |                         | 9124                             |           | -4.7                  |
| 18         | 17                |                   |          | 194              | 31000  | 13000 |                         |                                  | 8838      | 4.6                   |
|            | 19                |                   |          | 219              | 13000  | 31000 |                         | 9055                             |           | 3.6                   |
| 19         | 18                |                   |          | 218              | 31000  | 13000 |                         |                                  | 8905      | -3.5                  |
|            | 20 pte            |                   |          | 241              | 12815  | 30815 |                         | 9130                             |           | -6.3                  |
| 20         | 19                |                   |          | 241              | 30815  | 12815 |                         |                                  | 8819      | 6.3                   |
|            | 21                |                   |          | 172              | 13000  | 31000 |                         |                                  | 8647      | 9.6                   |

2.950

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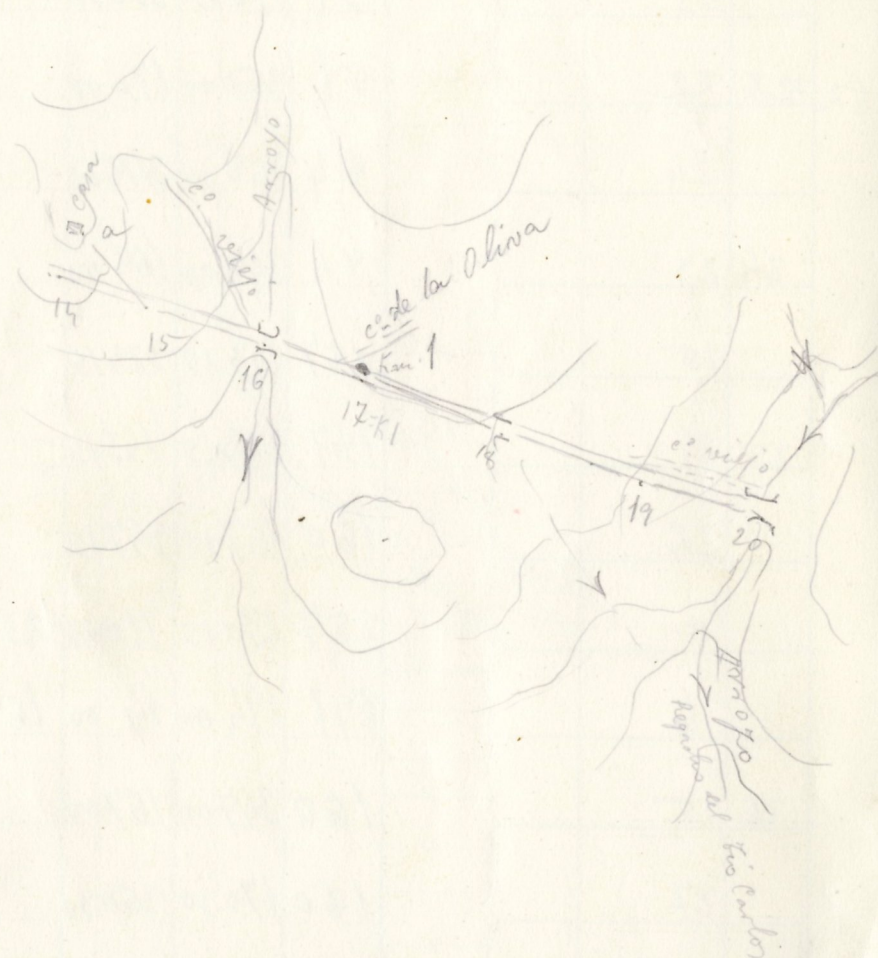
262.6

Termina en el punto

| Altitudes | Puntos  |
|-----------|---------|
| 269.7     | 14      |
| ,         |         |
| ,         |         |
| 264.2     | 15      |
| 260.2     | 16      |
| 282.6     | a       |
| ,         |         |
| ,         |         |
| 269.5     | 17 = K1 |
| 264.8     | 18      |
| ,         |         |
| ,         |         |
| 261.3     | 19      |
| 255.0     | 20      |
| ,         |         |
| ,         |         |

Determina

Croquis y Notas



Quinto



| Estaciones | Puntos Observados | Lecturas de hilos |          | Distanc.<br>Metros | Rumbos |        | Distanc.<br>Horiz.<br>Metros | Ángulos de per.<br>diante ó centales |           | Desniveles<br>Calculados<br>+<br>- |
|------------|-------------------|-------------------|----------|--------------------|--------|--------|------------------------------|--------------------------------------|-----------|------------------------------------|
|            |                   | central           | extremos |                    | N.     | S.     |                              | Depresión                            | Elevación |                                    |
| 21         | 20                |                   |          | 172                | 310 00 | 130 00 |                              | 93 11                                |           | + 9.5                              |
|            | 22                |                   |          | 112                | 160 00 | 340 00 |                              |                                      | 87 18     | + 5.2                              |
| 22         | 21                |                   |          | 112                | 340 00 | 160 00 |                              | 92 44                                |           | 5.3                                |
|            | 23                |                   |          | 51                 | 170 15 | 350 15 |                              | 90 04                                |           | 0.1                                |
| K2 = 23    | 22                |                   |          | 51                 | 350 00 | 170 00 |                              | 90 00                                |           | 0.0                                |
|            | 24                |                   |          | 84                 | 168 00 | 348 00 |                              | 90 16                                |           | - 0.4                              |
| 24         | 23                |                   |          | 84                 | 348 00 | 168 00 |                              |                                      | 89 39     | 0.5                                |
|            | 25                |                   |          | 187                | 143 15 | 323 15 |                              | 91 33                                |           | 5.0                                |
| 25         | 24                |                   |          | 187                | 323 15 | 143 15 |                              |                                      | 88 25     | - 5.1                              |
|            | 26                |                   |          | 160                | 167 15 | 347 15 |                              | 91 30                                |           | - 4.2                              |
|            | a                 |                   |          | 257                | 290 15 | 110 15 | 255                          | 94 42                                |           | - 21.0                             |
|            | b                 |                   |          | 171                | 194 00 | 14 00  | 168                          | 97 01                                |           | - 20.7                             |
| 26         | 25                |                   |          | 160                | 347 00 | 167 00 |                              |                                      | 88 27     | 4.3                                |
|            | 27                |                   |          | 160                | 170 30 | 350 30 |                              | 90 42                                |           | 2.6                                |
| 27         | 26                |                   |          | 160                | 350 30 | 170 30 |                              |                                      | 89 17     | - 2.3                              |
|            | 28                |                   |          | 140                | 154 45 | 334 45 |                              | 91 58                                |           | - 3.7                              |

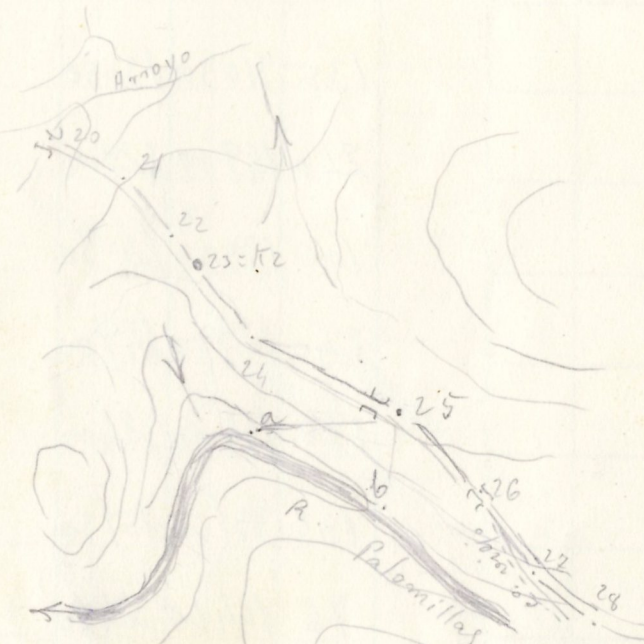
255'0

Termina en el punto .....

| Altitudes | Puntos  |
|-----------|---------|
| 264,5     | 21      |
| 269,7     | 22      |
| ,         | ,       |
| 269,7     | 23 = K2 |
| 269,3     | 24      |
| ,         | ,       |
| 264,2     | 25      |
| 260,0     | 26      |
| 243,2     | a       |
| 243,5     | b       |
| ,         | ,       |
| 257,7     | 27      |
| 254,0     | 28      |

Determina .....

Croquis y Notas



*Quirós*



5.990

R

25410

| Altitudes | Puntos |
|-----------|--------|
|-----------|--------|

*Determina*

*Croquis y Notas*

Mod. T. 12. a.

246.7 a

252031.

252332

253.1 a

251.66

.....

2554 33

256.434

2532a

*Emory*



| Estaciones | Puntos Observados | Lecturas de hilos |          | Distanc.<br>Metros | Rumbos |        | Distanc.<br>Hori. z.<br>Metros | Angulos de per.<br>diante o centales |           | Desniveles<br>calculados<br>+<br>- |
|------------|-------------------|-------------------|----------|--------------------|--------|--------|--------------------------------|--------------------------------------|-----------|------------------------------------|
|            |                   | central           | extremos |                    | N.     | S.     |                                | Depresión                            | Elevación |                                    |
|            | 6                 |                   |          | 34                 | 225 00 | 45 00  | 32                             | 104 25                               |           | -8.2                               |
|            | 34 33             |                   |          | 220                | 307 45 | 127 45 |                                | 90 16                                |           | 1.0                                |
|            | 35 = K4           |                   |          | 110                | 123 45 | 303 45 |                                | 90 37                                |           | 1.2                                |
| K4 = 35    | 34                |                   |          | 110                | 303 45 | 123 45 |                                |                                      | 49 20     | -1.3                               |
|            | 36                |                   |          | 165                | 123 30 | 303 30 |                                |                                      | 89 27     | +1.6                               |
| 36         | 35                |                   |          | 165                | 303 30 | 123 30 |                                | 90 34                                |           | 1.6                                |
|            | 37                |                   |          | 34                 | 125 15 | 335 15 |                                |                                      | 49 00     | 0.6                                |
| 37         | 36                |                   |          | 38                 | 335 00 | 125 00 |                                | 90 56                                |           | +0.6                               |
|            | 38                |                   |          | 190                | 160 30 | 340 30 |                                | 90 08                                |           | -0.4                               |
| 38         | 37                |                   |          | 190                | 340 30 | 160 30 |                                |                                      | 49 51     | 0.5                                |
|            | 39                |                   |          | 160                | 162 45 | 342 45 |                                |                                      | 49 30     | 1.4                                |
| p. 39      | 38                |                   |          | 161                | 342 45 | 162 45 |                                | 90 26                                |           | +1.3                               |
|            | 40                |                   |          | 120                | 159 00 | 339 00 |                                |                                      | 47 49     | +4.5                               |
| A          |                   |                   |          | 221                | 227 30 | 47 30  |                                | 91 17                                |           | -4.9                               |
| A          | 39                |                   |          | 221                | 47 30  | 227 30 |                                |                                      | 48 42     | 5.0                                |
| B          |                   |                   |          | 273                | 243 15 | 63 15  |                                |                                      | 77 22     | 58.0                               |

255.4 (33)

256.4 (34)

Termina en el punto

| Altitudes | Puntos |
|-----------|--------|
| 247.26    |        |
| ,         |        |
| ,         |        |
| 255.135   | = K4   |
| 256.736   |        |
| ,         |        |
| ,         |        |
| 257.337   |        |
| 256.938   |        |
| ,         |        |
| ,         |        |
| 258.239   |        |
| 262.740   |        |
| 253.3     | A      |
| ,         |        |
| ,         |        |

Determina

Croquis y Notas



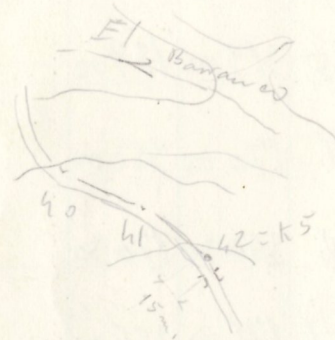
*Lucio*



| Estaciones | Puntos Observados | Lecturas de hilos |          | Distanc.<br>Metros | Rumbos |        | Distanc.<br>Horiz.<br>Metros | Ángulos de per.<br>diante o centales |           | Desniveles<br>Calculados<br>+<br>- |
|------------|-------------------|-------------------|----------|--------------------|--------|--------|------------------------------|--------------------------------------|-----------|------------------------------------|
|            |                   | central           | extremos |                    | N.     | S.     |                              | Depresión                            | Elevación |                                    |
| B          | A                 |                   |          | 273                | 63 15  | 243 15 | 260                          | 102 36                               |           | +57.8                              |
|            | C                 |                   |          | 160                | 255 15 | 75 15  | 158                          |                                      | 82 45     | +20.1                              |
| C          | B                 |                   |          | 160                | 75 15  | 255 15 |                              | 97 14                                |           | 20.0                               |
|            | D                 |                   |          | 192                | 213 30 | 33 30  |                              |                                      | 82 12     | 25.8                               |
| D          | C                 |                   |          | 192                | 33 30  | 213 30 | 189                          | 97 50                                |           | +25.9                              |
|            | E                 |                   |          | 212                | 155 45 | 335 45 | 208                          |                                      | 82 08     | 28.8                               |
| E          | D                 |                   |          | 212                | 335 45 | 155 45 |                              | 97 54                                |           | 28.9                               |
|            | F                 |                   |          | 90                 | 153 45 | 333 45 |                              |                                      | 44 18     | 8.9                                |
| F          | E                 |                   |          | 90                 | 334 00 | 154 00 | 89                           | 95 41                                |           | +8.9                               |
|            | G = Atalaya       |                   |          | 107                | 164 30 | 344 30 |                              |                                      | 87 19     | +5.0                               |
| G          | F                 |                   |          | 107                | 344 30 | 164 30 |                              | 92 44                                |           | 5.1                                |
| 40         | 39                |                   |          | 120                | 339 00 | 159 00 |                              | 92 10                                |           | 4.5                                |
|            | 41                |                   |          | 147                | 110 00 | 290 00 |                              |                                      | 86 14     | 12.2                               |
| 41         | 40                |                   |          | 148                | 290 00 | 110 00 |                              | 93 48                                |           | 12.4                               |
|            | 42 = K5           |                   |          | 133                | 132 00 | 312 00 |                              |                                      | 86 33     | +8.0                               |
| 42         | 41                |                   |          | 133                | 312 15 | 132 15 |                              | 93 30                                |           | 8.1                                |

|                   |                     |
|-------------------|---------------------|
| 253.3 (A)         | Termina en el punto |
| Altitudes         | Puntos              |
| 311.1 B           | Determina           |
| 331.2 C           |                     |
|                   | Croquis y Notas     |
|                   |                     |
| 357.1 D           |                     |
| 385.9 E           |                     |
|                   |                     |
|                   |                     |
| 394.8 F           |                     |
| 399.8 G = Atalaya |                     |
|                   |                     |
|                   |                     |
| 262.7 40          |                     |
| 275.1 41          |                     |
| 283.1 42 = K5     |                     |
|                   |                     |

Mod. T. 12. a.



*Quiero*



| Estaciones | Puntos Observados | Lecturas de hilos |          | Distanc.<br>Horiz.<br>Metros | Rumbos |        | Distanc.<br>Horiz.<br>Metros | Ángulos de per.<br>diédre o cenitales |           | Desniveles<br>Calculados<br>+<br>- |
|------------|-------------------|-------------------|----------|------------------------------|--------|--------|------------------------------|---------------------------------------|-----------|------------------------------------|
|            |                   | central           | extremos |                              | N.     | S.     |                              | Depresión                             | Elevación |                                    |
|            | 43                |                   |          | 158                          | 137 00 | 317 00 |                              |                                       | 86 10     | 10.5                               |
| 43         | 42                |                   |          | 158                          | 317 00 | 137 00 |                              | 93 53                                 |           | +10.6                              |
|            | 44                |                   |          | 113                          | 139 45 | 319 45 |                              |                                       | 86 14     | +7.4                               |
| 44         | 43                |                   |          | 112                          | 319 45 | 139 45 |                              | 93 51                                 |           | 7.5                                |
|            | 45                |                   |          | 95                           | 138 45 | 318 45 |                              |                                       | 88 50     | 1.9                                |
| 45         | 44                |                   |          | 95                           | 319 00 | 139 00 |                              | 91 07                                 |           | +1.9                               |
|            | 46                |                   |          | 48                           | 170 00 | 350 00 |                              |                                       | 89 54     | +0.0                               |
| 46         | 45                |                   |          | 48                           | 350 30 | 170 30 |                              | 90 05                                 |           | 0.1                                |
|            | 47                |                   |          | 251                          | 176 00 | 356 00 |                              | 91 02                                 |           | 4.5                                |
| 47         | 46                |                   |          | 252                          | 356 00 | 176 00 |                              |                                       | 88 57     | -4.6                               |
|            | 48                |                   |          | 162                          | 171 45 | 351 45 |                              | 93 18                                 |           | -9.3                               |
| 48         | 47                |                   |          | 162                          | 351 45 | 171 45 |                              |                                       | 86 40     | -9.4                               |
|            | 49                |                   |          | 155                          | 165 45 | 345 45 |                              | 93 52                                 |           | 10.4                               |
| K.B. = 49  | 48                |                   |          | 155                          | 345 45 | 165 45 |                              |                                       | 86 10     | -10.3                              |
|            | 50                |                   |          | 70                           | 164 30 | 344 30 |                              | 93 37                                 |           | -4.4                               |
| 50         | 49                |                   |          | 70                           | 344 15 | 164 15 |                              |                                       | 86 18     | 4.5                                |

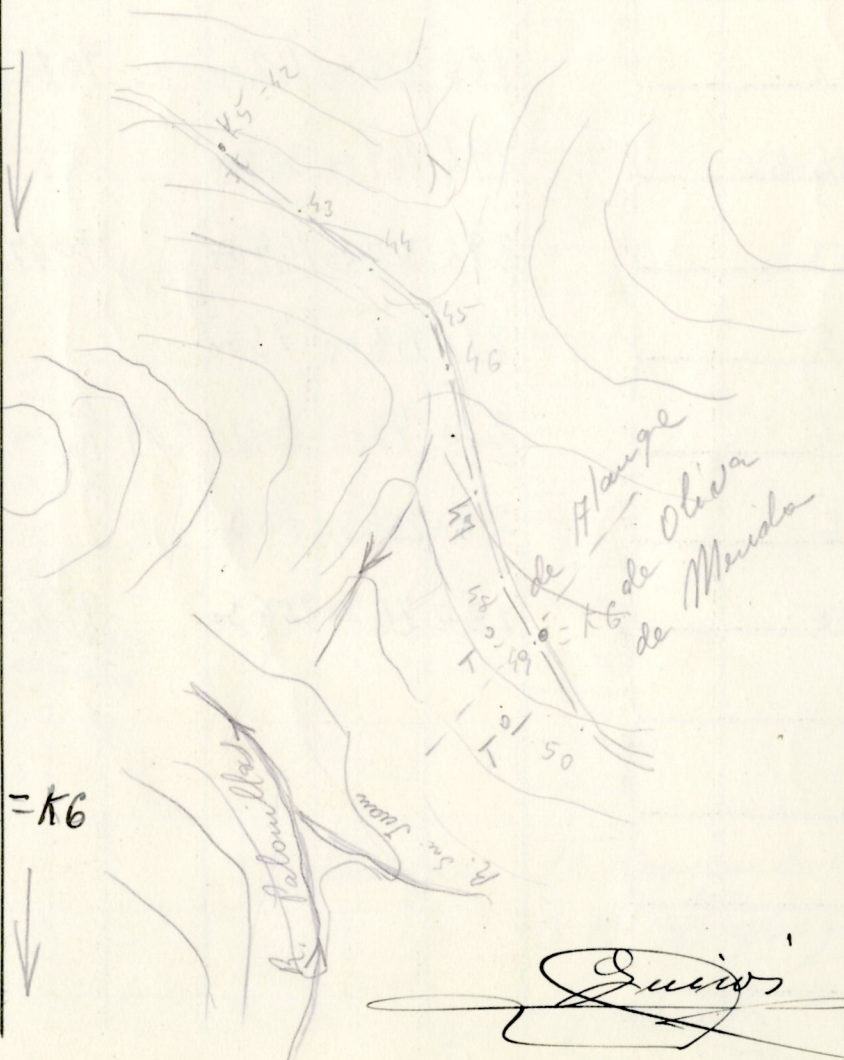
2831

| Altitudes | Puntos  |
|-----------|---------|
|           |         |
|           |         |
| 293.7     | 43      |
| 301.1     | 44      |
|           |         |
|           |         |
| 303.0     | 45      |
| 303.0     | 46      |
|           |         |
|           |         |
| 298.4     | 47      |
| 289.1     | 48      |
|           |         |
|           |         |
| 278.8     | 49 = K6 |
| 274.4     | 50      |
|           |         |

Termina en el punto           

Determina           

Croquis y Notas



Quiero



[illegible]

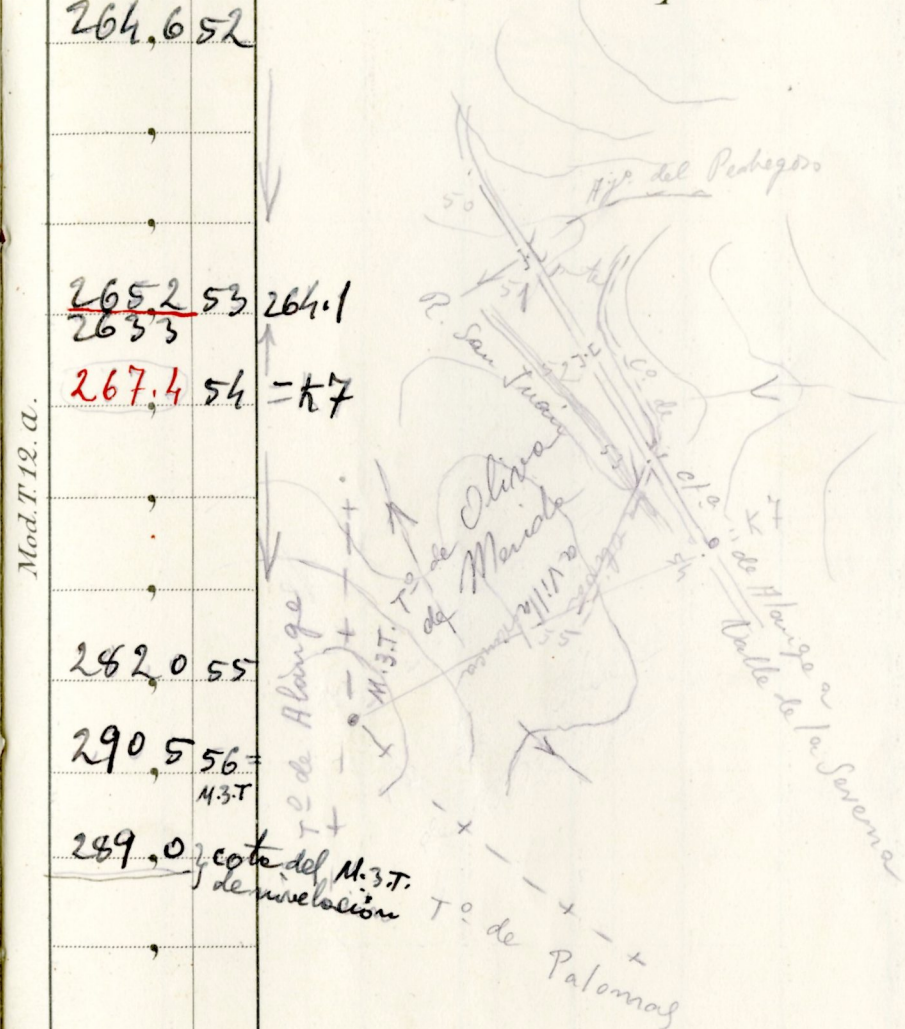
M.3.T.

| Altitudes          | Puntos |
|--------------------|--------|
| 266,251            |        |
| 264,652            |        |
| <del>265,253</del> |        |
| 263,3              |        |
| 267,4              | 54     |
| 262,0              | 55     |
| 290,5              | 56     |
|                    | N.3.T  |
| 289,0              | 57     |
|                    | de     |

*Termina en el punto...*

*Determina*

*Croquis y Notas*



Alange 10 Noviembre 1936  
El Topógrafo  
Recebo C. Lino's  
Ma-



