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PLAN NACIONAL DE ABASTECIMIENTO
DE MATERIAS PRIMAS NO ENERGETICAS

502

FASE PRELIMINAR DE PROSPECCION DE RECURSOS GEOTERMICOS DE BAJA ENTALPIA EN EL VALLES (BARCELONA)

TOMO II. PROSPECCION GRAVIMETRICA.

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

00502

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TOMO II. PROSPECCION GRAVIMETRICA.

COMPAÑIA GENERAL DE SONDEOS S.A.

DICIEMBRE 1977

TOMOS QUE COMPRENDE ESTE INFORME

TOMO I - ESTUDIO GEOLOGICO, HIDROGEOLOGICO Y GEOTERMICO.

TOMO II - PROSPECCION GRAVIMETRICA.

TOMO III - PROSPECCION ELECTRICA (Resistividades y Autopotenciales).

TOMO IV - ANEXOS.- ANALISIS QUIMICOS Y CURVAS DE S.E.V.

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0.- RESUMEN Y CONCLUSIONES.

Se han medido 448 estaciones de gravimetría, separadas unos 500 m., con el objeto de complementar unas mediciones efectuadas en 1973. Los valores están unidos a la R.G.F. de 1960 y efectuadas todas las correcciones que implica el sistema.

Para el tratamiento de datos, estas nuevas estaciones se han unido a las antiguas, disponiendo en total de 1016 mediciones, de las que se ha interpolado graficamente una malla de 500 m. de paso.

Estos valores se han procesado primeramente para filtrarles frecuencias superiores a 0.25 c/i y posteriormente se ha calculado la continuación de campo a 2 pasos de malla, considerada como regional, su consiguiente residual así como la primera y segunda derivadas verticales. Todos estos valores se han transportado por plotter, dibujando los mapas de isovalores, así como los perfiles, sobre los que se ha fundamentado la interpretación.

El tratamiento digital seguido lleva consigo una pérdida de una zona de borde de 3 a 4 Km, ya tenida en cuenta en la toma de datos en campo.

Posteriormente se ha analizado la información sísmica, eléctrica, magnética, mapa de Bouguer, residual y deri-

vadas, obteniendo un único plano de interpretación, donde quedan reflejadas las principales fallas y discontinuidades.

En conclusión, la depresión del Vallés en su parte norte oriental está limitada al norte por una falla y al sur por un sistema escalonado que sitúa la parte más - hundida al Sur-Oeste de la Garriga. De Oeste a Este existen también zonas de diferente hundimiento, limitadas - por un sistema fallas ortogonal al anterior

Es digno de mención que las fallas detectadas por el - magnetometro se acusan con mínimos de susceptibilidad - magnética.

Ministerio de Industria
Instituto Geológico
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Referencia jlp/pmg

INFORME - FASE PRELIMINAR DE PROSPECCION DE LOS RECURSOS GEOTERMICOS DEL VALLES (BARCELONA).

1.- OBJETO DE LA CAMPAÑA. ANTECEDENTES.

Este trabajo pertenece a la fase preliminar de prospección de los recursos geotérmicos del Vallés (Barcelona).

En los trabajos realizados por la Compañia General de Sondeos y en particular en un estudio por el método de S.E.V., se vió la existencia de una discontinuidad en la cuenca del Vallés, al Sur de la línea La Garriga-Caldas de Mombuy, así como un sistema de pequeñas fallas, ortogonal al anterior.

El mejor conocimiento de la estructura de la parte oriental de la depresión del Vallés, y especialmente de la zona antes aludida, es el objeto de esta campaña gravimétrica.

Se dispone de los siguientes documentos:

- Gravimetría 1/50.000, realizada por el IGME en esta región en 1973 (autorizada su utilización por APEX).
- Geología 1/25.000 y 1/10.000, realizada por la Compañía General de Sondeos en 1976.
- Perfiles sísmicos realizados en 1974, por la Compañia - General Geofísica (autorizada su utilización por APEX).
- Prospección eléctrica realizada por Cia.General de Sondeos en 1977.

2.- SISTEMA DE TRABAJO ELEGIDO.

La gravimetría de 1973 resulta insuficiente para la resolución del problema planteado, por varias razones: la estructura de la depresión no queda definida, al no disponer de valores exteriores a la misma; la densidad de mediciones en la zona Caldas-La Garriga es insuficiente; y finalmente, se hace necesario disponer de unos valores "de borde", en razón del tratamiento que se va a aplicar a la mediciones: filtros digitales, continuación y derivación de campos.

Se ha procedido pues, a una ampliación y complementación del trabajo de 1973.

En el plano nº 1 se indican los itinerarios antiguos y los nuevos, así como la zona propiamente a estudiar y la de "borde", estando ésta lógicamente con menos densidad de medidas.

3.- MEDICIONES Y CALCULOS DEL BOUGUER.

3.1.- Equipo de trabajo.

Del 16 de mayo al 30 de junio de 1977, se ha desplazado un equipo a Mataró, donde se instaló una oficina de calculo.

Participaron en este equipo:

Jefe de Equipo:	D.Juan L.Plata Torres
	Dr.Ingeniero de Minas
Topografía:	D.Julian Coronel
	Perito de Minas
Gravimetría:	D.Ceferino Avilero
	Facultativo de Minas
	D.Luis Paniagua
	Auxiliar Administrativo

Un mecánico y 4 peones

Participó además en los cálculos el Ingeniero de Minas, D.Miguel Rodriguez González.

Se utilizó el gravimétro Worden 553, calibrado en las bases de Fraga el día 8-6-77, de constante K=0.10276 y el magnetómetro de protones Geometrics 816.

La topografía se realizó con taquimetros Wild T1-A.

Para los cálculos de topografía y gravimetría se emplearon en oficina máquinas HP-67 con programas propiedad del IGME.

3.2.- Topografía.

Se han levantado un total de 448 estaciones, a 500 m.

Dada la necesidad de disponer de las coordenadas y cotas al día, a fin de poder calcular los valores de anomalías, se ha seguido el sistema de compensar los itinerarios - por cierres en vértice a N.A.P., esperando a disponer de un polígono cerrado solo en caso de no existir las señales topográficas anteriores.

Los tramos en antena se han cerrado por itinerarios de - ida y vuelta, apoyándose en algun caso en puntos aun existentes del trabajo de 1973.

En los planos 2 y 3 se indican los errores de cierres, - aceptados con el criterio e 10 K (K longitud del itinerario en Km, e en m. para planimetría y cm. para altimetría).

Se ha empleado el sistema de coordenadas Lambert.

3.3.- Gravimetría.

3.3.1. Bases.

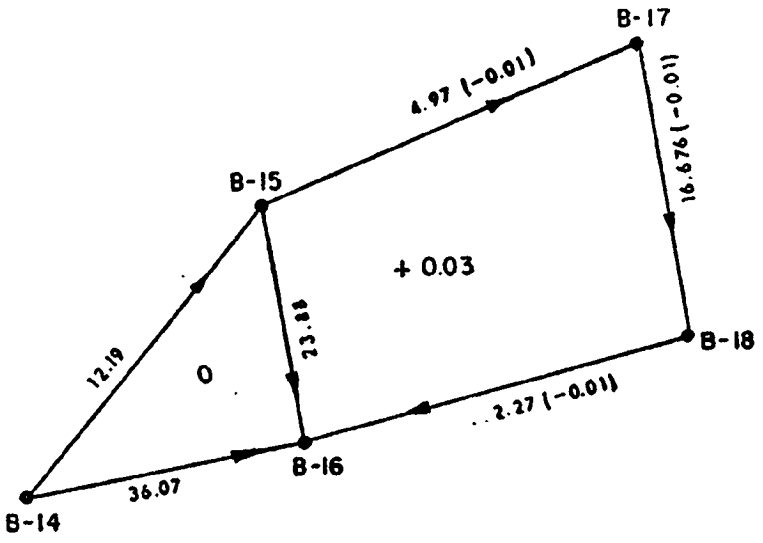
En el plano 1 se indica la red de bases y en el croquis adjunto sus cierres. La de partida ha si-

ESQUEMA DE CIERRES DE BASES

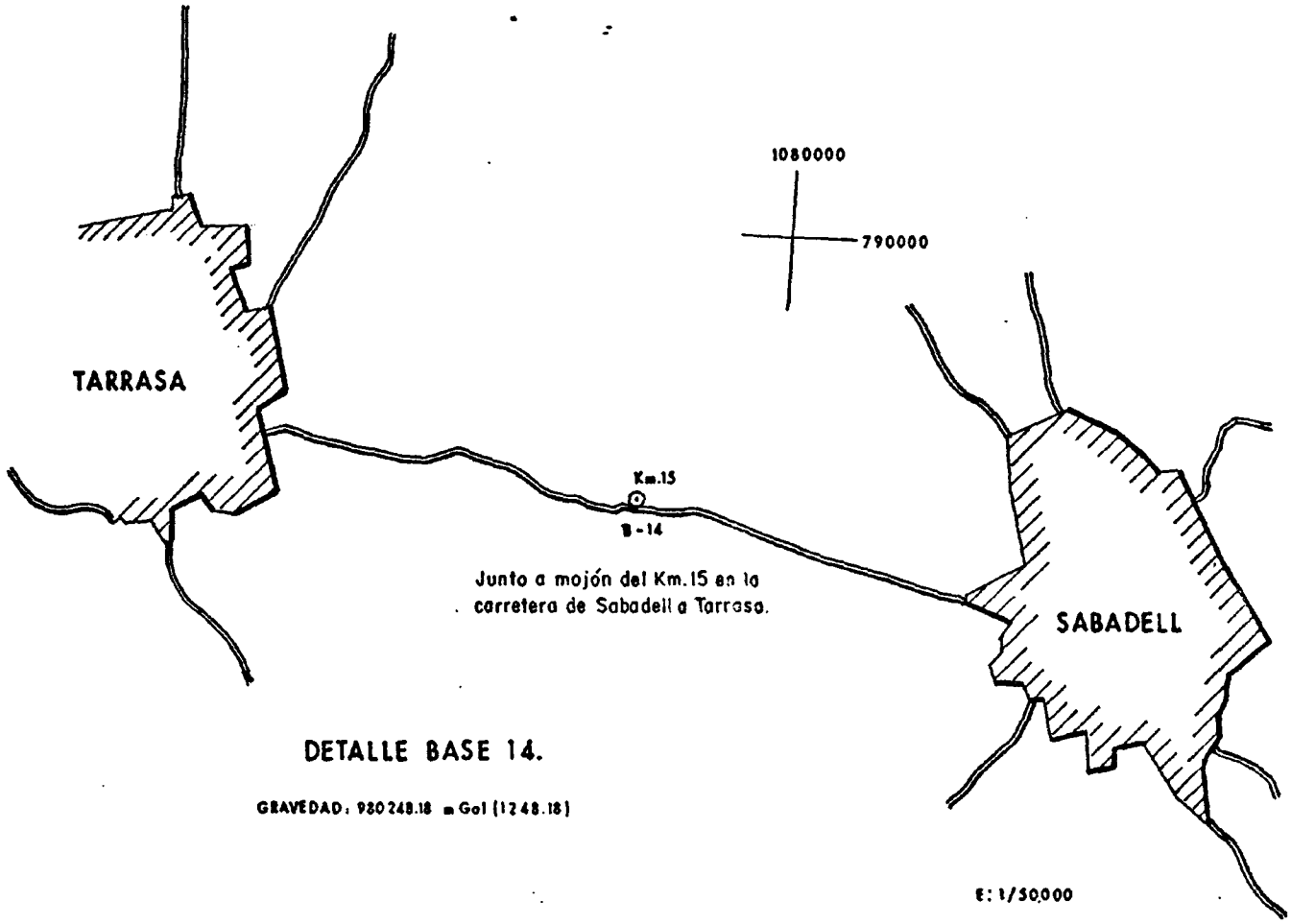
Gravimetria en Mataró

Worden 553.

1977.



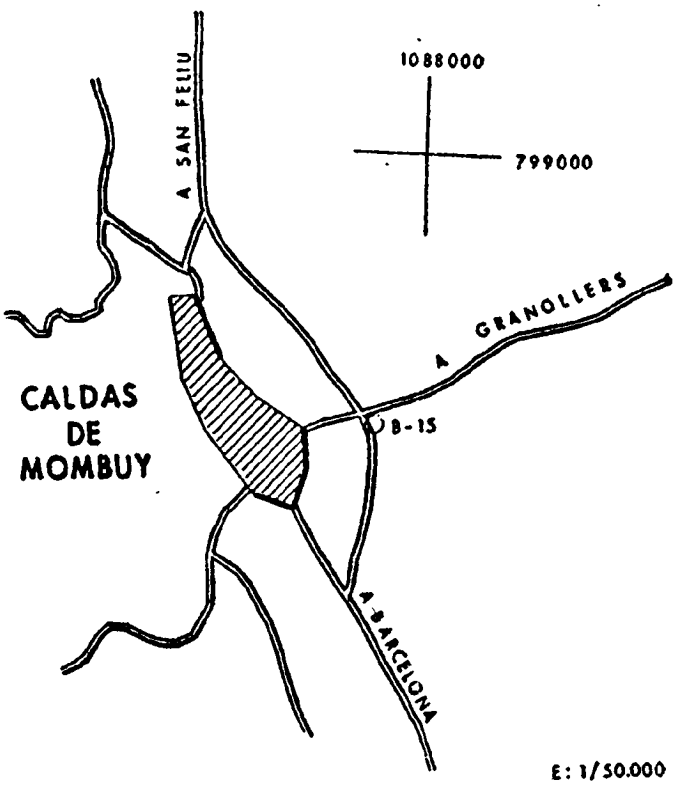
Incrementos en mGal



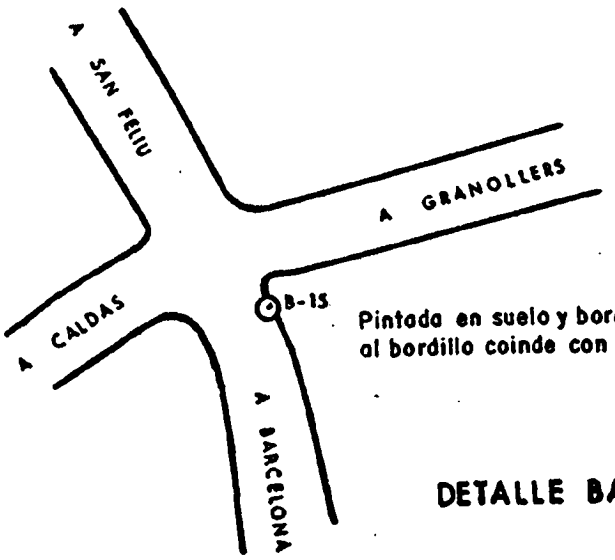
DETALLE BASE 14.

GRAVEDAD: 980248.18 m Gal (1248.18)

E: 1/50.000



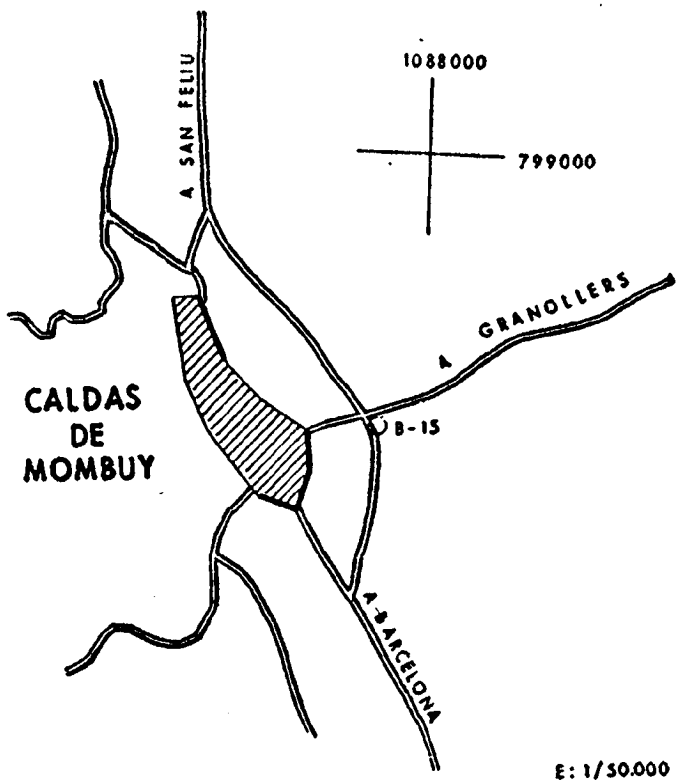
E: 1/50.000



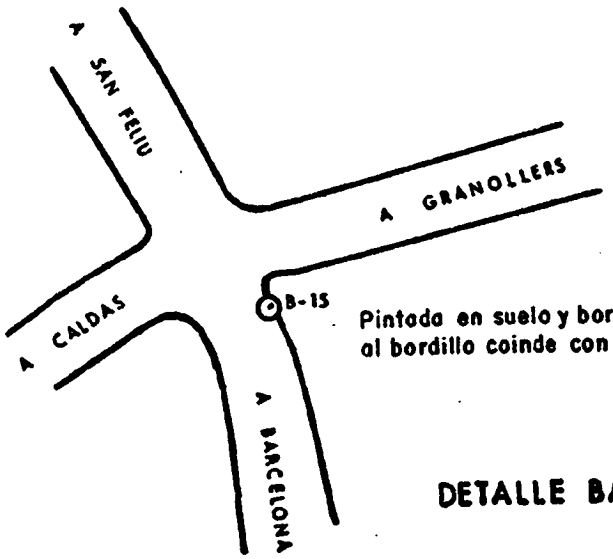
Pintada en suelo y bordillo; pegada al bordillo coinde con la estación 275.

DETALLE BASE 15

GRAVEDAD: 980260.37 (1260.37) m Gal



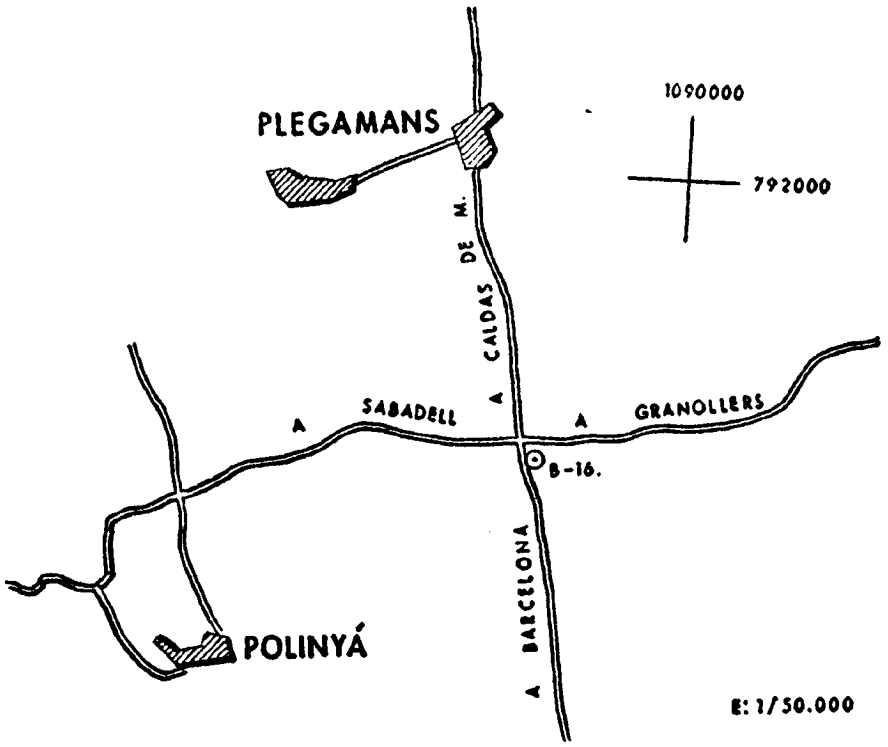
E: 1/50.000

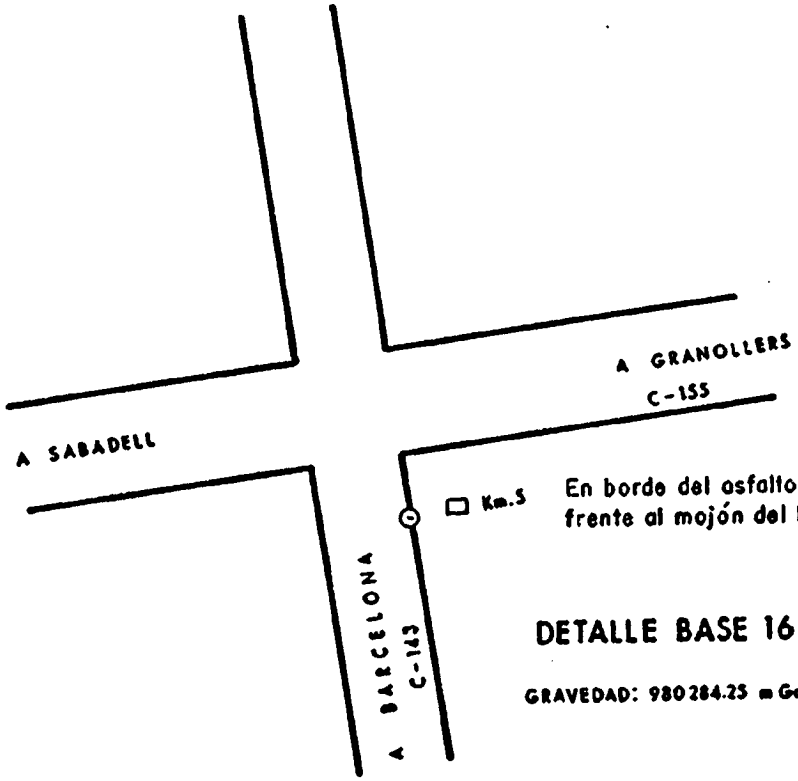


Pintada en suelo y bordillo; pegada al bordillo coinde con la estación 275.

DETALLE BASE 15

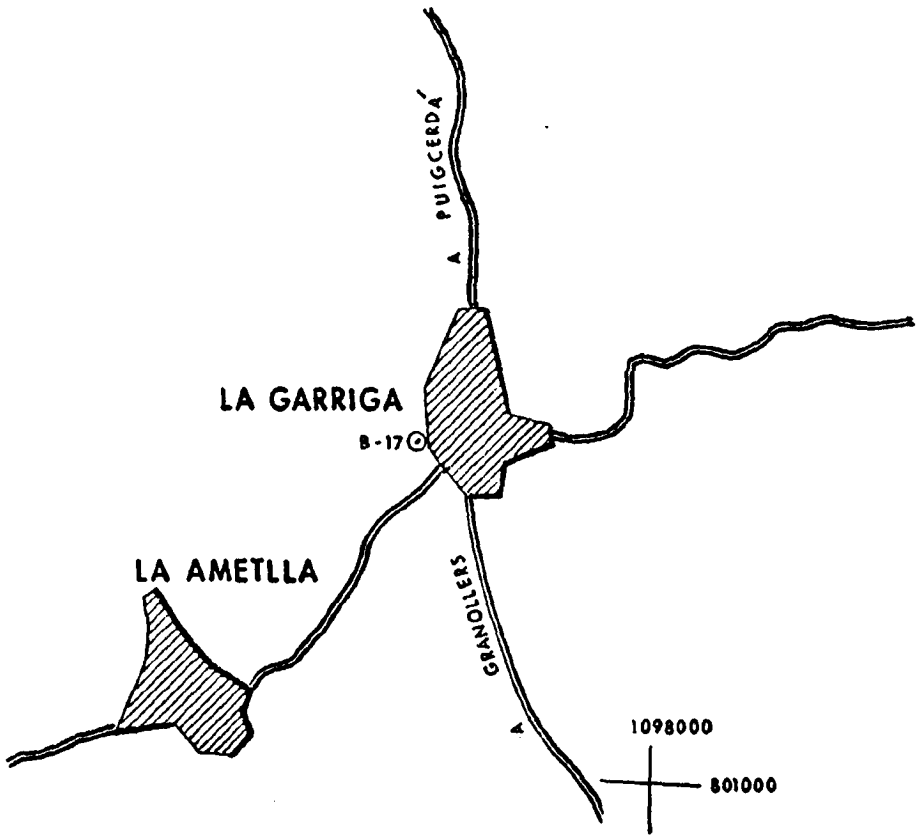
GRAVEDAD: 980260.37 (1260.37) m Gal



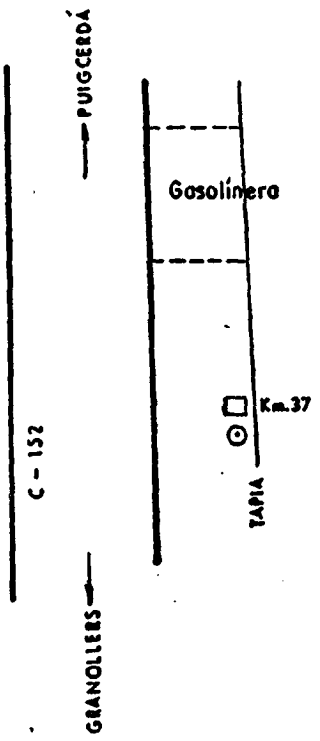


DETALLE BASE 16.

GRAVEDAD: 980284.25 m Gal (1284.25)



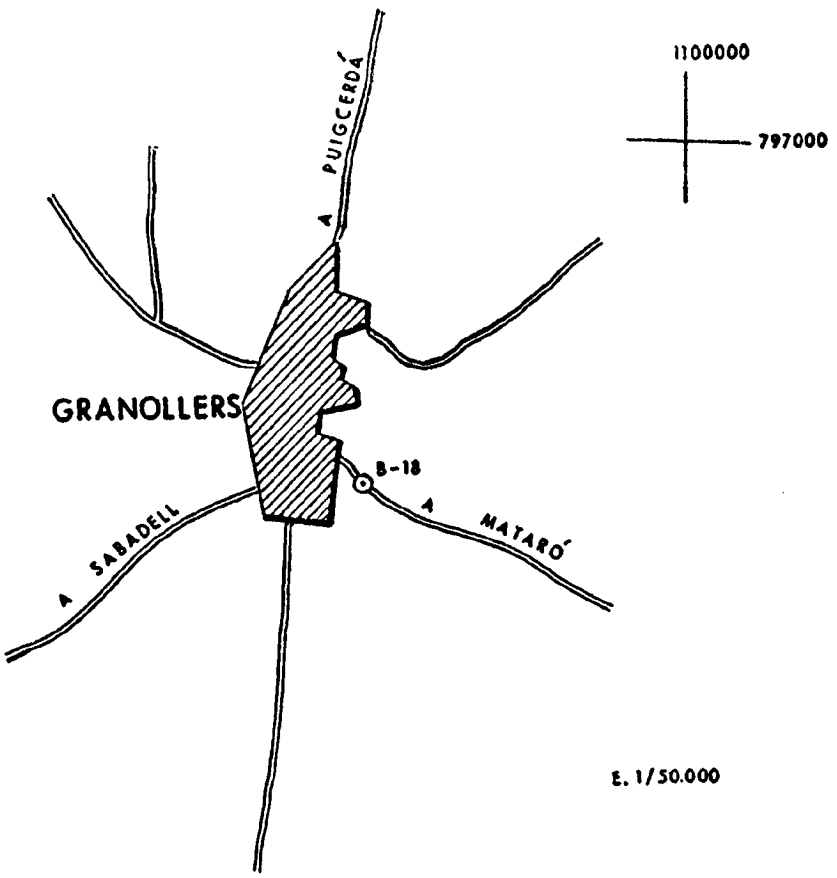
E. 1/50.000

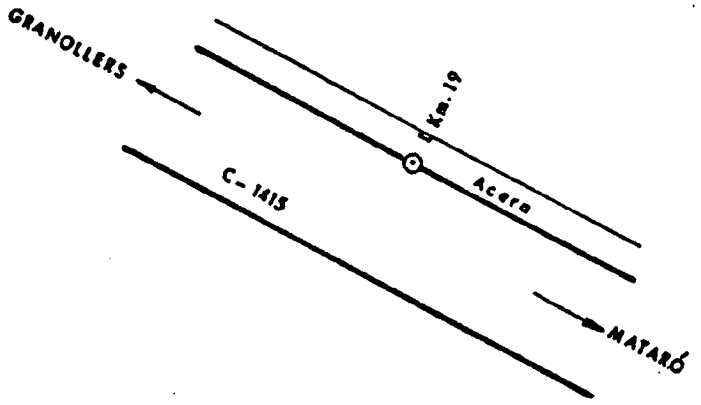


DETALLE BASE 17.

GRAVEDAD 980265.33 m Gal (1265.33)

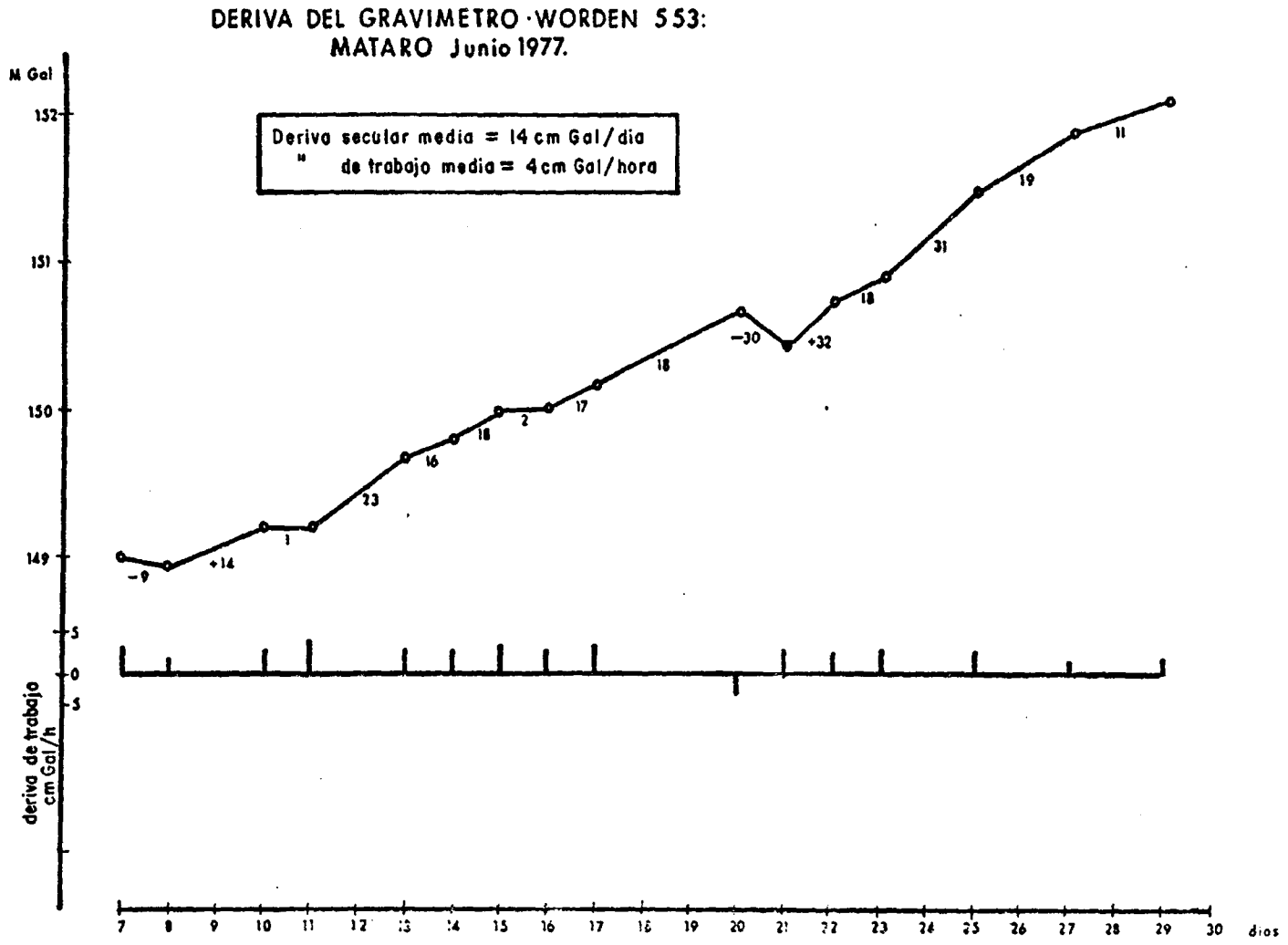
Junto a majón del Km 37 pintado en la tapia coincide con la estación 177.



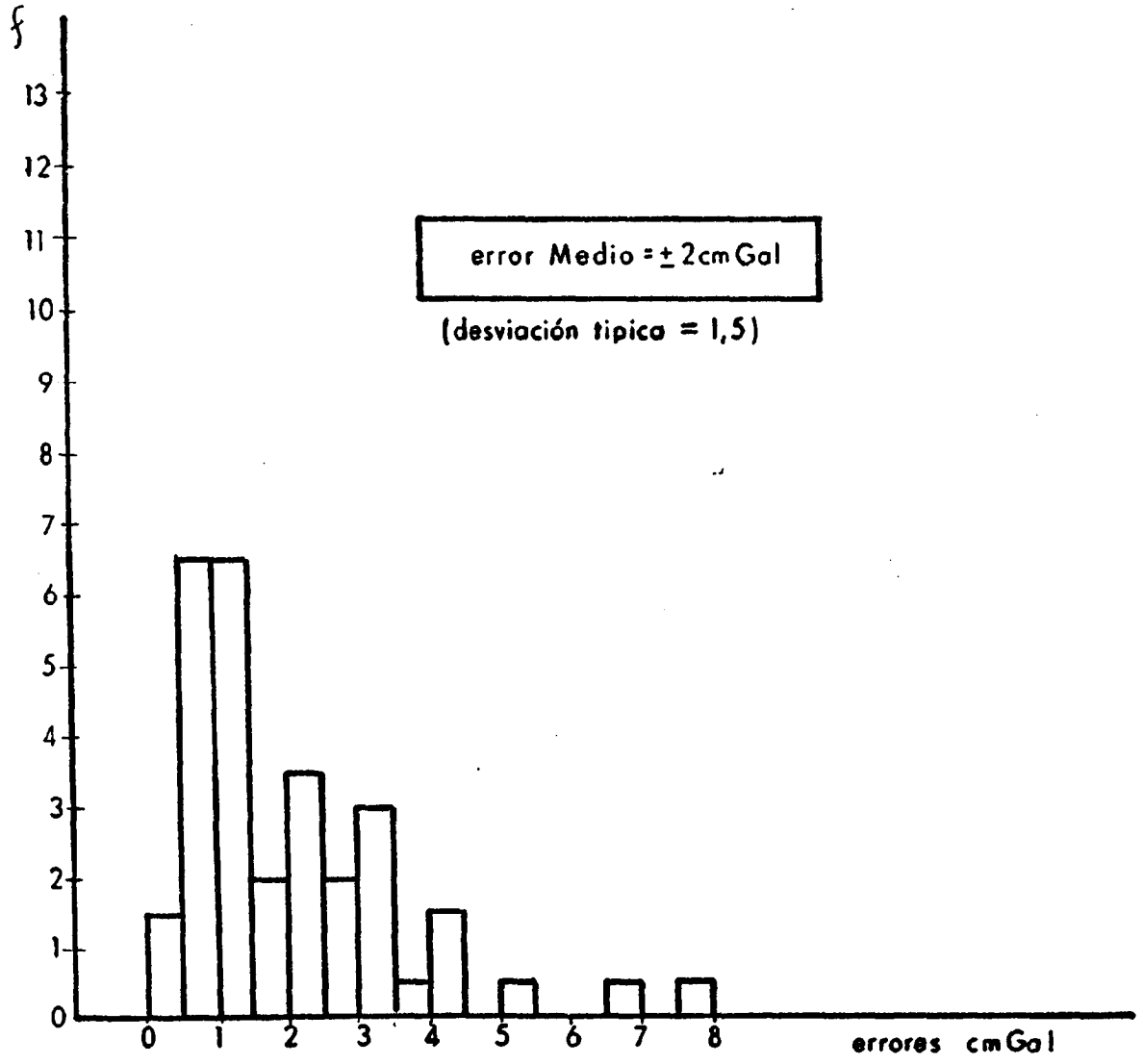


DETALLE BASE 18

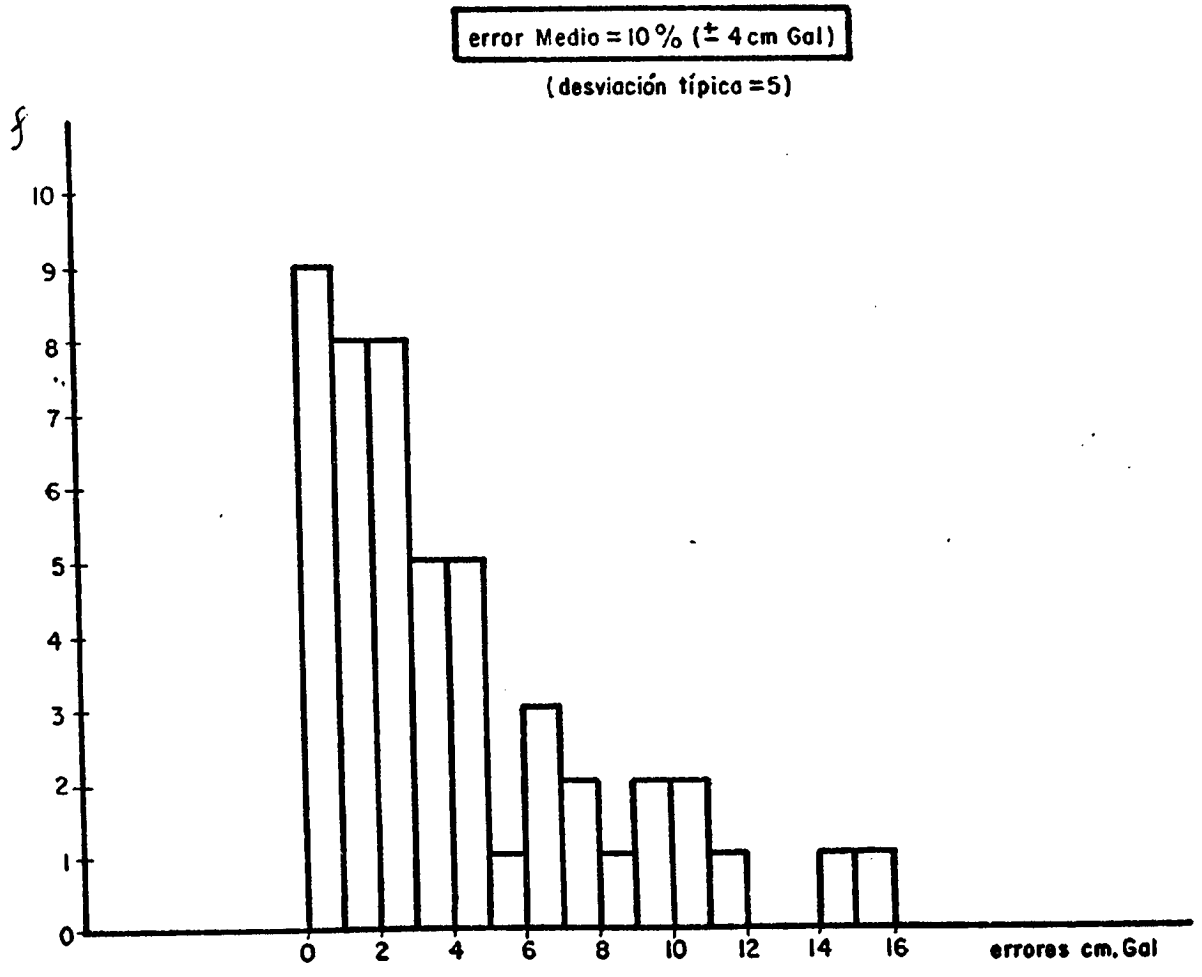
GRAVEDAD · 980281.99 m Gal (1281.99)


DERIVA DEL GRAVIMETRO WORDEN 553:
MATARO Junio 1977.
M Gal
152
151
150
149
Deriva secular media = 14 cm Gal/dia
" de trabajo media = 4 cm Gal/hora
-9
+14
1
23
16
18
2
17
18
-30
+32
18
31
19
11
5
0
5
deriva de trabajo cm Gal/h
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
dias

DISTRIBUCION DE ERRORES DE LECTURA DEL GRAVIMETRO
POR REPETICION DEL 10 % DE LAS MEDIDAS.-ZONA MATARO.
- WORDEN 553 -



DISTRIBUCIÓN DE ERRORES EN LA CORRECCIÓN TOPOGRÁFICA MEDIA (ZONAS E á I DE HAMMER) POR REPETICION DE 50 ESTIMACIONES CON PLANTILLA.— ZONA MATARÓ



Error Medio estimado en C.T. próxima (B-C-D) = 15 %
" " " larga (JáM) = 10 %

do la base 14 (de Sabadell) perteneciente al trabajo de 1973, con un valor absoluto de 980248.18 mGal (se han - sustraido 979.000, adjudicandole 1248.18 mGal, para ma- nejo de menor nº de cifras).

Esta base está unida a la Red Gravimétrica Fundamental - del I.G.C. de 1960 (Elipsoide de 1930, de Hayford).

Se adjunta los croquis y descripciones para localización futura de las nuevas bases.

3.3.2. Control del gravimetro.

Se estableció un punto fijo, donde se - efectuaron lecturas al principio y final de cada jornada de medición, con el objeto de controlar la deriva del - gravímetro. Estas se representan en el gráfico adjunto , corregidas de variación L-S. La deriva media secular fué de 14 cmGal/día y la de trabajo de 4 cmGal/h.

Las mediciones del día 21 fueron repetidas en programas posteriores.

3.3.3. Control de las lecturas.

A fin de determinar la calidad de las - lecturas del gravímetro se han repetido un 10% de las - medidas, en programas independientes. La distribución de errores se muestra en el gráfico adjunto, siendo el error medio de $\pm$ 2 cmGal.

3.3.4. Correcciones.

a) Deriva: se ha hecho por interpolación lineal de los valores medidos en base, con programas de 120 minutos.

b) Luni-solar: empleando las tablas publicadas por la E.A.E.G.

c) corrección topográfica (método de Hammer)

- próxima (B-C-D) a la estima en campo. Error normal del 15%.

- media (E a I): en plano 1/50.000. Error calculado por repetición de 50 correcciones: 10%.
- larga (J a M): por interpolación según el método de Neuman, sobre malla de 5000 m. en plano 1/200.000. Error normal de 10%.

Según puede verse en los listados adjuntos de valores, la C.T. total llega a ser bastante elevada en algunos itinerarios.

El error total, de la C.T., produce un ruido en el plano de Bouguer, que junto con otras consideraciones que haremos más adelante, justifica el filtrado de los valores.

d) corrección por latitud, aire libre y bouguer.

Según el método habitual, para densi-

dad 2.0. Mediante el factor de conversión C, se han obtenido los valores en densidad 2.4, ya que fué esta la adoptada en 1973.

$$A_{2.4} = A_{2.0} - \left(\frac{d-2}{2}\right)C$$

En el listado de valores quedan registrados:

E : Estación
X, Y, Z: coordenadas Lambert y cota absoluta en metros
G : gravedad medida
GN: gravedad normal sobre el geoide
T : corrección topográfica total
A : anomalía en densidad 2.0
C : factor de conversión
AL: anomalía en densidad 2.4

Todos los valores gravimétricos están indicados en cmGal.

Listado de valores medidos en la campaña de 1977

:atoro 1977

S	X	Y	Z	G	GN	T	A	C	A1
1	1106[illegible]	[illegible]	18641	126126	132682	64	- 291	1476	- 576
2	1105897	799152	19337	127853	132684	85	- 399	1534	- 796
3	1105377	799160	20156	127570	132684	82	- 501	1605	- 822
4	1104910	799041	18685	127795	132677	91	- 591	1473	- 885
5	1104366	799009	20709	127303	132669	72	- 639	1661	- 971
6	1103939	798869	20516	127306	132664	72	- 719	1628	-1044
7	1103446	798729	19422	127366	132660	73	- 825	1553	-1135
8	1102944	798647	19204	127354	132656	73	- 912	1534	-1219
9	1102735	798213	20179	127017	132703	79	-1066	1612	-1389
10	1102777	799597	20992	126822	132734	78	-1115	1679	-1450
11	1102388	799860	21550	126698	132755	78	-1134	1726	-1479
12	1102886	800367	22699	126441	132795	81	-1170	1819	-1534
13	1102850	800825	23561	126233	132832	86	-1217	1886	-1594
14	1102777	801316	24874	125935	132872	90	-1255	1992	-1654
15	1102768	801814	26075	125703	132912	98	-1250	2084	-1667
16	1102794	802355	27452	125447	132956	102	-1236	2196	-1675
17	1102667	802789	28500	125263	132991	110	-1212	2275	-1667
18	1102548	803335	29939	125021	133036	125	-1160	2381	-1636
19	1102521	803762	31209	124791	133071	145	-1119	2467	-1612
20	1102280	804215	32387	124636	133108	173	-1019	2538	-1526
21	1102069	804591	34934	124199	133140	180	- 908	2744	-1456
22	1101870	804597	38105	123543	133141	161	- 871	3028	-1477
23	1101623	804956	40765	123183	133172	189	- 630	3223	-1280
24	1101129	805119	41658	123263	133188	264	- 296	3223	- 940
25	1100773	804983	41970	123123	133178	238	- 333	3225	- 978
26	1100459	804730	41834	123072	133164	272	- 416	3230	-1061
27	1100062	804340	40242	123210	133147	252	- 638	3116	-1262
28	1099672	804299	37921	123555	133129	219	- 831	2955	-1422
29	1099251	804240	37500	123692	133127	217	- 788	2922	-1372
30	1098857	804183	37855	123682	133124	239	- 694	2929	-1280
31	1098601	803994	35808	124062	133111	207	- 792	2790	-1350
32	1098167	803986	35025	124284	133112	212	- 743	2720	-1287
33	1097928	803804	34370	124400	133099	178	- 795	2699	-1334
34	1097710	803603	32349	124808	133084	163	- 841	2545	-1350
35	1097446	803281	29827	125271	133059	155	- 928	2342	-1397
36	1096914	803366	26539	125888	133069	165	-1050	2056	-1461
37	1102633	803562	31319	124766	133054	117	-1131	2504	-1632
38	1103283	803376	31508	124719	133035	108	-1125	2529	-1631
39	1103679	803396	30250	124975	133035	121	-1139	2411	-1621
40	1104147	803319	30329	124985	133026	110	-1113	2429	-1599
41	1104495	803135	28834	125276	133013	111	-1144	2302	-1605
42	1104996	803117	28228	125433	133005	119	-1107	2244	-1556
43	1105590	803038	26931	125731	132999	113	-1101	2141	-1530
44	1105949	802917	25742	126004	132984	108	-1085	2047	-1494
45	1106342	802727	24893	126217	132966	103	-1050	1981	-1446
46	1106556	802271	23856	126472	132928	98	- 995	1899	-1375
47	1106609	801843	23258	126635	132894	94	- 936	1853	-1307
48	1106774	801374	22405	126922	132855	93	- 803	1782	-1160
49	1106860	800901	21629	127187	132816	86	- 681	1724	-1026
50	1106836	800437	21144	127370	132779	82	- 574	1688	- 911
51	1106811	799849	20541	127640	132732	82	- 392	1637	- 720
52	1106787	799411	19486	128009	132697	86	- 221	1545	- 530
53	1106790	798742	18725	128465	132643	115	147	1452	- 144
54	1107018	798462	22205	127852	132619	109	334	1750	- 16
55	1107043	798122	24971	127303	132591	134	459	1956	68
56	1106801	798079	27826	126711	132589	145	522	2184	85
57	1106844	797633	31150	126126	132553	124	699	2483	203
58	1106827	797198	30548	126288	132518	84	721	2473	226

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59	1106761	797737	26796	127034	132481	125	699	2117	276
60	1106976	796456	25696	127272	132458	97	688	2054	277
61	1106934	796061	23340	127738	132422	139	700	1814	337
62	1106668	795623	20512	128338	132391	149	707	1568	393
63	1106757	795159	17466	128974	132354	158	704	1304	443
64	1106832	794781	15106	129455	132325	145	671	1119	447
65	1106942	794413	14465	129691	132293	137	787	1074	572
66	1107253	794206	13921	129889	132275	105	849	1060	637
67	1107461	794630	14795	129619	132309	144	781	1094	562
68	1107373	794656	15933	129494	132308	100	865	1234	622
69	1108309	794924	16669	129398	132327	106	924	1289	667
70	1108864	794909	16671	129422	132324	112	958	1283	701
71	1108752	794505	16246	129165	132291	98	1074	1429	788
72	1109224	794413	18699	129189	132281	101	1213	1464	920
73	1109580	794379	19749	129008	132276	88	1260	1565	947
74	1109393	794657	20383	128882	132297	101	1270	1605	949
75	1110295	794894	21387	128691	132313	104	1289	1686	952
76	1110579	795050	21470	128721	132324	117	1340	1680	1004
77	1106735	793846	13396	130063	132249	171	997	950	807
78	1106395	793625	13020	130094	132233	208	996	882	820
79	1106317	793120	12223	130318	132192	185	1058	838	891
80	1106415	792731	12013	130462	132161	141	1143	864	970
81	1106414	792308	11594	130626	132127	104	1210	806	1036
82	1106131	791999	10555	130780	132103	112	1162	771	1007
83	1105902	791740	10681	130796	132084	102	1175	792	1017
84	1105654	791998	12616	130304	132106	85	1119	971	925
85	1105530	792304	14159	129930	132131	96	1078	1089	860
86	1105378	792679	15581	129592	132162	117	1049	1167	812
87	1105111	793042	18688	128854	132193	135	1001	1425	716
88	1104949	793045	20543	128488	132194	125	1037	1594	718
89	1104738	792852	23333	127922	132180	111	1099	1842	730
90	1104546	792726	25603	127425	132170	105	1114	2038	707
91	1104183	792711	28232	126919	132171	86	1180	2277	725
92	1103735	792673	28433	126769	132171	79	1069	2301	609
93	1103352	792530	26088	127193	132161	107	993	2077	578
94	1103246	792103	24125	127626	132127	99	1021	1920	637
95	1103049	792176	22186	127966	132134	96	915	1761	563
96	1102743	792542	19481	128510	132166	67	791	1564	479
97	1102506	792926	17133	128926	132198	68	648	1366	375
98	1102606	793325	16188	129109	132229	68	587	1287	329
99	1102138	793512	14890	129300	132247	66	466	1180	230
100	1101680	793528	13716	129501	132251	66	400	1082	183
101	1102004	793927	13625	129427	132281	62	271	1078	055
102	1102328	794362	14327	129370	132314	67	343	1132	117
103	1102482	794847	15069	129190	132353	67	292	1194	053
104	1102661	795290	14584	129230	132387	77	198	1144	- 031
105	1102590	795776	14582	129064	132427	75	- 010	1146	- 239
106	1102484	796290	15231	128780	132469	73	- 192	1202	- 432
107	1102416	796721	15870	128491	132504	73	- 372	1255	- 623
108	1102290	797239	16906	128068	132546	75	- 603	1340	- 871
109	1102148	797713	17348	127803	132585	78	- 804	1374	-1079
110	1101930	798160	17964	127533	132622	81	- 970	1423	-1255
111	1101987	798432	19296	127192	132644	76	-1038	1539	-1346
112	1102440	798560	19223	127270	132652	74	- 987	1535	-1294
113	1101105	804719	38815	123535	133155	217	- 678	3032	-1284
114	1100948	804262	36751	123781	133119	163	- 914	2913	-1496
115	1100770	803787	34779	124030	133082	138	-1096	2773	-1650
116	1100731	803340	32162	124468	133046	130	-1218	2562	-1731

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117	1100676	802910	29451	124448	133012	131	-1322	2306	-1796
118	1100457	802550	29234	124910	132984	117	-1385	2330	-1851
119	1100230	802207	28256	125064	132953	112	-1430	2253	-1880
120	1100077	801920	27275	125224	132927	97	-1475	2186	-1912
121	1099955	801672	25983	125448	132893	103	-1501	2072	-1915
122	1099817	801391	25176	125589	132853	85	-1520	2022	-1924
123	1099630	801041	24168	125784	132817	84	-1516	1939	-1904
124	1099393	799674	23340	125946	132782	91	-1499	1863	-1871
125	1099304	799537	22946	126060	132745	78	-1449	1843	-1818
126	1099167	799356	22277	126236	132710	70	-1396	1795	-1755
127	1099043	799169	21516	126419	132680	72	-1352	1729	-1698
128	1098728	798822	19952	126808	132645	75	-1299	1587	-1617
129	1098477	798502	19503	126915	132612	79	-1234	1553	-1545
130	1098147	798506	19215	126965	132590	73	-1233	1535	-1540
131	1097862	798531	17705	127239	132594	82	-1293	1400	-1573
132	1097835	798043	17018	127712	132441	59	- 845	1365	-1118
133	1098363	795413	19760	127207	132421	61	- 711	1593	-1029
134	1098780	795762	17303	127720	132446	64	- 773	1384	-1050
135	1099142	796062	18074	127545	132469	73	- 788	1440	-1076
136	1099517	796376	19047	127362	132492	71	- 777	1523	-1082
137	1099912	796706	20047	127164	132516	62	- 784	1616	-1107
138	1100138	797147	21184	126966	132551	65	- 857	1708	-1199
139	1100300	797610	21836	126872	132587	62	- 944	1766	-1297
140	1100512	798039	20174	126940	132620	76	-1069	1613	-1392
141	1101019	798139	18711	127250	132639	82	-1092	1484	-1388
142	1101520	798328	18421	127346	132635	78	-1073	1464	-1366
143	1097795	795079	15371	128110	132396	59	- 772	1228	-1017
144	1097782	794652	14984	128230	132362	55	- 709	1199	- 949
145	1098132	794334	16939	127942	132335	50	- 535	1368	- 809
146	1098678	794203	15744	128334	132322	55	- 394	1263	- 646
147	1099137	793992	16746	128298	132301	52	- 187	1350	- 457
148	1099512	793663	14799	128879	132273	53	- 15	1166	- 252
149	1100022	793526	13001	129363	132260	63	89	1025	- 116
150	1100403	793261	12076	129635	132236	66	179	945	- 9
151	1100747	793032	13065	129561	132216	66	348	1028	143
152	1101163	793320	13753	129448	132237	69	372	1082	155
153	1100607	792725	12088	129755	132192	68	348	944	160
154	1100459	792271	11774	129770	132150	64	325	921	140
155	1100256	791961	11411	129840	132124	77	358	878	182
156	1100128	791454	11097	129914	132095	98	412	831	246
157	1099975	791048	11098	129923	132060	110	468	819	304
158	1099767	790539	11292	129830	132020	116	514	829	348
159	1099302	790313	10731	129968	132005	78	454	820	290
160	1099182	789926	10497	130074	131974	78	537	801	377
161	1098751	789709	10282	130140	131959	66	558	795	399
162	1098291	789479	9510	130274	131943	61	530	735	383
163	1097985	789232	9203	130317	131925	57	518	713	375
164	1097612	788842	9310	130243	131895	45	485	734	339
165	1097575	788437	10156	130119	131863	46	585	804	424
166	1097683	787863	11442	129965	131816	65	786	893	607
167	1097584	787413	12691	129726	131780	60	858	1002	658
168	1097714	787042	13513	129605	131750	77	970	1054	759
169	1098131	786698	13989	129576	131720	117	1118	1054	907
170	1098220	786286	14998	129415	131686	87	1187	1168	954
171	1098419	785888	16386	129185	131653	79	1294	1293	1036
172	1098423	785462	19665	128543	131619	85	1430	1561	1118
173	1098464	785343	22674	127945	131609	95	1528	1803	1168
174	1098480	784999	25414	127447	131581	83	1662	2044	1253

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175	1096611	794569	27183	127047	131546	99	1712	2177	1277
176	1096639	734255	24211	127666	131520	85	1673	1941	1285
177	1096333	803351	23390	126533	133071	184	-1096	1774	-1451
178	1096508	803779	24112	126379	133105	218	-1096	1800	-1456
179	1096632	804199	24690	126244	133138	250	-1093	1817	-1457
180	1096547	804757	25353	126177	133183	287	-1020	1835	-1387
181	1096449	805182	26044	125897	133218	305	- 959	1950	-1349
182	1096474	805659	26926	125749	133256	496	- 963	1768	-1322
183	1094276	806078	27327	125662	133291	485	-1031	1802	-1361
184	1095911	806315	28348	125630	133313	510	- 800	1863	-1173
185	1095415	806624	28700	125540	133341	462	- 887	1940	-1275
186	1095142	806772	29612	125379	133353	449	- 868	2030	-1274
187	1095340	807195	30812	125143	133386	510	- 807	2069	-1220
188	1095245	807361	31423	124952	133436	549	- 871	2081	-1287
189	1095196	808145	32061	124606	133464	506	- 884	2118	-1308
190	1094977	808464	33436	124569	133490	516	- 889	2283	-1346
191	1094802	809099	34344	124291	133543	573	- 958	2302	-1418
192	1094536	809468	34619	124277	133574	524	- 990	2374	-1465
193	1094450	809888	35036	124116	133608	576	-1040	2357	-1511
194	1094377	810293	36032	123888	133641	527	-1126	2489	-1624
195	1093975	810588	36398	123842	133667	561	-1082	2486	-1579
196	1093449	810647	37324	123745	133675	478	-1061	2646	-1590
197	1093131	810843	37932	123628	133692	423	-1114	2752	-1664
198	1093033	811258	38380	123574	133729	388	-1139	2824	-1704
199	1093153	811797	39399	123437	133769	308	-1167	2990	-1765
200	1093239	812293	39963	123378	133808	289	-1159	3056	-1769
201	1092924	812732	40882	123171	133845	299	-1185	3123	-1810
202	1095104	807123	32718	124824	133382	435	- 768	2303	-1228
203	1094894	806831	36182	124138	133359	395	- 693	2633	-1219
204	1094621	806639	38652	123766	133345	344	- 546	2891	-1124
205	1094633	806835	41404	123199	133361	366	- 488	3100	-1108
206	1094244	806710	43889	122632	133353	422	- 433	3252	-1083
207	1093768	806656	46610	121992	133351	385	- 496	3516	-1200
208	1093277	806727	49271	121461	133360	395	- 427	3729	-1173
209	1092944	806537	50778	121194	133346	461	- 276	3789	-1034
210	1093178	806368	54114	120590	133333	270	- 312	4253	-1163
211	1093465	806089	58534	119675	133307	273	- 201	4626	-1126
212	1093794	805967	62643	118559	133296	536	- 118	4707	-1060
213	1093454	805828	64307	118410	133286	350	- 070	5032	-1076
214	1093264	805836	66725	117845	133288	354	- 089	5231	-1135
215	1093233	805583	68513	117383	133268	422	- 061	5313	-1123
216	1093072	805200	66066	117955	133238	345	- 086	5185	-1123
217	1093087	804765	62865	118667	133203	289	- 114	4973	-1109
218	1093390	804541	56609	120023	133183	226	- 208	4512	-1111
219	1093523	804142	52460	120796	133150	157	- 404	4234	-1251
220	1093742	803660	47724	121682	133110	151	- 549	3843	-1317
221	1094090	803227	45457	122084	133073	173	- 597	3632	-1324
222	1094191	802916	40793	123042	133048	147	- 688	3267	-1342
223	1094369	802468	35378	124085	133011	146	- 827	2815	-1390
224	1094553	802025	30831	124904	132974	123	-1016	2458	-1508
225	1094792	801647	28688	125044	132942	107	-1342	2294	-1801
226	1095110	801244	26536	125245	132908	96	-1602	2125	-2027
227	1095313	800765	24755	125460	132868	91	-1752	1981	-2149
228	1095724	800471	22964	125774	132842	95	-1811	1827	-2176
229	1096105	800489	20914	126221	132842	100	-1819	1651	-2149
230	1096540	800242	20057	126412	132819	97	-1802	1582	-2118
231	1096913	799946	19604	126525	132794	94	-1768	1547	-2077
232	1097433	799859	19242	126645	132784	94	-1719	1517	-2023

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S	X	Y	Z	G	GN	T	A	C	AI
233	[illegible]	[illegible]	26549	126307	132792	91	-1674	1662	-2007
234	1087791	800580	23639	125749	132840	102	-1675	1577	-2050
235	1088124	800629	25037	125492	132806	103	-1643	1993	-2041
236	1088493	801242	25820	125416	132838	107	-1562	2054	-1973
237	1088809	801594	26462	125309	132916	110	-1504	2122	-1926
238	1089058	801914	27717	125122	132941	120	-1468	2200	-1908
239	1089241	802352	28567	125011	132975	124	-1418	2267	-1871
240	1089285	802720	28670	125434	133005	160	-1415	2072	-1830
241	1089092	802905	29719	124939	133020	140	-1380	2347	-1830
242	1089146	803351	33301	123758	133056	288	-1074	2667	-1608
243	1089292	803815	36525	123686	133092	338	- 808	2669	-1341
244	1091949	801407	20946	126945	132545	169	-1122	1584	-1439
245	1091454	801789	20608	126903	132939	168	-1236	1557	-1547
246	1091092	801964	21062	126833	132955	180	-1208	1583	-1524
247	1090778	801851	21467	126733	132980	194	-1177	1603	-1498
248	1090482	802073	22280	126652	133000	198	-1140	1667	-1473
249	1090334	802367	23204	126445	133024	209	-1154	1733	-1500
250	1090126	802900	23438	126396	133068	235	-1168	1727	-1514
251	1089854	803251	23527	126330	133100	293	-1188	1676	-1524
252	1089661	803642	24131	126103	133132	360	-1244	1660	-1576
253	1089181	803570	26345	125719	133127	275	-1211	1930	-1597
254	1088764	803721	28871	125258	133146	264	-1134	2153	-1565
255	1088431	803573	31361	124718	133126	218	-1028	2449	-1517
256	1088264	803136	34271	124249	133097	170	- 974	2698	-1514
257	1088115	803057	35322	124047	133091	161	- 943	2795	-1502
258	1087946	802792	37351	123613	133070	117	- 944	3009	-1546
259	1087479	802631	39076	123121	133061	139	- 881	3182	-1518
260	1087025	802441	+1574	122734	133048	121	- 847	3359	-1519
261	1086630	802504	43083	122282	133055	104	- 849	3552	-1560
262	1086418	802555	45124	121998	133060	92	- 826	3685	-1563
263	1086517	802191	45341	121921	133030	108	- 809	3687	-1546
264	1086560	801857	45194	121903	133003	96	- 844	3687	-1582
265	1086704	801390	43158	122237	132965	109	- 917	3503	-1617
266	1086589	800908	40721	122652	132926	105	-1015	3303	-1676
267	1086511	800414	37906	123117	132887	120	-1129	3053	-1739
268	1086560	799937	35100	123703	132848	163	-1092	2775	-1647
269	1086495	799519	32652	124262	132814	147	-1065	2586	-1582
270	1086530	799353	29458	124908	132769	140	-1099	2326	-1564
271	1086589	799398	26169	125565	132724	133	-1143	2057	-1555
272	1086648	798017	25027	125808	132692	126	-1131	1969	-1525
273	1087293	797818	26567	125495	132674	102	-1104	2122	-1529
274	1087435	797406	24971	125785	132640	89	-1152	2001	-1552
275	1087713	797162	22973	126037	132619	91	-1326	1832	-1693
276	1087777	796687	21652	126169	132580	92	-1452	1720	-1796
277	1087692	796160	19057	126542	132538	88	-1624	1507	-1925
278	1088227	795163	17594	126775	132455	79	-1646	1394	-1924
279	1088672	795341	21266	126038	132467	68	-1580	1712	-1923
280	1089059	795433	18499	126623	132472	75	-1616	1473	-1910
281	1089244	795919	20301	126252	132510	79	-1616	1620	-1940
282	1089119	796268	22712	125798	132539	79	-1556	1822	-1921
283	1088997	796691	27104	124948	132574	86	-1447	2183	-1883
284	1089146	797037	26550	125147	132601	80	-1405	2142	-1834
285	1089373	797381	28119	124910	132627	82	-1314	2272	-1769
286	1089418	797788	28250	125112	132660	77	-1120	2288	-1578
287	1089545	798217	28432	125237	132694	83	- 982	2297	-1442
288	1089262	798609	30381	124866	132727	86	- 945	2457	-1437
289	1088924	798871	33029	124294	132750	91	- 940	2674	-1475
290	1088591	799234	35394	123847	132781	87	- 890	2875	-1465

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291	1093275	799551	37726	123314	132907	90	- 913	3071	-1527
292	1093005	799489	41541	122991	132842	103	- 819	3374	-1495
293	1092687	799564	41112	122702	132838	101	- 793	3340	-1461
294	1093335	799837	38259	123311	132826	97	- 817	3105	-1438
295	1093014	799775	33543	124292	132818	100	- 887	2707	-1428
296	1093102	799955	32941	124446	132830	99	- 880	2653	-1412
297	1093029	799902	31873	124623	132824	106	- 937	2562	-1444
298	1093071	800103	30965	124559	132858	107	- 973	2409	-1455
299	1093038	800023	25115	126006	132829	117	-1060	1985	-1457
300	1093039	799783	21642	126652	132808	123	-1168	1688	-1505
301	1092220	799554	18889	127004	132737	135	-1402	1446	-1691
302	1092662	797987	16534	127036	132659	99	-1852	1268	-2106
303	1092908	798283	15891	127130	132682	105	-1874	1225	-2119
304	1093233	798407	15342	127230	132689	112	-1898	1172	-2133
305	1093610	798674	17278	126639	132709	101	-1885	1345	-2154
306	1093800	799061	18515	126595	132739	101	-1881	1449	-2171
307	1094015	799507	19754	126370	132774	101	-1862	1552	-2173
308	1094229	799899	21268	126110	132804	100	-1813	1680	-2149
309	1094354	800372	23778	125669	132842	98	-1729	1892	-2108
310	1094490	800933	25450	125433	132886	102	-1630	2028	-2036
311	1093041	804529	57280	119863	133184	420	- 024	4374	- 899
312	1092857	804196	53890	120537	133158	199	- 307	4312	-1170
313	1092765	803735	49890	121238	133121	171	- 497	4005	-1298
314	1092598	803611	46225	121943	133113	185	- 589	3684	-1326
315	1092152	803163	40048	123131	133078	191	- 754	3161	-1386
316	1091783	802930	35058	124159	133062	164	- 858	2770	-1412
317	1091573	802535	31598	124829	133035	153	- 950	2492	-1448
318	1091357	802332	30526	125018	133016	141	- 995	2414	-1477
319	1091004	802504	27024	125724	133032	162	-1071	2130	-1490
320	1090802	802110	23785	126378	133001	175	-1101	1816	-1464
321	1090559	801617	21184	126835	132962	177	-1188	1596	-1507
322	1090131	801592	23428	126384	132963	163	-1149	1793	-1509
323	1089942	801377	25598	125910	132946	145	-1137	1998	-1536
324	1089734	800867	26891	125650	132906	149	-1062	2102	-1483
325	1089498	800462	31546	124704	132877	117	- 965	2523	-1470
326	1089335	800071	35911	123791	132844	110	- 871	2896	-1450
327	1088909	800143	39727	122972	132852	111	- 839	3214	-1432
328	1088448	800336	44720	121918	132870	122	- 777	3621	-1502
329	1088468	803180	47939	121485	133110	90	- 758	3922	-1543
330	1088430	803488	50369	121025	133133	111	- 674	4105	-1495
331	1087009	803903	53149	120510	133166	105	- 603	4344	-1471
332	1086868	803981	55022	120143	133173	105	- 556	4500	-1456
333	1086084	803186	48064	121442	133113	78	- 788	3945	-1577
334	1085547	803305	51927	120670	133125	80	- 702	4266	-1555
335	1085451	803439	53020	120491	133136	75	- 651	4363	-1524
336	1085339	803875	52315	120717	133172	90	- 605	4289	-1462
337	1085167	803665	52733	120552	133156	86	- 664	4328	-1529
338	1084842	803874	53124	120516	133175	100	- 616	4346	-1486
339	1084547	804278	51564	120896	133209	178	- 543	4138	-1371
340	1084291	804514	50928	121027	133229	192	- 562	4071	-1376
341	1083922	804727	50357	121081	133248	317	- 530	3898	-1310
342	1083838	804278	52914	120593	133212	201	- 523	4228	-1369
343	1083660	804002	54415	120429	133191	141	- 389	4414	-127
344	1083349	803861	52566	120770	133181	189	- 406	4211	-124
345	1082906	803778	50596	121003	133177	266	- 534	3969	-132
346	1082424	803598	51510	120971	133165	214	- 401	4097	-122
347	1082298	803974	52883	120564	133196	317	- 427	4109	-124
348	1081996	803692	54341	120333	133175	189	- 437	4359	-130

ataro 1977

E	X	Y	Z	G	GN	T	A	C	Al
349	1081764	803461	53458	120038	133160	203	- 401	4271	-1256
350	1081538	803479	54661	120347	133070	162	- 273	4413	-1156
351	1081123	803545	56018	120159	133168	191	- 225	4498	-1124
352	1081334	803339	56346	119650	133150	149	- 235	4735	-1182
353	1081519	803071	60273	119261	133127	129	- 188	4916	-1171
354	1081578	802947	62016	118952	133117	82	- 142	5109	-1164
355	1081114	802782	63511	118710	133106	70	- 049	5246	-1098
356	1080774	802589	61663	119063	133101	98	- 077	5064	-1099
357	1080421	802364	58858	119699	133076	78	- 066	4848	-1038
358	1080158	802193	56204	120247	133064	73	- 109	4631	-1035
359	1079730	802012	53166	120838	133051	74	- 188	4376	-1063
360	1079251	802025	51582	121131	133055	73	- 255	4244	-1104
361	1078934	802011	51317	121136	133056	66	- 267	4229	-1113
362	1078402	801833	51100	121209	133048	65	- 287	4212	-1129
363	1078123	802024	49419	121521	133061	55	- 375	4081	-1192
364	1077826	801684	47528	121841	133035	69	- 441	3909	-1222
365	1077676	801275	47112	121866	133003	85	- 441	3858	-1213
366	1077483	800909	47070	121864	132974	92	- 437	3848	-1206
367	1077451	800640	47198	121914	132953	85	- 444	3865	-1217
368	1077121	800346	46343	121929	132931	121	- 463	3758	-1214
369	1077088	800107	45180	122114	132912	135	- 506	3647	-1236
370	1077050	799836	43186	122460	132890	163	- 559	3452	-1249
371	1077071	799569	42522	122578	132868	174	- 557	3385	-1234
372	1077441	799521	42570	122640	132863	145	- 508	3418	-1192
373	1077412	799085	43605	122332	132828	146	- 547	3504	-1248
374	1077350	798705	45161	122132	132797	119	- 394	3661	-1126
375	1077189	798666	42696	122562	132795	149	- 486	3425	-1171
376	1077537	798291	39490	123226	132763	167	- 493	3138	-1120
377	1077760	797895	37724	123526	132730	205	- 519	2952	-1109
378	1077859	797537	36609	123726	132701	192	- 553	2872	-1128
379	1077986	797162	35986	123866	132670	188	- 526	2824	-1091
380	1078067	796746	35608	123910	132636	185	- 536	2795	-1095
381	1078473	796659	34088	124212	132627	190	- 562	2663	-1094
382	1078936	796645	33791	124226	132623	222	- 579	2606	-1100
383	1079022	796171	33833	124292	132584	167	- 520	2665	-1053
384	1079285	795815	32015	124691	132555	175	- 492	2505	- 992
385	1079413	795355	31701	124851	132517	117	- 422	2536	- 930
386	1079808	795288	30709	125049	132509	119	- 438	2451	- 928
387	1080061	794980	29700	125278	132483	99	- 429	2387	- 907
388	1086549	795533	21674	126012	132494	69	-1540	1745	-1889
389	1086504	795139	21056	126095	132462	70	-1564	1692	-1902
390	1086718	794788	20895	126105	132433	65	-1565	1684	-1902
391	1086908	794433	20275	126220	132403	63	-1562	1634	-1889
392	1087114	794137	19079	126485	132378	63	-1541	1534	-1848
393	1087520	793939	16823	126993	132360	63	-1522	1345	-1791
394	1087596	793578	16524	127098	132331	61	-1457	1322	-1721
395	1087186	793213	17086	127018	132303	57	-1387	1373	-1662
396	1087162	792852	16259	127229	132274	55	-1335	1306	-1596
397	1087401	792489	15697	127376	132244	54	-1285	1260	-1537
398	1087651	792093	14134	127743	132211	59	-1231	1124	-1456
399	1089645	797666	28365	124972	132649	78	-1222	2296	-1682
400	1089772	797242	25988	125286	132614	81	-1405	2094	-1824
401	1089750	796725	24328	125518	132573	77	-1509	1959	-1900
402	1089785	796308	22878	125748	132539	78	-1570	1837	-1937
403	1089905	795930	21974	125924	132508	70	-1574	1769	-1928
404	1089963	795499	20794	126167	132473	69	-1562	1671	-1896
405	1090018	795138	19768	126405	132443	64	-1530	1591	-1849
406	1090070	794691	16788	127067	132407	71	-1495	1334	-1762

E	X	Y	Z	G	GN	T	A	C	Al
407	1093215	794242	14432	127645	132371	73	-1415	1132	-1641
409	1096294	793362	13927	127827	132339	69	-1312	1097	-1532
409	1099233	793350	14777	127712	132298	64	-1200	1173	-1435
410	1102132	805077	25383	124281	133179	215	- 728	2747	-1278
411	1102959	805525	36202	124426	133215	316	- 335	2714	- 878
412	1101933	805657	38159	123985	133243	463	- 217	2731	- 763
413	1101694	806362	39657	123510	133285	596	- 264	2723	- 808
414	1101437	806757	42895	122817	133316	669	- 187	2921	- 772
415	1101406	807187	43673	122472	133353	769	- 294	2886	- 871
416	1101152	807502	46164	121823	133379	773	- 406	3091	-1094
417	1100939	807886	48356	121179	133412	807	- 555	3240	-1203
418	1100846	808192	50033	120847	133437	825	- 517	3363	-1190
419	1100574	808456	52093	110336	133459	731	- 682	3629	-1408
420	1100316	808760	55877	119488	133485	755	- 681	3922	-1466
421	1100095	809088	59186	118807	133513	724	- 677	4230	-1523
422	1094625	799901	21864	125958	132802	95	-1834	1735	-2181
423	1094589	799519	22859	125700	132772	92	-1841	1821	-2205
424	1094455	799154	22397	125782	132743	88	-1838	1787	-2196
425	1094418	798763	21853	125905	132712	82	-1812	1747	-2162
426	1094225	798331	21218	126038	132678	85	-1785	1691	-2123
427	1094262	797956	20840	126146	132640	81	-1728	1663	-2061
428	1094286	797542	19548	126465	132598	79	-1660	1557	-1971
429	1089405	803900	26344	125802	133153	240	-1188	1965	-1581
430	1089141	804195	27429	125575	133178	284	-1153	2012	-1555
431	1088826	804408	27762	125481	133197	349	-1126	1975	-1521
432	1088711	804860	28636	125248	133234	450	-1098	1947	-1488
433	1088559	805225	29225	125010	133264	637	-1047	1899	-1409
434	1088510	805554	30708	124587	133291	759	-1041	1911	-1404
435	1086406	798124	23753	126039	132703	132	-1192	1856	-1564
436	1085971	798027	26915	125413	132698	139	-1095	2114	-1518
437	1085675	797726	29830	124913	132675	118	- 938	2379	-1414
438	1085410	797781	33218	124289	132681	129	- 795	2651	-1326
439	1084992	797997	36092	123681	132700	140	- 766	2881	-1342
440	1084635	798160	39387	123036	132715	137	- 688	3160	-1320
441	1084254	798186	41935	122546	132719	191	- 555	3319	-1219
442	1084435	798311	44704	121981	132729	195	- 503	3547	-1212
443	1084221	798417	50405	120735	132738	231	- 441	3988	-1239
444	1084340	798783	54670	119888	132767	231	- 359	4345	-1228
445	1084346	799128	57433	119225	132795	291	- 368	4516	-1271
446	1084371	799504	60173	118716	132825	349	- 233	4687	-1171
447	1084328	799795	62248	118292	132849	339	- 224	4871	-1199
448	1084308	800145	65042	117678	132877	402	- 176	5042	-1184

/*

3.3.5. Empalme con los valores antiguos.

En el transcurso de las mediciones, se han encontrado señales de estaciones realizadas en 1973. Vueltas a medir con el gravímetro, se han encontrado unas diferencias entre 3 y 11 cmGal, lo que da una gran confianza al empalme de la red de bases y hace las medidas perfectamente comparables.

Sin embargo, calculada la anomalía de Bouguer pára estos puntos y otros se han situado muy próximos a puntos antigüos, se han encontrado unas diferencias importantes y coincidentes en orden de magnitud con la corrección topográfica larga para esas estaciones. Revisando los cálculos de 1973, hemos encontrado que, en efecto, no fué tenida en cuenta dicha corrección. Esto produce evidentemente un "ruido" indeseable en el empalme de los valores antigüos con los nuevos. Al trazar el Bouguer con equidistancia de 1 mGal, no hay sin embargo una distorsión de los cursos que imposibilite el empalme. No obstante esta circunstancia se tendrá en cuenta en el momento de elegir el filtro de valores.

3.4.- Plano de Bouguer y perfiles por interpolación.

En la oficina de campo se dibujó un Bouguer de las nuevas mediciones, para comprobar su correcta ejecución y evitar la incompleta medición de posibles anomalías Estas 448 estaciones se han unido con 568 de las antigüas que son, según la numeración del Mapa Gravimétrico Nacional 1/50.000 que confeccioná el I.G.M.E:

Hoja 364 :completa
Hoja 393 "
Hoja 421 "
Hoja 420: de 155 a 178 y 193 a 208
Hoja 392: 34 a 61: 144 a 150: 189 a 202; 216 a 353; 359 a 365.

Por esta razón la numeración de estaciones aparece con varias repeticiones. El conjunto de las 1016 estaciones se ha transportado por Plotter y se ha vuelto a dibujar un único Bouguer para toda la zona.

Para proseguir con el tratamiento de datos, es necesario disponer de estos en malla; para ello se ha elegido el sistema de trazar perfiles distanciados 500 m., por corte con las curvas isoanomalás. En estos perfiles se han interpolado de nuevo valores cada 500 m. Estos valores son los que realmente nos sirven de punto de partida para los cálculos a efectuar. Se han sumado 22 mGal a todos los valores por la mayor facilidad de emplear números positivos.

Suponen en total 54 perfiles, con 44 estaciones por perfil cuya situación se indica en el plano de Bouguer.

4.- TRATAMIENTO DE DATOS.

En el organigrama adjunto puede seguirse las diversas etapas hasta la obtención de los planos de interpretación.

4.1.- Filtro digital bidimensional.

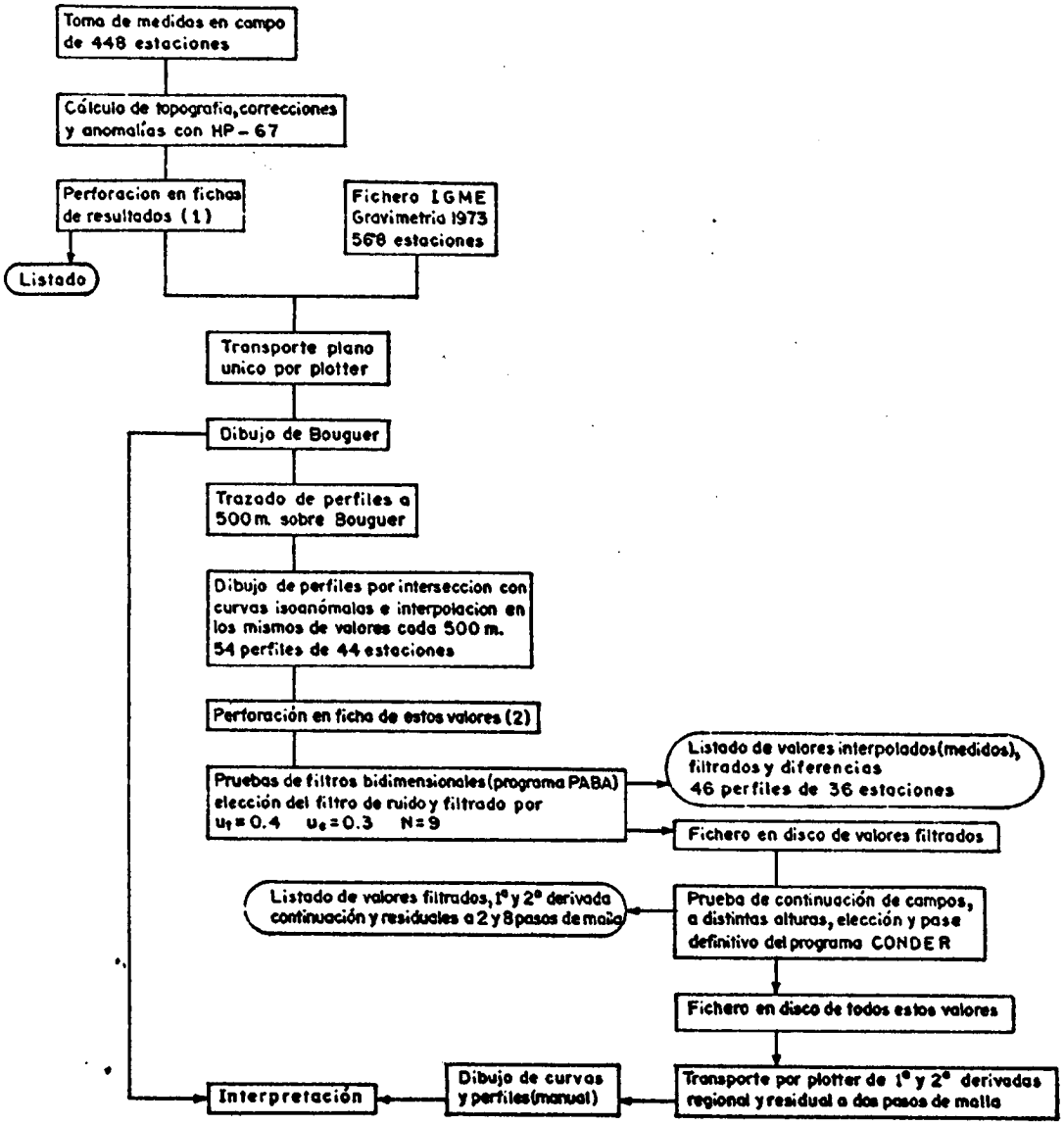
El objeto de aplicar este filtrado es eliminar el ruido de los datos (ruido procedente de las medidas, - corrección topográfica y empalme de valores antiguos y - nuevos) y suprimir las altas frecuencias, requisito indispensable para obtener posteriormente la primera y segunda derivadas.

Con este objeto, hemos probado previamente varias frecuencias de terminación (U_t) y de corte (U_C), cuyas funciones de transferencia, valores filtrados y ruido suprimido se representan en los gráficos adjuntos.

Hemos elegido U_t=0,4/c/i U_C=0.3 c/i puesto que como puede verse en la F.T., elimina por completo las anomalías de una amplitud inferior a 1200 m (0.4 c/i) y reduce a menos del 70% las anomalías de longitudes inferiores a 2000 m. ---- (0.25 c/i).

La matriz de coeficientes del filtro se ha elegido de 9 x 9 ya que de esta forma solo se pierden cuatro perfiles en cada extremo y 4 estaciones al principio y fin de cada perfil.

La malla resultante es pues de 46 perfiles con 36 estaciones



(1) Formato { NE, X, Y, Z, G, GN, T, A, C, A1
I3, 2F8.0, F5.2, F9.2, F8.2, F4.2, F7.2, F6.2, F7.2

(2) Formato 14X, 22F3.1

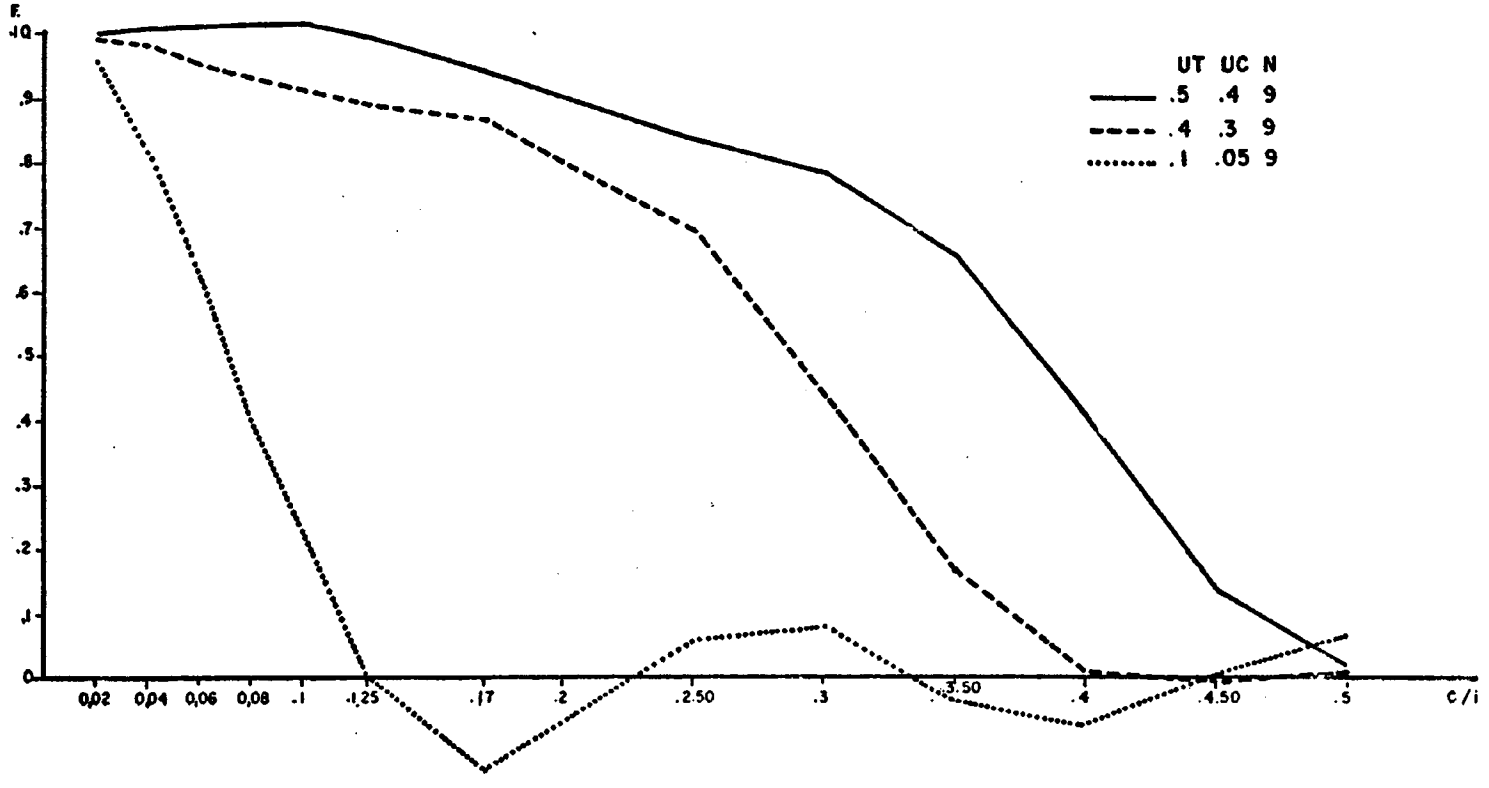
ORGANIGRAMA DE TRATAMIENTO DE DATOS DE GRAVIMETRIA **MATARO 1.977**

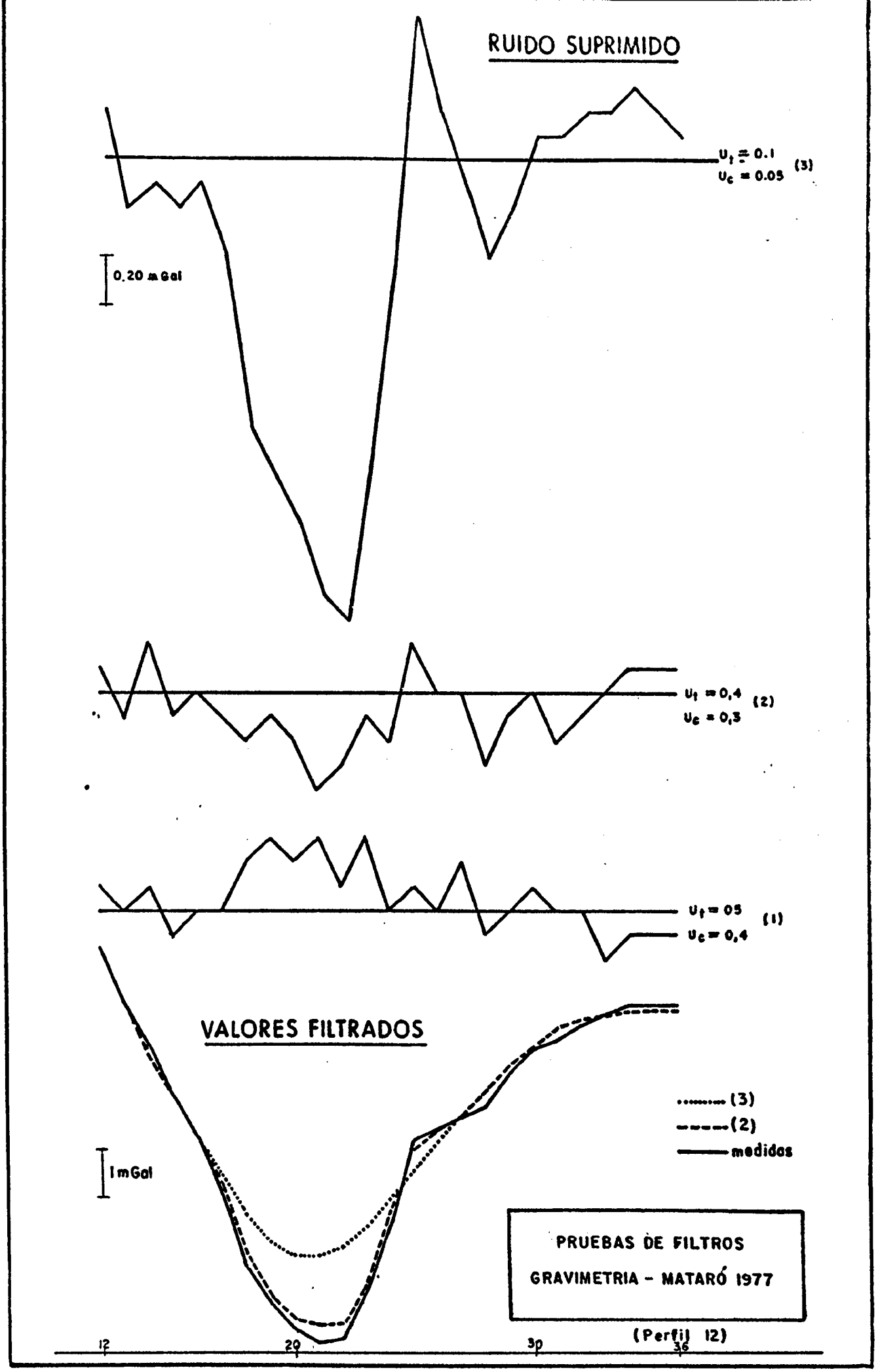
En el listado resultado de este filtro, los valores "medidos" se refieren a los interpolados. El perfil P-1, estación E-1, se corresponde con el primitivo P-5, E-5. En lo sucesivo solo se empleará esta nueva nomenclatura.

Dado que la amplitud del ruido filtrado no supera en general los 0.40 mGal, no consideramos necesario dibujar un nuevo Bouguer, al estar este con equidistancias de 1 mGal.

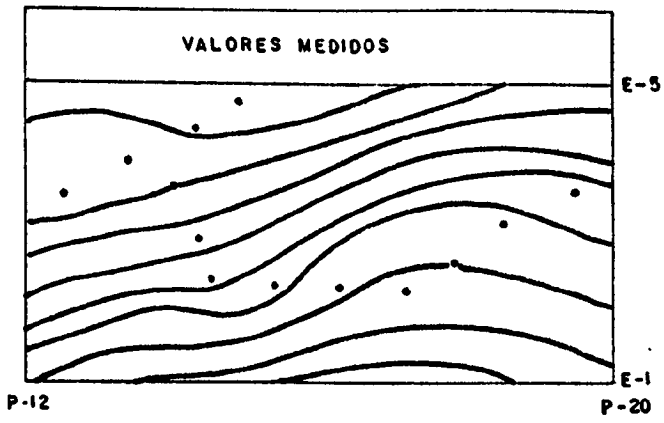
La comparación entre las curvas originalmente trazadas, las que resultarían de trazarlas con los valores interpolados y el resultado del filtro, pueden apreciarse en el ejemplo que hemos elegido y representado en el gráfico adjunto.

FUNCIONES DE TRANSFERENCIA DE LOS FILTROS PROBADOS EN GRAVIMETRIA - MATARÓ 1977




RUIDO SUPRIMIDO
$U_t = 0.1$
$U_c = 0.05$
(3)
0.20 m Gal
$U_t = 0,4$
$U_c = 0,3$
(2)
$U_t = 05$
$U_c = 0,4$
(1)
VALORES FILTRADOS
(3)
(2)
medidas
1 mGal
PRUEBAS DE FILTROS
GRAVIMETRIA - MATARÓ 1977
(Perfil 12)
12
20
30
36

COMPARACION DEL ASPECTO DEL MAPA DE "BOUGUER" CON LOS DIFERENTES VALORES CONSIDERADOS —— GRAVIMETRIA - MATARÓ 1977.



Listado de aplicación del filtrado definido por una frecuencia de terminación de 0.4 ciclos intervalo, frecuencia de corte de 0-3 c/i y matriz de 9 x 9 coeficientes.

FUNCION DE TRANSFERENCIA PARA UT=.400 UC=.300 N= 9

CICLOS/INTERVALO	FUNCION
==========	=======
[illegible]	0.99
.262	0.98
0.[illegible]	0.95
0.0[illegible]	0.93
0.1[illegible]	0.91
0.139	0.89
0.167	0.86
0.250	0.69
0.300	0.44
0.350	0.17
0.400	0.01
0.450	-0.01
0.500	-0.00

COEFICIENTES VARIABLES PARA UI=.400 UC=.300 N= 9

5	5	0.33424
6	5	0.19315
7	5	-0.02433
8	5	-0.01369
9	5	0.02044
6	6	0.07240
7	6	-0.04773
8	6	-0.00100
9	6	0.01764
7	7	-0.02655
8	7	0.01567
9	7	0.00566
9	8	0.01399
9	8	-0.01015
9	9	-0.00842

SUMA DE COEFICIENTES SIN RACIONALIZAR = 0.111789E 01

COEFICIENTES DE LA MATRIZ CUADRADA

1	1	-0.00753	5	7	-0.03071
1	2	-0.00908	5	8	-0.01225
1	3	0.00506	5	9	0.01829
1	4	0.01578	6	1	0.01578
1	5	0.01829	6	2	-0.00170
1	6	0.01578	6	3	-0.04275
1	7	0.00506	6	4	0.06476
1	8	-0.00908	6	5	0.17278
1	9	-0.00753	6	6	0.06476
2	1	-0.00908	6	7	-0.04275
2	2	0.01252	6	8	-0.00170
2	3	0.01759	6	9	0.01578
2	4	-0.00170	7	1	0.00506
2	5	-0.01225	7	2	0.01759
2	6	-0.00170	7	3	-0.02375
2	7	0.01759	7	4	-0.04275
2	8	0.01252	7	5	-0.03071
2	9	-0.00908	7	6	-0.04275
3	1	0.00506	7	7	-0.02375
3	2	0.01759	7	8	0.01759
3	3	-0.02375	7	9	0.00506
3	4	-0.04275	8	1	-0.00908
3	5	-0.03071	8	2	0.01252
3	6	-0.04275	8	3	0.01759
3	7	-0.02375	8	4	-0.00170
3	8	0.01759	8	5	-0.01225
3	9	0.00506	8	6	-0.00170
4	1	0.01578	8	7	0.01759
4	2	-0.00170	8	8	0.01252
4	3	-0.04275	8	9	-0.00908
4	4	0.06476	9	1	-0.00753
4	5	0.17278	9	2	-0.00908
4	6	0.06476	9	3	0.00506
4	7	-0.04275	9	4	0.01578
4	8	-0.00170	9	5	0.01829
4	9	0.01578	9	6	0.01578
5	1	0.01829	9	7	0.00506
5	2	-0.01225	9	8	-0.00908
5	3	-0.03071	9	9	-0.00753
5	4	0.17278			
5	5	0.34426			
5	6	0.17278			

SUMA DE COEFICIENTES RACIONALIZADOS = 0.100000E 01

VALORES FILTRADOS PASO PASA PARA UT=.400 UC=.400 N= 9

ZONA GRAVIMETRICA MATARO 1977

P	T	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
1	1	21.3	21.4	0.1
1	2	19.6	19.5	-0.1
1	3	18.2	18.2	-0.0
1	4	17.1	17.1	0.0
1	5	16.0	15.9	-0.1
1	6	15.0	15.1	0.1
1	7	13.8	13.8	0.0
1	8	12.6	12.5	-0.1
1	9	11.5	11.4	-0.1
1	10	10.6	10.6	0.0
1	11	9.7	9.8	0.1
1	12	8.9	8.9	-0.0
1	13	8.2	8.4	0.2
1	14	7.4	7.3	-0.1
1	15	6.7	6.6	-0.1
1	16	6.2	6.2	0.0
1	17	5.7	5.6	-0.1
1	18	5.4	5.4	0.0
1	19	5.2	5.2	0.0
1	20	5.1	5.2	0.1
1	21	5.2	5.2	-0.0
1	22	5.5	5.5	-0.0
1	23	5.9	5.8	-0.1
1	24	6.7	6.6	-0.1
1	25	8.7	8.6	-0.1
1	26	11.5	11.6	0.1
1	27	12.8	13.2	0.4
1	28	12.5	12.8	0.3
1	29	12.3	12.4	0.1
1	30	12.1	12.2	0.1
1	31	11.8	11.8	-0.0
1	32	11.5	11.5	0.0
1	33	11.2	11.2	0.0
1	34	10.9	10.9	0.0
1	35	10.4	10.4	-0.0
1	36	10.1	10.0	-0.1
2	1	20.9	20.9	0.0
2	2	19.1	18.9	-0.2
2	3	17.8	17.8	0.0
2	4	16.8	16.8	0.0
2	5	15.7	15.6	-0.1
2	6	14.6	14.6	0.0
2	7	13.5	13.4	-0.1
2	8	12.4	12.4	0.0
2	9	11.4	11.4	-0.0
2	10	10.6	10.5	-0.1
2	11	9.6	9.4	-0.2
2	12	8.8	8.6	-0.2
2	13	8.2	8.2	0.0
2	14	7.5	7.4	-0.1
2	15	6.8	6.7	-0.1
2	16	6.2	6.2	-0.0

VALORES FILTRADOS POR PARA PARA U1=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATAFU 1977

		FILTRADOS	MEDIDOS	DIFERENCIA
2	17	5.9	5.8	-0.0
2	18	5.6	5.6	0.0
2	19	5.5	5.4	-0.1
2	20	5.4	5.4	-0.0
2	21	5.5	5.3	-0.2
2	22	5.7	5.4	-0.3
2	23	6.0	5.7	-0.3
2	24	6.8	6.8	-0.0
2	25	9.3	9.2	-0.1
2	26	12.0	12.7	0.7
2	27	12.8	13.0	0.2
2	28	12.4	12.7	0.3
2	29	12.2	12.4	0.2
2	30	12.2	12.1	-0.1
2	31	11.9	11.9	-0.0
2	32	11.5	11.4	-0.1
2	33	11.2	11.2	-0.0
2	34	10.8	10.8	-0.0
2	35	10.4	10.3	-0.1
2	36	10.1	10.0	-0.1
3	1	20.5	20.4	-0.1
3	2	18.8	18.6	-0.2
3	3	17.5	17.4	-0.1
3	4	16.6	16.4	-0.2
3	5	15.5	15.4	-0.1
3	6	14.4	14.3	-0.1
3	7	13.3	13.2	-0.1
3	8	12.2	12.2	-0.0
3	9	11.3	11.2	-0.1
3	10	10.6	10.5	-0.1
3	11	9.7	10.0	0.3
3	12	8.8	8.6	-0.2
3	13	8.1	8.2	0.1
3	14	7.5	7.5	-0.0
3	15	6.8	6.8	-0.0
3	16	6.3	6.3	-0.0
3	17	5.9	5.8	-0.1
3	18	5.6	5.5	-0.1
3	19	5.4	5.4	-0.0
3	20	5.3	5.3	-0.0
3	21	5.4	5.4	0.0
3	22	5.6	5.5	-0.1
3	23	5.8	5.9	0.1
3	24	6.9	6.9	-0.0
3	25	9.6	9.6	0.0
3	26	12.2	12.5	0.3
3	27	12.8	12.8	0.0
3	28	12.3	12.6	0.3
3	29	12.2	12.4	0.2
3	30	12.2	12.2	0.0
3	31	11.8	11.8	-0.0
3	32	11.5	11.5	-0.0

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	I	FILTRADOS	MEDIDOS	DIFERENCIA
3	33	11.2	11.2	-0.0
3	34	10.8	10.9	-0.0
3	35	10.3	10.2	-0.1
3	36	10.0	10.0	0.0
4	1	20.3	20.3	0.0
4	2	18.6	18.6	-0.0
4	3	17.5	17.4	-0.1
4	4	16.5	16.5	-0.0
4	5	15.4	15.5	0.1
4	6	14.3	14.3	-0.0
4	7	13.2	13.2	0.0
4	8	12.1	12.2	0.1
4	9	11.3	11.2	-0.1
4	10	10.6	10.6	0.0
4	11	9.8	9.8	-0.0
4	12	9.9	8.8	-0.1
4	13	8.1	8.1	0.0
4	14	7.4	7.3	-0.1
4	15	6.8	6.8	-0.0
4	16	6.4	6.3	-0.1
4	17	5.9	5.9	-0.0
4	18	5.5	5.6	0.1
4	19	5.3	5.3	-0.0
4	20	5.3	5.2	-0.1
4	21	5.5	5.2	-0.3
4	22	5.7	5.4	-0.3
4	23	5.9	5.8	-0.1
4	24	6.9	6.9	-0.0
4	25	9.4	9.4	0.0
4	26	11.8	12.5	0.7
4	27	12.6	12.8	0.2
4	28	12.4	12.7	0.3
4	29	12.3	12.5	0.2
4	30	12.1	12.2	0.1
4	31	11.7	11.8	0.1
4	32	11.4	11.5	0.1
4	33	11.2	11.2	0.0
4	34	10.8	10.7	-0.1
4	35	10.3	10.2	-0.1
4	36	10.0	9.8	-0.2
5	1	20.1	20.0	-0.1
5	2	18.6	18.4	-0.2
5	3	17.5	17.4	-0.1
5	4	16.4	16.3	-0.1
5	5	15.3	15.2	-0.1
5	6	14.3	14.2	-0.1
5	7	13.2	13.0	-0.2
5	8	12.1	12.0	-0.1
5	9	11.3	11.2	-0.1
5	10	10.6	10.5	-0.1
5	11	9.8	9.8	-0.0
5	12	9.0	8.8	-0.2

VALORES FILTRADOS POR PARA PAPA UT=.400 UC=.200 N= 9

ZONA GRAVIMETRIA MATAPO 1977

P	S	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
5	13	9.1	8.0	-0.1
5	14	7.3	7.2	-0.1
5	15	6.7	6.6	-0.1
5	16	6.3	6.3	-0.0
5	17	5.9	5.8	-0.1
5	18	5.5	5.4	-0.1
5	19	5.2	5.1	-0.1
5	20	5.2	5.3	0.1
5	21	5.4	5.6	0.2
5	22	5.7	5.8	0.1
5	23	6.1	6.0	-0.1
5	24	7.0	6.9	-0.1
5	25	8.9	8.9	0.1
5	26	10.8	10.7	-0.1
5	27	11.9	12.2	0.3
5	28	12.1	12.4	0.3
5	29	12.1	12.3	0.2
5	30	12.0	12.0	-0.0
5	31	11.8	11.7	-0.1
5	32	11.5	11.4	-0.1
5	33	11.2	11.2	0.0
5	34	10.8	10.7	-0.1
5	35	10.3	10.2	-0.1
5	36	10.1	10.1	0.0
6	1	20.2	20.0	-0.2
6	2	18.6	18.5	-0.1
6	3	17.5	17.6	0.1
6	4	16.4	16.4	-0.0
6	5	15.2	15.2	-0.0
6	6	14.2	14.2	0.0
6	7	13.2	13.2	0.0
6	8	12.2	12.2	-0.0
6	9	11.4	11.4	0.0
6	10	10.6	10.6	-0.0
6	11	9.8	9.8	-0.0
6	12	9.0	9.2	0.2
6	13	8.2	8.2	0.0
6	14	7.4	7.4	0.0
6	15	6.8	6.8	0.0
6	16	6.3	6.3	0.0
6	17	5.8	5.8	-0.0
6	18	5.3	5.3	-0.0
6	19	4.9	4.8	-0.1
6	20	4.6	4.4	-0.2
6	21	4.6	4.3	-0.3
6	22	5.0	4.9	-0.1
6	23	5.8	6.0	0.2
6	24	6.9	6.8	-0.1
6	25	8.4	8.5	0.1
6	26	9.8	10.0	0.2
6	27	10.9	11.1	0.2
6	28	11.5	11.3	-0.2

VALORES FILTRADOS PARA PARA UI=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	F	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
6	29	11.9	12.2	0.3
6	30	12.0	12.4	0.4
6	31	11.9	12.3	0.4
6	32	11.6	11.9	0.3
6	33	11.2	11.2	0.0
6	34	10.7	10.6	-0.1
6	35	10.2	10.1	-0.1
6	36	10.0	9.8	-0.2
7	1	20.4	20.1	-0.3
7	2	18.8	18.6	-0.2
7	3	17.7	17.6	-0.1
7	4	16.6	16.6	-0.0
7	5	15.4	15.2	-0.2
7	6	14.2	14.3	0.1
7	7	13.2	13.0	-0.2
7	8	12.1	12.0	-0.1
7	9	11.4	11.4	0.0
7	10	10.8	10.7	-0.1
7	11	9.9	10.0	0.1
7	12	9.0	8.8	-0.2
7	13	8.3	8.2	-0.1
7	14	7.6	7.4	-0.2
7	15	6.9	6.9	-0.0
7	16	6.4	6.3	-0.1
7	17	5.9	5.8	-0.1
7	18	5.2	5.2	-0.0
7	19	4.5	4.5	-0.0
7	20	4.0	3.8	-0.2
7	21	3.8	3.6	-0.2
7	22	4.1	3.8	-0.3
7	23	5.1	4.8	-0.3
7	24	6.6	6.6	0.0
7	25	7.9	8.0	0.1
7	26	9.0	9.0	-0.0
7	27	10.0	10.2	0.2
7	29	10.7	11.0	0.3
7	29	11.2	11.3	0.1
7	30	11.6	11.5	-0.1
7	31	11.6	11.6	0.0
7	32	11.4	11.4	0.0
7	33	11.0	11.0	0.0
7	34	10.5	10.5	0.0
7	35	10.1	10.0	-0.1
7	36	9.9	9.7	-0.2
8	1	20.4	20.2	-0.2
8	2	18.9	18.6	-0.3
8	3	17.8	17.7	-0.1
8	4	16.8	17.0	0.2
8	5	15.6	15.6	-0.0
8	6	14.4	14.3	-0.1
8	7	13.2	13.2	0.0
8	8	12.1	12.1	-0.0

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

F	F	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
8	9	11.6	11.5	-0.1
8	10	11.1	11.0	-0.1
8	11	10.2	10.2	0.0
8	12	9.1	9.1	-0.0
8	13	8.3	8.4	0.1
8	14	7.8	7.8	0.0
8	15	7.2	7.3	0.1
8	16	6.7	6.7	0.0
8	17	6.0	6.2	0.2
8	18	5.1	5.2	0.1
8	19	4.3	4.1	-0.2
8	20	3.7	3.6	-0.1
8	21	3.5	3.5	-0.0
8	22	3.6	3.6	0.0
8	23	4.4	4.0	-0.4
8	24	6.1	6.2	0.1
8	25	7.5	7.3	-0.2
8	26	8.3	8.3	-0.0
8	27	9.1	9.0	-0.1
8	28	9.7	9.7	0.0
8	29	10.2	10.3	0.1
8	30	10.6	11.0	0.4
8	31	10.8	11.0	0.2
8	32	10.8	10.9	0.1
8	33	10.5	10.6	0.1
8	34	10.2	10.2	-0.0
8	35	10.0	10.0	0.0
8	36	9.8	10.0	0.2
9	1	20.5	20.4	-0.1
9	2	19.0	18.7	-0.3
9	3	17.9	17.7	-0.2
9	4	17.1	17.1	0.0
9	5	15.9	15.8	-0.1
9	6	14.6	14.6	0.0
9	7	13.4	13.3	-0.1
9	8	12.4	12.4	-0.0
9	9	11.9	11.6	-0.3
9	10	11.4	11.9	0.5
9	11	10.4	10.2	-0.2
9	12	9.3	9.3	-0.0
9	13	8.5	8.4	-0.1
9	14	7.9	7.8	-0.1
9	15	7.3	7.4	0.1
9	16	6.8	6.8	-0.0
9	17	6.1	6.2	0.1
9	18	5.0	4.9	-0.1
9	19	4.1	4.0	-0.1
9	20	3.6	3.4	-0.2
9	21	3.4	3.0	-0.4
9	22	3.2	3.0	-0.2
9	23	3.9	3.8	-0.1
9	24	5.6	5.6	0.0

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATAPO 1977

P =	F =	FILTRADOS =========	MEDIDOS =======	DIFERENCIA ==========
9	25	7.0	6.8	-0.2
9	26	7.7	8.0	0.3
9	27	8.4	8.4	0.0
9	28	8.9	8.8	-0.1
9	29	9.3	9.3	0.0
9	30	9.7	9.8	0.1
9	31	10.1	10.2	0.1
9	32	10.3	10.4	0.1
9	33	10.1	10.3	0.2
9	34	10.0	10.1	0.1
9	35	9.9	9.8	-0.1
9	36	9.8	9.6	-0.2
10	1	21.0	20.8	-0.2
10	2	19.2	19.0	-0.2
10	3	18.1	17.9	-0.2
10	4	17.3	17.3	-0.0
10	5	16.2	16.2	0.0
10	6	14.8	14.8	0.0
10	7	13.6	13.6	-0.0
10	8	12.8	12.8	-0.0
10	9	12.2	12.2	0.0
10	10	11.5	11.3	-0.2
10	11	10.5	10.5	-0.0
10	12	9.6	9.6	0.0
10	13	8.7	8.8	0.1
10	14	8.0	8.0	0.0
10	15	7.4	7.4	0.0
10	16	6.8	6.8	-0.0
10	17	6.0	6.2	0.2
10	18	4.8	4.7	-0.1
10	19	3.9	4.0	0.1
10	20	3.4	3.3	-0.1
10	21	3.1	2.8	-0.3
10	22	2.9	2.7	-0.2
10	23	3.4	2.9	-0.5
10	24	5.0	5.0	-0.0
10	25	6.5	6.4	-0.1
10	26	7.1	6.8	-0.3
10	27	7.8	8.0	0.2
10	28	8.4	8.4	0.0
10	29	8.8	8.7	-0.1
10	30	9.2	9.2	0.0
10	31	9.6	9.8	0.2
10	32	10.0	10.0	0.0
10	33	10.0	9.9	-0.1
10	34	9.9	9.9	-0.0
10	35	9.9	10.0	0.1
10	36	9.8	10.0	0.2
11	1	21.7	21.6	-0.1
11	2	19.7	19.5	-0.2
11	3	18.3	18.1	-0.2
11	4	17.4	17.4	-0.0

VALORES FILTRADOS POR PASA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	S	FILTRADOS	MEDIDOS	DIFERENCIA
11	5	16.4	16.4	0.0
11	6	15.0	14.9	-0.1
11	7	13.9	13.9	0.0
11	8	13.0	13.0	-0.0
11	9	12.2	12.2	-0.0
11	10	11.4	11.4	-0.0
11	11	10.7	10.6	-0.1
11	12	9.8	9.8	-0.0
11	13	8.9	8.8	-0.1
11	14	8.0	8.0	-0.0
11	15	7.3	7.4	0.1
11	16	6.6	6.6	0.0
11	17	5.6	5.6	0.0
11	18	4.3	4.2	-0.1
11	19	3.4	3.3	-0.1
11	20	3.0	2.7	-0.3
11	21	2.8	2.6	-0.2
11	22	2.6	2.6	0.0
11	23	3.1	2.8	-0.3
11	24	4.7	4.7	-0.0
11	25	6.1	6.2	0.1
11	26	6.7	6.6	-0.1
11	27	7.1	7.0	-0.1
11	28	7.8	8.0	0.2
11	29	8.3	8.4	0.1
11	30	8.7	8.7	0.0
11	31	9.1	9.2	0.1
11	32	9.5	9.8	0.3
11	33	9.7	10.0	0.3
11	34	9.7	9.9	0.2
11	35	9.6	9.7	0.1
11	36	9.6	9.6	0.0
12	1	22.8	23.0	0.2
12	2	20.5	20.3	-0.2
12	3	18.7	18.3	-0.4
12	4	17.5	17.4	-0.1
12	5	16.5	16.4	-0.1
12	6	15.2	15.1	-0.1
12	7	14.0	14.0	0.0
12	8	13.1	13.0	-0.1
12	9	12.2	12.2	-0.0
12	10	11.5	11.6	0.1
12	11	10.9	10.9	0.0
12	12	10.1	10.2	0.1
12	13	9.1	9.0	-0.1
12	14	8.0	8.2	0.2
12	15	7.2	7.1	-0.1
12	16	6.3	6.3	-0.0
12	17	5.2	5.1	-0.1
12	18	3.8	3.6	-0.2
12	19	2.9	2.8	-0.1
12	20	2.5	2.3	-0.2

VALORES FILTRADOS POR PARA PARA BT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P =	P =	FILTRADOS =========	MEDIDOS =======	DIFERENCIA ==========
12	21	2.4	2.0	-0.4
12	22	2.4	2.1	-0.3
12	23	3.2	3.1	-0.1
12	24	4.7	4.5	-0.2
12	25	6.0	6.2	0.2
12	26	6.4	6.4	-0.0
12	27	6.7	6.7	0.0
12	28	7.2	6.9	-0.3
12	29	7.7	7.6	-0.1
12	30	8.1	8.1	-0.0
12	31	8.5	8.3	-0.2
12	32	8.7	8.6	-0.1
12	33	8.8	8.8	-0.0
12	34	8.9	9.0	0.1
12	35	8.9	9.0	0.1
12	36	8.9	9.0	0.1
13	1	23.8	24.0	0.2
13	2	21.3	21.2	-0.1
13	3	19.2	19.0	-0.2
13	4	17.7	17.5	-0.2
13	5	16.6	16.5	-0.1
13	6	15.3	15.3	-0.0
13	7	14.1	14.0	-0.1
13	8	13.2	13.2	-0.0
13	9	12.5	12.4	-0.1
13	10	11.8	11.7	-0.1
13	11	11.3	11.2	-0.1
13	12	10.5	10.5	-0.0
13	13	9.4	9.4	-0.0
13	14	8.3	8.3	0.0
13	15	7.2	7.2	-0.0
13	16	6.2	6.2	-0.0
13	17	5.0	5.2	0.2
13	18	3.7	3.4	-0.3
13	19	2.8	2.6	-0.2
13	20	2.3	2.2	-0.1
13	21	2.2	2.0	-0.2
13	22	2.7	2.5	-0.2
13	23	3.6	3.6	-0.0
13	24	5.0	4.8	-0.2
13	25	6.1	6.2	0.1
13	26	6.5	6.3	-0.2
13	27	6.5	6.6	0.1
13	28	6.7	6.7	0.0
13	29	6.9	6.9	-0.0
13	30	7.3	7.3	-0.0
13	31	7.8	8.0	0.2
13	32	8.1	8.1	0.0
13	33	8.2	8.2	0.0
13	34	8.3	8.3	0.0
13	35	8.4	8.4	0.0
13	36	8.5	8.6	0.1

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	r	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
14	1	24.3	24.2	-0.1
14	2	21.7	22.0	0.3
14	3	19.4	19.2	-0.2
14	4	17.9	17.6	-0.3
14	5	16.6	16.4	-0.2
14	6	15.5	15.3	-0.2
14	7	14.4	14.3	-0.1
14	8	13.5	13.6	0.1
14	9	12.8	12.9	0.1
14	10	12.2	12.3	0.1
14	11	11.7	11.7	0.0
14	12	10.9	11.1	0.2
14	13	9.8	9.8	0.0
14	14	6.6	6.7	0.1
14	15	7.4	7.5	0.1
14	16	6.3	6.1	-0.2
14	17	5.1	5.1	0.0
14	18	3.9	3.7	-0.2
14	19	3.0	2.8	-0.2
14	20	2.5	2.3	-0.2
14	21	2.5	2.0	-0.5
14	22	3.0	3.2	0.2
14	23	4.1	3.8	-0.3
14	24	5.4	5.7	0.3
14	25	6.2	6.3	0.1
14	26	6.4	6.5	0.1
14	27	6.5	6.5	0.0
14	28	6.4	6.3	-0.1
14	29	6.3	6.0	-0.3
14	30	6.4	6.1	-0.3
14	31	6.8	6.9	0.1
14	32	7.4	7.3	-0.1
14	33	7.8	7.7	-0.1
14	34	8.0	8.0	0.0
14	35	8.1	8.1	0.0
14	36	8.3	8.2	-0.1
15	1	24.6	24.8	0.2
15	2	22.1	21.8	-0.3
15	3	19.9	20.0	0.1
15	4	18.1	17.9	-0.2
15	5	16.7	16.5	-0.2
15	6	15.6	15.4	-0.2
15	7	14.6	14.4	-0.2
15	8	13.7	13.7	-0.0
15	9	13.2	13.2	0.0
15	10	12.6	12.6	-0.0
15	11	12.0	12.1	0.1
15	12	11.2	11.3	0.1
15	13	10.0	10.0	-0.0
15	14	8.8	8.9	0.1
15	15	7.6	7.6	-0.0
15	16	6.3	6.3	-0.0

VALORES FILTRADOS PLS PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	F	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
15	17	5.1	5.1	-0.0
15	18	4.1	4.0	-0.1
15	19	3.3	3.1	-0.2
15	20	2.8	2.6	-0.2
15	21	2.8	2.6	-0.2
15	22	3.3	3.2	-0.1
15	23	4.3	4.1	-0.2
15	24	5.5	5.6	0.1
15	25	6.3	6.2	-0.1
15	26	6.4	6.5	0.1
15	27	6.5	6.5	-0.0
15	28	6.5	6.4	-0.1
15	29	6.2	6.2	0.0
15	30	5.9	5.7	-0.2
15	31	6.0	5.4	-0.6
15	32	5.5	5.3	-0.2
15	33	7.0	7.0	0.0
15	34	7.3	7.2	-0.1
15	35	7.4	7.4	0.0
15	36	7.6	7.6	0.0
16	1	25.3	26.0	0.7
16	2	23.0	23.0	-0.0
16	3	20.9	21.2	0.3
16	4	18.7	18.4	-0.3
16	5	16.8	16.6	-0.2
16	6	15.7	15.6	-0.1
16	7	14.7	14.5	-0.2
16	8	13.9	13.8	-0.1
16	9	13.3	13.4	0.1
16	10	12.9	13.0	0.1
16	11	12.3	12.4	0.1
16	12	11.6	11.8	0.2
16	13	10.3	10.4	0.1
16	14	8.9	9.0	0.1
16	15	7.7	7.7	0.0
16	16	6.4	6.4	0.0
16	17	5.1	5.0	-0.1
16	18	4.0	3.9	-0.1
16	19	3.3	3.3	-0.0
16	20	2.9	2.8	-0.1
16	21	2.9	2.8	-0.1
16	22	3.4	3.4	0.0
16	23	4.5	4.3	-0.2
16	24	5.9	6.2	0.3
16	25	6.7	6.8	0.1
16	26	6.8	7.0	0.2
16	27	6.7	6.8	0.1
16	28	6.6	6.6	-0.0
16	29	6.5	6.4	-0.1
16	30	6.2	6.2	0.0
16	31	6.0	6.0	0.0
16	32	6.0	6.0	-0.0

VALORES FILTRADOS POR PASA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	S	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
16	33	6.2	6.0	-0.2
16	34	6.4	6.2	-0.2
16	35	6.6	6.4	-0.2
16	36	6.8	6.6	-0.2
17	1	25.6	26.0	0.4
17	2	23.8	23.7	-0.1
17	3	21.8	22.2	0.4
17	4	19.5	19.6	0.1
17	5	17.2	16.8	-0.4
17	6	15.8	15.8	0.0
17	7	14.8	14.6	-0.2
17	8	14.0	13.9	-0.1
17	9	13.4	13.4	0.0
17	10	12.9	13.0	0.1
17	11	12.4	12.5	0.1
17	12	11.9	12.1	0.2
17	13	10.6	10.8	0.2
17	14	9.0	9.0	0.0
17	15	7.5	7.5	-0.0
17	16	6.2	6.2	0.0
17	17	4.8	4.6	-0.2
17	18	3.7	3.6	-0.1
17	19	3.1	2.9	-0.2
17	20	2.8	2.6	-0.2
17	21	2.9	2.8	-0.1
17	22	3.5	3.6	0.1
17	23	5.0	4.9	-0.1
17	24	6.6	6.8	0.2
17	25	7.3	7.4	0.1
17	26	7.2	7.3	0.1
17	27	7.0	7.0	-0.0
17	28	6.8	6.8	-0.0
17	29	6.7	6.6	-0.1
17	30	6.6	6.4	-0.2
17	31	6.4	6.2	-0.2
17	32	6.3	6.1	-0.2
17	33	6.2	6.1	-0.1
17	34	6.3	6.3	0.0
17	35	6.5	6.5	0.0
17	36	6.7	6.7	0.0
18	1	25.2	25.8	0.6
18	2	23.7	23.7	-0.0
18	3	22.2	22.4	0.2
18	4	20.2	20.3	0.1
18	5	17.8	17.6	-0.2
18	6	16.0	15.9	-0.1
18	7	14.9	14.7	-0.2
18	8	14.1	13.9	-0.2
18	9	13.3	13.2	-0.1
18	10	12.7	12.7	0.0
18	11	12.4	12.4	0.0
18	12	12.0	12.2	0.2

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRICA MATARO 1977

		FILTRADOS	MEDIDOS	DIFERENCIA
18	13	10.9	11.0	0.1
18	14	9.0	9.0	0.0
18	15	7.2	7.2	-0.0
18	16	5.8	5.7	-0.1
18	17	4.4	4.2	-0.2
18	18	3.4	3.2	-0.2
18	19	2.8	2.6	-0.2
18	20	2.7	2.5	-0.2
18	21	2.9	2.8	-0.1
18	22	3.7	3.7	0.0
18	23	5.3	5.4	0.1
18	24	7.0	7.4	0.4
18	25	7.5	7.7	0.2
18	26	7.3	7.6	0.3
18	27	7.3	7.4	0.1
18	28	7.1	7.2	0.1
18	29	6.9	7.0	0.1
18	30	6.8	6.8	-0.0
18	31	6.8	6.8	0.0
18	32	6.7	6.8	0.1
18	33	6.8	6.8	0.0
18	34	6.8	6.8	-0.0
18	35	6.9	6.8	-0.1
18	36	7.0	6.9	-0.1
19	1	24.5	24.5	-0.0
19	2	23.2	23.4	0.2
19	3	22.0	22.2	0.2
19	4	20.4	20.7	0.3
19	5	18.2	18.3	0.1
19	6	16.3	16.2	-0.1
19	7	15.0	14.8	-0.2
19	8	14.1	14.0	-0.1
19	9	13.2	13.0	-0.2
19	10	12.5	12.7	0.2
19	11	12.3	12.4	0.1
19	12	12.0	12.1	0.1
19	13	11.0	11.2	0.2
19	14	8.9	9.0	0.1
19	15	7.0	6.9	-0.1
19	16	5.6	5.5	-0.1
19	17	4.2	4.0	-0.2
19	18	3.2	3.0	-0.2
19	19	2.6	2.5	-0.1
19	20	2.4	2.4	-0.0
19	21	2.7	2.7	-0.0
19	22	3.6	3.6	0.0
19	23	5.3	5.3	-0.0
19	24	6.9	7.1	0.2
19	25	7.3	7.2	-0.1
19	26	7.2	7.3	0.1
19	27	7.3	7.4	0.1
19	28	7.2	7.2	0.0

VALORES FILTRADOS POR PABA PARA UT=.400 UC=.300 N= 9

7 MA GRAVIMETRIA MATAMO 1977

P =	E =	FILTRADOS =========	MEDIDOS =======	DIFERENCIA =========
19	29	7.0	7.0	-0.0
19	30	7.0	7.0	0.0
19	31	7.0	7.0	-0.0
19	32	7.1	7.0	-0.1
19	33	7.2	7.0	-0.2
19	34	7.2	7.0	-0.2
19	35	7.1	7.0	-0.1
19	36	7.1	7.0	-0.1
20	1	24.0	24.2	0.2
20	2	23.0	23.0	0.0
20	3	21.7	22.0	0.3
20	4	20.2	20.0	-0.2
20	5	18.5	18.6	0.1
20	6	16.7	16.7	0.0
20	7	15.1	14.9	-0.2
20	8	14.0	14.1	0.1
20	9	13.1	12.8	-0.3
20	10	12.5	12.4	-0.1
20	11	12.3	12.3	0.0
20	12	12.0	12.2	0.2
20	13	10.9	11.2	0.3
20	14	8.8	8.8	0.0
20	15	6.9	6.8	-0.1
20	16	5.5	5.6	0.1
20	17	4.1	3.8	-0.3
20	18	2.9	2.8	-0.1
20	19	2.2	1.8	-0.4
20	20	2.0	1.6	-0.4
20	21	2.3	2.0	-0.3
20	22	3.3	3.3	0.0
20	23	5.2	5.2	0.0
20	24	7.8	7.3	0.5
20	25	7.3	7.7	0.4
20	26	7.3	7.6	0.3
20	27	7.3	7.4	0.1
20	28	7.2	7.2	0.0
20	29	7.0	7.0	0.0
20	30	6.9	6.9	0.0
20	31	6.9	6.9	0.0
20	32	6.9	6.9	0.0
20	33	6.8	7.0	0.2
20	34	6.8	7.0	0.2
20	35	6.9	7.0	0.1
20	36	7.0	7.0	0.0
21	1	23.9	24.0	0.1
21	2	22.9	22.7	-0.2
21	3	21.4	21.6	0.2
21	4	19.8	19.8	0.0
21	5	18.4	18.5	0.1
21	6	16.9	17.0	0.1
21	7	15.2	15.0	-0.2
21	8	14.0	14.0	-0.0

VALORES FILTRADOS POR PABA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P =	F =	FILTRADOS =========	MEDIDOS =======	DIFERENCIA ==========
21	9	13.2	13.0	-0.2
21	10	12.6	12.7	0.1
21	11	12.3	12.4	0.1
21	12	12.0	12.0	0.0
21	13	10.8	11.1	0.3
21	14	8.8	8.8	0.0
21	15	6.9	7.0	0.1
21	16	5.4	5.4	-0.0
21	17	3.9	3.7	-0.2
21	18	2.7	2.6	-0.1
21	19	2.0	1.7	-0.3
21	20	1.7	1.6	-0.1
21	21	1.8	1.7	-0.1
21	22	2.8	2.8	-0.0
21	23	4.9	4.8	-0.1
21	24	6.6	7.1	0.5
21	25	7.4	7.4	0.0
21	26	7.5	7.8	0.3
21	27	7.5	7.6	0.1
21	28	7.2	7.3	0.1
21	29	7.0	7.0	0.0
21	30	6.7	6.7	-0.0
21	31	6.5	6.5	-0.0
21	32	6.4	6.3	-0.1
21	33	6.2	6.0	-0.2
21	34	6.2	5.8	-0.4
21	35	6.5	6.3	-0.2
21	36	6.9	7.0	0.1
22	1	23.9	23.6	-0.3
22	2	22.6	22.6	-0.0
22	3	21.0	21.0	-0.0
22	4	19.4	19.4	0.0
22	5	18.2	18.2	-0.0
22	6	16.9	17.0	0.1
22	7	15.3	15.1	-0.2
22	8	14.1	14.2	0.1
22	9	13.2	12.9	-0.3
22	10	12.6	12.6	0.0
22	11	12.3	12.3	-0.0
22	12	11.9	12.1	0.2
22	13	10.7	11.0	0.3
22	14	8.7	8.8	0.1
22	15	6.9	7.0	0.1
22	16	5.2	5.2	-0.0
22	17	3.7	3.4	-0.3
22	18	2.5	2.4	-0.1
22	19	1.8	1.6	-0.2
22	20	1.4	1.0	-0.4
22	21	1.3	1.0	-0.3
22	22	2.3	2.0	-0.3
22	23	4.3	4.5	0.2
22	24	6.3	6.3	-0.0

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	F	FILTRADOS	MEDIDOS	DIFERENCIA
22	25	7.2	7.5	0.3
22	26	7.5	7.8	0.3
22	27	7.5	7.7	0.2
22	28	7.2	7.3	0.1
22	29	7.0	6.9	-0.1
22	30	6.8	6.7	-0.1
22	31	6.6	6.5	-0.1
22	32	6.5	6.4	-0.1
22	33	6.4	6.4	0.0
22	34	6.4	6.5	0.1
22	35	6.7	6.7	0.0
22	36	7.0	6.9	-0.1
23	1	23.7	23.5	-0.2
23	2	22.3	22.4	0.1
23	3	20.8	20.7	-0.1
23	4	19.3	19.2	-0.1
23	5	18.1	17.9	-0.2
23	6	16.9	17.1	0.2
23	7	15.5	15.1	-0.4
23	8	14.2	14.2	0.0
23	9	13.2	13.0	-0.2
23	10	12.5	12.7	0.2
23	11	12.3	12.3	0.0
23	12	11.8	12.0	0.2
23	13	10.4	10.5	0.1
23	14	8.5	8.5	0.0
23	15	6.7	6.6	-0.1
23	16	4.8	4.9	0.1
23	17	3.3	3.0	-0.3
23	18	2.3	2.3	-0.0
23	19	1.5	1.0	-0.5
23	20	0.9	0.7	-0.2
23	21	0.8	0.7	-0.1
23	22	1.6	1.2	-0.4
23	23	3.7	4.1	0.4
23	24	5.9	6.0	0.1
23	25	6.8	7.2	0.4
23	26	7.1	7.4	0.3
23	27	7.2	7.2	0.0
23	28	7.0	7.0	-0.0
23	29	7.0	7.0	0.0
23	30	7.0	7.0	-0.0
23	31	7.0	7.0	-0.0
23	32	7.0	7.0	-0.0
23	33	7.0	7.0	-0.0
23	34	7.0	7.0	-0.0
23	35	7.0	7.0	-0.0
23	36	7.0	7.0	-0.0
24	1	23.5	23.3	-0.2
24	2	22.1	22.2	0.1
24	3	20.8	20.6	-0.2
24	4	19.3	19.4	0.1

VALORES FILTRADOS POR PASA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	S	FILTRADOS	MEDIDOS	DIFERENCIA
24	6	18.1	17.9	-0.2
24	7	16.7	16.8	0.1
24	7	15.3	15.2	-0.1
24	8	14.2	14.3	0.1
24	9	13.1	13.0	-0.1
24	10	12.4	12.5	0.1
24	11	12.2	12.3	0.1
24	12	11.5	11.9	0.4
24	13	9.9	9.9	-0.0
24	14	8.1	8.2	0.1
24	15	6.2	6.4	0.2
24	16	4.4	4.2	-0.2
24	17	3.2	3.1	-0.1
24	18	2.3	2.3	0.0
24	19	1.3	1.0	-0.3
24	20	0.7	0.3	-0.4
24	21	0.5	0.2	-0.3
24	22	1.1	0.8	-0.3
24	23	3.0	2.7	-0.3
24	24	5.2	5.4	0.2
24	25	6.2	6.2	0.0
24	26	6.3	6.5	0.2
24	27	6.6	6.8	0.2
24	28	6.9	6.9	-0.0
24	29	7.0	7.0	0.0
24	30	7.0	7.0	0.0
24	31	7.0	7.0	-0.0
24	32	7.0	7.0	-0.0
24	33	7.1	7.0	-0.1
24	34	7.1	7.0	-0.1
24	35	7.1	7.0	-0.1
24	36	7.0	6.9	-0.1
25	1	23.5	23.2	-0.3
25	2	22.1	22.2	0.1
25	3	20.8	20.5	-0.3
25	4	19.3	19.2	-0.1
25	5	18.0	17.9	-0.1
25	6	16.5	16.5	-0.0
25	7	15.1	14.8	-0.3
25	8	14.1	14.1	0.0
25	9	13.2	13.0	-0.2
25	10	12.5	12.6	0.1
25	11	12.2	12.1	-0.1
25	12	11.1	11.4	0.3
25	13	9.4	9.4	-0.0
25	14	7.7	7.7	0.0
25	15	6.0	5.9	-0.1
25	16	4.3	4.1	-0.2
25	17	3.2	3.0	-0.2
25	18	2.3	2.2	-0.1
25	19	1.3	1.0	-0.3
25	20	0.7	0.6	-0.1

VALORES FILTRADOS POR PABA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRICA MATARO 1977

P	E	FILTRADOS	MEDIDOS	DIFERENCIA
25	21	0.6	0.6	0.0
25	22	0.8	0.7	-0.1
25	23	2.3	2.1	-0.2
25	24	4.5	5.0	0.5
25	25	5.6	5.4	-0.2
25	26	5.8	5.8	0.0
25	27	6.3	6.4	0.1
25	28	7.0	7.0	-0.0
25	29	7.2	7.0	-0.2
25	30	7.1	7.0	-0.1
25	31	7.1	7.0	-0.1
25	32	7.1	7.0	-0.1
25	33	7.1	7.0	-0.1
25	34	7.1	7.0	-0.1
25	35	7.2	7.1	-0.1
25	36	7.4	7.4	0.0
26	1	23.8	23.6	-0.2
26	2	22.3	22.4	0.1
26	3	20.9	20.8	-0.1
26	4	19.4	19.4	0.0
26	5	18.3	18.2	-0.1
26	6	17.1	16.8	-0.3
26	7	15.5	15.3	-0.2
26	8	14.2	14.4	0.2
26	9	13.2	13.2	-0.0
26	10	12.6	12.6	0.0
26	11	12.0	12.2	0.2
26	12	10.7	10.7	0.0
26	13	9.0	9.0	0.0
26	14	7.5	7.5	0.0
26	15	6.0	6.0	0.0
26	16	4.4	4.4	-0.0
26	17	3.2	3.2	-0.0
26	18	2.3	2.3	0.0
26	19	1.3	1.2	-0.1
26	20	0.8	0.4	-0.4
26	21	0.7	0.2	-0.5
26	22	0.7	0.5	-0.2
26	23	1.7	1.5	-0.2
26	24	3.8	3.5	-0.3
26	25	5.3	5.6	0.3
26	26	5.8	5.6	-0.2
26	27	6.5	6.4	-0.1
26	28	7.3	7.6	0.3
26	29	7.5	7.6	0.1
26	30	7.5	7.6	0.1
26	31	7.6	7.6	0.0
26	32	7.6	7.7	0.1
26	33	7.7	7.7	0.0
26	34	7.7	7.7	0.0
26	35	7.8	7.8	-0.0
26	36	8.1	7.9	-0.2

VALORES FILTRADOS POR PASA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

D	E	FILTRADOS	MEDIDOS	DIFERENCIA
27	1	24.1	23.9	-0.2
27	2	22.6	22.6	-0.0
27	3	21.2	21.2	0.0
27	4	19.7	19.5	-0.2
27	5	18.8	18.3	-0.5
27	6	17.9	19.0	1.1
27	7	16.1	15.6	-0.5
27	8	14.3	14.3	-0.0
27	9	13.2	13.0	-0.2
27	10	12.5	12.4	-0.1
27	11	11.6	11.8	0.2
27	12	10.3	10.2	-0.1
27	13	8.7	8.8	0.1
27	14	7.4	7.3	-0.1
27	15	5.9	5.8	-0.1
27	16	4.4	4.4	0.0
27	17	3.1	2.8	-0.3
27	18	2.2	2.2	0.0
27	19	1.4	1.2	-0.2
27	20	0.8	0.7	-0.1
27	21	0.6	0.6	-0.0
27	22	0.6	0.6	0.0
27	23	1.2	0.9	-0.3
27	24	2.9	2.6	-0.3
27	25	4.7	5.0	0.3
27	26	5.9	5.7	-0.2
27	27	6.7	7.0	0.3
27	28	7.4	7.3	-0.1
27	29	7.7	7.6	-0.1
27	30	7.8	8.0	0.2
27	31	8.0	8.0	0.0
27	32	8.1	8.0	-0.1
27	33	8.1	8.0	-0.1
27	34	8.2	8.0	-0.2
27	35	8.3	8.2	-0.1
27	36	8.5	8.5	0.0
28	1	24.4	24.4	-0.0
28	2	23.1	22.8	-0.3
28	3	21.6	21.9	0.3
28	4	20.0	19.8	-0.2
28	5	19.0	19.0	0.0
28	6	18.0	17.6	-0.4
28	7	16.2	16.0	-0.2
28	8	14.4	14.5	0.1
28	9	13.2	13.2	0.0
28	10	12.3	12.4	0.1
28	11	11.3	11.2	-0.1
28	12	9.9	9.9	0.0
28	13	8.6	8.6	-0.0
28	14	7.3	7.4	0.1
28	15	5.7	5.6	-0.1
28	16	4.1	4.2	0.1

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARÓ 1977

P	P	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
28	17	2.9	2.8	-0.1
28	18	2.1	2.1	0.0
28	19	1.3	1.3	-0.0
28	20	0.6	0.6	-0.0
28	21	0.4	0.0	-0.4
28	22	0.5	0.1	-0.4
28	23	1.0	0.8	-0.2
28	24	2.2	2.0	-0.2
28	25	4.1	3.8	-0.3
28	26	5.9	5.8	-0.1
28	27	7.0	7.2	0.2
28	28	7.6	7.8	0.2
28	29	7.9	8.0	0.1
28	30	8.2	8.2	0.0
28	31	8.3	8.3	0.0
28	32	8.4	8.4	0.0
28	33	8.5	8.6	0.1
28	34	8.6	8.7	0.1
28	35	8.7	8.8	0.1
28	36	8.9	8.9	0.0
29	1	25.0	25.1	0.1
29	2	23.6	23.5	-0.1
29	3	22.1	22.2	0.1
29	4	20.4	20.3	-0.1
29	5	19.2	19.3	0.1
29	6	18.1	18.0	-0.1
29	7	16.5	16.5	0.0
29	8	14.7	14.6	-0.1
29	9	13.4	13.2	-0.2
29	10	12.3	12.2	-0.1
29	11	11.1	11.0	-0.1
29	12	9.6	9.6	-0.0
29	13	8.4	8.4	-0.0
29	14	7.2	7.2	0.0
29	15	5.6	5.4	-0.2
29	16	3.9	4.0	0.1
29	17	2.8	2.6	-0.2
29	18	1.9	1.9	-0.0
29	19	1.2	1.0	-0.2
29	20	0.4	0.2	-0.2
29	21	0.1	0.0	-0.1
29	22	0.4	0.1	-0.3
29	23	1.0	0.8	-0.2
29	24	2.0	1.8	-0.2
29	25	3.9	4.0	0.1
29	26	6.2	6.4	0.2
29	27	7.6	7.6	0.0
29	28	8.0	8.2	0.2
29	29	8.3	8.6	0.3
29	30	8.7	8.9	0.2
29	31	9.1	9.0	-0.1
29	32	9.3	9.2	-0.1

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	E	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	==========	=======	==========
29	33	9.4	9.3	-0.1
29	34	9.5	9.4	-0.1
29	35	9.6	9.6	-0.0
29	36	9.7	9.7	-0.0
30	1	25.4	25.5	0.1
30	2	24.1	24.2	0.1
30	3	22.6	22.6	-0.0
30	4	21.0	21.2	0.2
30	5	19.7	19.6	-0.1
30	6	18.7	18.9	0.2
30	7	17.2	17.3	0.1
30	8	15.4	15.4	0.0
30	9	13.6	13.6	-0.0
30	10	12.3	12.3	-0.0
30	11	11.0	11.0	-0.0
30	12	9.5	9.4	-0.1
30	13	8.2	8.1	-0.1
30	14	7.0	7.2	0.2
30	15	5.4	5.3	-0.1
30	16	3.8	3.8	-0.0
30	17	2.7	2.6	-0.1
30	18	1.9	1.8	-0.1
30	19	1.1	1.0	-0.1
30	20	0.5	0.3	-0.2
30	21	0.2	0.0	-0.2
30	22	0.4	0.0	-0.4
30	23	0.9	0.6	-0.3
30	24	1.9	1.6	-0.3
30	25	4.2	3.8	-0.4
30	26	6.7	7.0	0.3
30	27	8.0	8.2	0.2
30	28	8.3	8.5	0.2
30	29	8.6	8.6	0.0
30	30	9.2	9.2	0.0
30	31	9.8	10.1	0.3
30	32	10.2	10.5	0.3
30	33	10.4	10.7	0.3
30	34	10.5	10.9	0.4
30	35	10.7	11.0	0.3
30	36	10.7	11.0	0.3
31	1	25.6	25.6	-0.0
31	2	24.5	24.4	-0.1
31	3	23.1	23.2	0.1
31	4	21.7	21.8	0.1
31	5	20.5	20.4	-0.1
31	6	19.3	19.4	0.1
31	7	18.0	17.9	-0.1
31	8	16.0	16.0	-0.0
31	9	13.9	14.0	0.1
31	10	12.4	12.2	-0.2
31	11	11.1	11.2	0.1
31	12	9.5	9.6	0.1

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	F	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
31	13	8.1	7.8	-0.3
31	14	6.9	7.0	0.1
31	15	5.3	5.2	-0.1
31	16	3.7	3.6	-0.1
31	17	2.6	2.5	-0.1
31	18	1.8	1.7	-0.1
31	19	1.0	0.9	-0.1
31	20	0.5	0.6	0.1
31	21	0.4	0.3	-0.1
31	22	0.5	0.0	-0.5
31	23	0.8	0.8	0.0
31	24	1.9	1.6	-0.3
31	25	4.5	4.6	0.1
31	26	7.0	7.2	0.2
31	27	8.1	8.2	0.1
31	28	8.3	8.5	0.2
31	29	8.6	8.8	0.2
31	30	9.3	9.4	0.1
31	31	10.0	10.0	-0.0
31	32	10.4	10.3	-0.1
31	33	10.6	10.6	0.0
31	34	10.8	10.8	-0.0
31	35	11.1	11.0	-0.1
31	36	10.9	11.0	0.1
32	1	25.9	26.0	0.1
32	2	24.9	25.1	0.2
32	3	23.7	23.7	-0.0
32	4	22.5	22.8	0.3
32	5	21.1	21.2	0.1
32	6	19.8	20.0	0.2
32	7	18.5	18.6	0.1
32	8	16.6	16.8	0.2
32	9	14.3	14.4	0.1
32	10	12.5	12.3	-0.2
32	11	11.2	11.3	0.1
32	12	9.6	9.5	-0.1
32	13	8.0	8.0	-0.0
32	14	6.7	6.8	0.1
32	15	5.2	5.0	-0.2
32	16	3.6	3.6	-0.0
32	17	2.5	2.4	-0.1
32	18	1.7	1.6	-0.1
32	19	1.0	0.8	-0.2
32	20	0.7	0.4	-0.3
32	21	0.7	0.2	-0.5
32	22	0.6	0.2	-0.4
32	23	0.8	0.6	-0.2
32	24	2.1	1.6	-0.5
32	25	4.6	4.8	0.2
32	26	7.0	7.0	-0.0
32	27	8.0	8.2	0.2
32	28	8.3	8.5	0.2

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATAPO 1977

P	F	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
32	29	9.6	9.8	0.2
32	30	9.3	9.4	0.1
32	31	9.9	10.1	0.2
32	32	10.1	10.3	0.2
32	33	10.2	10.6	0.4
32	34	10.5	10.8	0.3
32	35	10.7	11.1	0.4
32	36	10.4	10.8	0.4
33	1	26.1	26.2	0.1
33	2	25.2	25.3	0.1
33	3	24.1	24.0	-0.1
33	4	23.0	23.2	0.2
33	5	21.5	21.5	-0.0
33	6	20.1	20.2	0.1
33	7	18.8	19.0	0.2
33	8	17.1	17.1	0.0
33	9	14.6	14.6	0.0
33	10	12.5	12.4	-0.1
33	11	11.2	11.3	0.1
33	12	9.7	9.6	-0.1
33	13	8.1	7.9	-0.2
33	14	6.7	6.7	-0.0
33	15	5.2	5.0	-0.2
33	16	3.6	3.4	-0.2
33	17	2.4	2.2	-0.2
33	18	1.7	1.7	-0.0
33	19	1.3	1.2	-0.1
33	20	1.0	0.9	-0.1
33	21	0.8	0.9	0.1
33	22	0.8	0.9	0.1
33	23	1.3	0.9	-0.4
33	24	2.6	2.4	-0.2
33	25	4.8	4.7	-0.1
33	26	6.9	6.9	0.0
33	27	8.0	8.2	0.2
33	28	8.4	8.4	0.0
33	29	8.7	8.8	0.1
33	30	9.3	9.3	0.0
33	31	9.9	10.0	0.1
33	32	10.1	10.0	-0.1
33	33	10.1	10.0	-0.1
33	34	10.1	10.0	-0.1
33	35	10.1	10.0	-0.1
33	36	9.8	9.8	-0.0
34	1	26.3	26.3	-0.0
34	2	25.4	25.5	0.1
34	3	24.3	24.2	-0.1
34	4	23.0	23.3	0.3
34	5	21.5	21.6	0.1
34	6	20.1	20.1	0.0
34	7	18.8	19.0	0.2
34	8	17.2	17.2	-0.0

35	21	1.1	1.0	-0.1
35	22	1.8	1.6	-0.2

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	F	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
34	9	14.8	15.0	0.2
34	10	12.6	12.4	-0.2
34	11	11.2	11.2	0.0
34	12	9.7	9.8	0.1
34	13	8.2	8.1	-0.1
34	14	7.0	7.1	0.1
34	15	5.5	5.5	-0.0
34	16	3.8	3.8	-0.0
34	17	2.4	2.1	-0.3
34	18	1.7	1.5	-0.2
34	19	1.4	1.1	-0.3
34	20	1.1	0.8	-0.3
34	21	0.8	0.6	-0.2
34	22	1.1	0.6	-0.5
34	23	2.0	1.6	-0.4
34	24	3.2	3.4	0.2
34	25	4.9	4.8	-0.1
34	26	6.8	7.0	0.2
34	27	8.0	8.2	0.2
34	28	8.5	8.6	0.1
34	29	8.6	8.8	0.2
34	30	9.1	9.0	-0.1
34	31	9.8	9.9	0.1
34	32	10.2	10.4	0.2
34	33	10.1	10.4	0.3
34	34	10.0	10.2	0.2
34	35	9.8	10.0	0.2
34	36	9.5	9.6	0.1
35	1	26.5	26.5	0.0
35	2	25.5	25.6	0.1
35	3	24.4	24.4	0.0
35	4	22.9	23.1	0.2
35	5	21.5	21.6	0.1
35	6	20.2	20.3	0.1
35	7	18.9	19.0	0.1
35	8	17.2	17.3	0.1
35	9	14.9	15.0	0.1
35	10	12.5	12.4	-0.1
35	11	10.9	10.9	-0.0
35	12	9.7	9.6	-0.1
35	13	8.3	8.2	-0.1
35	14	7.1	7.2	0.1
35	15	5.8	5.7	-0.1
35	16	4.2	4.2	-0.0
35	17	2.7	2.4	-0.3
35	18	1.7	1.7	-0.0
35	19	1.3	1.3	-0.0
35	20	1.1	1.0	-0.1
35	21	1.1	1.0	-0.1
35	22	1.8	1.6	-0.2
35	23	2.7	3.0	0.3
35	24	3.8	3.6	-0.2

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	T	FILTRADOS	MEDIDOS	DIFERENCIA
35	25	5.4	5.0	-0.4
35	26	7.0	7.1	0.1
35	27	8.0	7.8	-0.2
35	28	8.3	8.3	-0.0
35	29	8.5	8.6	0.1
35	30	9.0	8.9	-0.1
35	31	9.7	9.8	0.1
35	32	10.2	10.0	-0.2
35	33	10.1	10.0	-0.1
35	34	9.9	10.0	0.1
35	35	9.7	9.7	-0.0
35	36	9.4	9.4	-0.0
36	1	26.7	26.8	0.1
36	2	25.8	25.7	-0.1
36	3	24.6	24.9	0.3
36	4	23.2	22.9	-0.3
36	5	21.9	22.0	0.1
36	6	20.6	20.8	0.2
36	7	19.1	19.2	0.1
36	8	17.3	17.3	0.0
36	9	14.9	14.8	-0.1
36	10	12.5	12.3	-0.2
36	11	10.9	10.8	-0.1
36	12	9.6	9.6	-0.0
36	13	8.5	8.4	-0.1
36	14	7.3	7.4	0.1
36	15	5.9	5.8	-0.1
36	16	4.6	4.6	-0.0
36	17	3.2	3.3	0.1
36	18	2.1	1.6	-0.5
36	19	1.5	1.2	-0.3
36	20	1.6	1.4	-0.2
36	21	2.1	1.9	-0.2
36	22	2.8	2.6	-0.2
36	23	3.3	3.4	0.1
36	24	4.4	4.0	-0.4
36	25	6.3	6.8	0.5
36	26	7.6	7.8	0.2
36	27	7.9	8.0	0.1
36	28	8.1	8.1	0.0
36	29	8.4	8.2	-0.2
36	30	8.7	8.6	-0.1
36	31	9.5	9.6	0.1
36	32	10.0	10.3	0.3
36	33	9.9	10.0	0.1
36	34	9.6	9.7	0.1
36	35	9.4	9.4	0.0
36	36	9.1	9.1	-0.0
37	1	26.9	27.0	0.1
37	2	25.9	25.8	-0.1
37	3	24.9	25.2	0.3
37	4	23.6	23.7	0.1

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	F	FILTRADOS	MEDIDOS	DIFERENCIA
37	5	22.4	22.7	0.3
37	6	21.1	21.2	0.1
37	7	19.3	19.4	0.1
37	8	17.3	17.5	0.2
37	9	15.1	15.3	0.2
37	10	12.9	12.8	-0.1
37	11	11.0	11.0	-0.0
37	12	9.6	9.6	-0.0
37	13	8.6	8.5	-0.1
37	14	7.4	7.6	0.2
37	15	6.1	6.0	-0.1
37	16	4.9	4.9	0.0
37	17	3.7	3.6	-0.1
37	18	2.6	2.5	-0.1
37	19	2.1	2.0	-0.1
37	20	2.3	2.2	-0.1
37	21	3.0	2.6	-0.4
37	22	3.4	3.9	0.5
37	23	3.6	3.6	-0.0
37	24	5.1	4.8	-0.3
37	25	7.4	8.0	0.6
37	26	8.3	8.0	-0.3
37	27	8.0	8.0	-0.0
37	28	8.1	8.0	-0.1
37	29	8.4	8.4	0.0
37	30	8.5	8.6	0.1
37	31	9.1	9.0	-0.1
37	32	9.8	10.0	0.2
37	33	9.8	9.8	-0.0
37	34	9.4	9.5	0.1
37	35	9.1	9.2	0.1
37	36	8.8	8.8	0.0
38	1	27.1	27.0	-0.1
38	2	25.8	25.7	-0.1
38	3	24.8	24.9	0.1
38	4	23.6	23.4	-0.2
38	5	22.4	22.5	0.1
38	6	21.1	21.4	0.3
38	7	19.4	19.4	0.0
38	8	17.4	17.4	0.0
38	9	15.2	15.2	-0.0
38	10	13.1	12.9	-0.2
38	11	11.1	11.0	-0.1
38	12	9.4	9.2	-0.2
38	13	8.4	8.4	-0.0
38	14	7.6	7.5	-0.1
38	15	6.4	6.4	0.0
38	16	5.1	5.0	-0.1
38	17	4.0	3.8	-0.2
38	18	3.0	2.8	-0.2
38	19	2.5	2.4	-0.1
38	20	2.7	2.6	-0.1

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	S	FILTRADOS	METODOS	DIFERENCIA
=	=	=========	=======	==========
38	21	3.2	2.9	-0.3
38	22	3.4	3.2	-0.2
38	23	3.8	3.6	-0.2
38	24	5.8	6.0	0.2
38	25	8.1	8.4	0.3
38	26	8.7	8.7	-0.0
38	27	8.5	8.7	0.2
38	28	8.7	8.7	-0.0
38	29	8.9	8.7	-0.2
38	30	8.8	8.7	-0.1
38	31	9.2	8.8	-0.4
38	32	9.7	10.1	0.4
38	33	9.7	9.7	-0.0
38	34	9.3	9.4	0.1
38	35	9.0	9.0	0.0
38	36	8.6	8.6	0.0
39	1	27.1	27.1	-0.0
39	2	25.5	25.7	0.2
39	3	24.4	24.5	0.1
39	4	23.3	23.2	-0.1
39	5	22.1	22.2	0.1
39	6	20.7	20.8	0.1
39	7	19.1	19.2	0.1
39	8	17.2	17.4	0.2
39	9	15.1	15.1	-0.0
39	10	13.0	12.9	-0.1
39	11	11.0	11.0	0.0
39	12	9.2	9.0	-0.2
39	13	8.3	8.3	0.0
39	14	7.6	7.6	-0.0
39	15	6.6	6.6	0.0
39	16	5.3	5.4	0.1
39	17	4.1	4.0	-0.1
39	18	3.1	3.1	-0.0
39	19	2.7	2.5	-0.2
39	20	2.8	2.6	-0.2
39	21	3.2	3.2	-0.0
39	22	3.5	3.6	0.1
39	23	4.3	4.1	-0.2
39	24	6.6	6.7	0.1
39	25	8.8	8.9	0.1
39	26	9.3	9.2	-0.1
39	27	9.2	9.4	0.2
39	28	9.5	9.6	0.1
39	29	9.6	9.7	0.1
39	30	9.6	9.8	0.2
39	31	9.7	10.0	0.3
39	32	9.8	9.9	0.1
39	33	9.6	9.6	0.0
39	34	9.2	9.3	0.1
39	35	8.8	9.0	0.2
39	36	8.4	8.4	0.0

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	I	FILTRADOS	MEDIDOS	DIFERENCIA
40	1	27.0	27.0	-0.0
40	2	25.4	25.3	-0.1
40	3	24.2	24.0	-0.2
40	4	23.1	23.1	0.0
40	5	21.7	21.8	0.1
40	6	20.2	20.1	-0.1
40	7	18.8	18.9	0.1
40	8	17.0	17.1	0.1
40	9	15.0	14.8	-0.2
40	10	13.0	13.0	0.0
40	11	10.9	10.8	-0.1
40	12	9.2	8.9	-0.3
40	13	8.2	8.2	-0.0
40	14	7.5	7.5	-0.0
40	15	6.5	6.4	-0.1
40	16	5.4	5.4	0.0
40	17	4.3	4.2	-0.1
40	18	3.4	3.2	-0.2
40	19	3.0	2.8	-0.2
40	20	3.2	3.0	-0.2
40	21	3.5	3.4	-0.1
40	22	4.0	3.8	-0.2
40	23	5.1	5.0	-0.1
40	24	7.3	7.2	-0.1
40	25	9.0	9.2	0.2
40	26	9.6	9.7	0.1
40	27	9.8	9.9	0.1
40	28	10.0	10.0	-0.0
40	29	10.1	10.1	-0.0
40	30	10.1	10.1	0.0
40	31	10.0	10.1	0.1
40	32	9.7	9.8	0.1
40	33	9.3	9.3	0.0
40	34	8.8	8.9	0.1
40	35	8.4	8.4	0.0
40	36	8.0	8.0	0.0
41	1	26.9	27.0	0.1
41	2	25.3	25.4	0.1
41	3	24.1	24.0	-0.1
41	4	23.0	23.0	-0.0
41	5	21.6	21.6	-0.0
41	6	20.0	20.0	0.0
41	7	18.6	18.6	0.0
41	8	17.0	17.0	0.0
41	9	14.9	15.0	0.1
41	10	12.9	12.9	0.0
41	11	10.9	10.8	-0.1
41	12	9.2	9.0	-0.2
41	13	8.2	8.2	0.0
41	14	7.5	7.4	-0.1
41	15	6.5	6.5	0.0
41	16	5.5	5.5	0.0

VALORS FILTRADOS PER PABA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P	E	FILTRADOS	MEDIDOS	DIFERENCIA
41	17	4.6	4.5	-0.1
41	18	3.8	3.8	-0.0
41	19	3.5	3.6	0.1
41	20	3.6	3.4	-0.2
41	21	4.0	3.7	-0.3
41	22	4.5	4.4	-0.1
41	23	5.6	5.4	-0.2
41	24	7.3	7.5	0.2
41	25	8.8	8.8	0.0
41	26	9.6	9.6	0.0
41	27	10.2	10.3	0.1
41	28	10.6	10.9	0.3
41	29	10.5	10.7	0.2
41	30	10.2	10.3	0.1
41	31	9.8	9.9	0.1
41	32	9.4	9.4	-0.0
41	33	9.0	9.0	0.0
41	34	8.4	8.4	0.0
41	35	7.9	7.8	-0.1
41	36	7.5	7.5	-0.0
42	1	26.8	26.8	0.0
42	2	25.4	25.4	-0.0
42	3	24.3	24.2	-0.1
42	4	23.1	23.0	-0.1
42	5	21.8	21.7	-0.1
42	6	20.1	19.9	-0.2
42	7	18.6	18.6	-0.0
42	8	17.0	17.1	0.1
42	9	15.0	14.8	-0.2
42	10	12.9	12.8	-0.1
42	11	11.0	10.8	-0.2
42	12	9.2	9.0	-0.2
42	13	8.2	8.0	-0.2
42	14	7.5	7.4	-0.1
42	15	6.6	6.6	-0.0
42	16	5.7	5.6	-0.1
42	17	4.8	4.8	-0.0
42	18	4.0	3.8	-0.2
42	19	3.7	3.4	-0.3
42	20	3.8	3.6	-0.2
42	21	4.2	4.0	-0.2
42	22	4.7	4.7	-0.0
42	23	5.9	5.7	-0.2
42	24	7.6	7.4	-0.2
42	25	9.0	8.8	-0.2
42	26	10.0	10.2	0.2
42	27	10.8	11.0	0.2
42	28	11.1	11.2	0.1
42	29	10.8	11.0	0.2
42	30	10.1	10.2	0.1
42	31	9.5	9.6	0.1
42	32	9.0	9.2	0.2

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

º =	' =	FILTRADOS ========	MEDIDOS =======	DIFERENCIA ==========
42	33	8.6	8.7	0.1
42	34	8.1	8.1	0.0
42	35	7.6	7.6	0.0
42	36	7.1	7.2	0.1
43	1	[illegible]	[illegible]	0.1
43	2	25.6	25.6	-0.0
43	3	24.5	24.4	-0.1
43	4	23.3	23.3	-0.0
43	5	22.0	22.2	0.2
43	6	20.4	20.3	-0.1
43	7	18.8	18.8	0.0
43	8	17.1	17.1	0.0
43	9	15.0	15.0	0.0
43	10	13.0	13.0	-0.0
43	11	11.1	11.2	0.1
43	12	9.3	9.2	-0.1
43	13	8.1	8.0	-0.1
43	14	7.3	7.3	-0.0
43	15	6.6	6.6	-0.0
43	16	5.9	5.9	0.0
43	17	5.1	5.2	0.1
43	18	4.2	3.9	-0.3
43	19	3.7	3.6	-0.1
43	20	3.9	3.8	-0.1
43	21	4.4	4.2	-0.2
43	22	5.1	4.9	-0.2
43	23	6.6	6.2	-0.4
43	24	8.7	9.1	0.4
43	25	10.4	10.4	-0.0
43	26	11.2	11.4	0.2
43	27	11.6	11.8	0.2
43	28	11.6	11.7	0.1
43	29	10.8	11.1	0.3
43	30	10.0	10.0	0.0
43	31	9.2	9.4	0.2
43	32	8.7	8.4	-0.3
43	33	8.2	8.2	0.0
43	34	7.7	7.6	-0.1
43	35	7.2	7.2	0.0
43	36	6.7	6.7	-0.0
44	1	26.7	26.7	-0.0
44	2	25.9	25.8	-0.1
44	3	24.8	24.8	0.0
44	4	23.6	23.6	-0.0
44	5	22.4	22.4	-0.0
44	6	20.9	20.8	-0.1
44	7	19.1	19.0	-0.1
44	8	17.2	17.2	0.0
44	9	15.0	14.8	-0.2
44	10	13.2	13.0	-0.2
44	11	11.3	11.3	-0.0
44	12	9.4	9.0	-0.4

VALORES FILTRADOS POR PASA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA MATARO 1977

P =	F =	FILTRADOS =========	MEDIDOS =======	DIFERENCIA =========
44	13	8.0	7.8	-0.2
44	14	7.2	7.1	-0.1
44	15	6.6	6.4	-0.2
44	16	6.0	5.8	-0.2
44	17	5.4	5.4	-0.0
44	18	4.8	4.8	0.0
44	19	4.3	4.2	-0.1
44	20	4.4	4.1	-0.3
44	21	4.9	4.6	-0.3
44	22	5.8	5.6	-0.2
44	23	7.3	7.1	-0.2
44	24	9.8	9.8	0.0
44	25	11.9	12.4	0.5
44	26	12.7	12.9	0.2
44	27	12.6	13.1	0.5
44	28	12.0	12.2	0.2
44	29	10.8	10.9	0.1
44	30	9.8	9.7	-0.1
44	31	9.1	9.1	0.0
44	32	8.4	8.4	-0.0
44	33	7.8	7.8	0.0
44	34	7.2	7.2	-0.0
44	35	6.7	6.7	-0.0
44	36	6.2	6.2	-0.0
45	1	26.8	26.8	-0.0
45	2	26.1	26.1	0.0
45	3	25.1	25.1	0.0
45	4	24.0	24.1	0.1
45	5	23.0	23.1	0.1
45	6	21.6	21.9	0.3
45	7	19.7	19.6	-0.1
45	8	17.4	17.6	0.2
45	9	15.1	15.0	-0.1
45	10	13.4	13.4	-0.0
45	11	11.7	11.7	-0.0
45	12	9.6	9.5	-0.1
45	13	8.1	8.1	-0.0
45	14	7.3	7.2	-0.1
45	15	6.6	6.5	-0.1
45	16	6.0	6.0	0.0
45	17	5.7	5.6	-0.1
45	18	5.4	5.4	0.0
45	19	5.1	5.1	-0.0
45	20	5.2	5.1	-0.1
45	21	5.7	5.6	-0.1
45	22	6.4	6.2	-0.2
45	23	7.7	7.8	0.1
45	24	10.0	9.8	-0.2
45	25	12.4	13.0	0.6
45	26	13.3	13.4	0.1
45	27	13.2	13.4	0.2
45	28	12.4	12.9	0.5

VALORES FILTRADOS POR PARA PARA UT=.400 UC=.300 N= 9

ZONA GRAVIMETRIA BATAPO 1977

P	T	FILTRADOS	MEDIDOS	DIFERENCIA
=	=	=========	=======	==========
45	29	10.9	10.8	-0.1
45	30	9.6	9.6	-0.0
45	31	8.9	8.8	-0.1
45	32	8.2	8.0	-0.2
45	33	7.5	7.4	-0.1
45	34	6.8	6.8	-0.0
45	35	6.3	6.2	-0.1
45	36	5.8	5.7	-0.1
46	1	27.0	26.8	-0.2
46	2	26.2	26.1	-0.1
46	3	25.2	25.3	0.1
46	4	24.3	24.3	0.0
46	5	23.6	23.8	0.2
46	6	22.4	22.4	0.0
46	7	20.3	20.4	0.1
46	8	17.7	17.7	-0.0
46	9	15.3	15.3	-0.0
46	10	13.6	13.4	-0.2
46	11	12.0	12.2	0.2
46	12	10.0	9.6	-0.4
46	13	8.3	8.2	-0.1
46	14	7.4	7.2	-0.2
46	15	6.7	6.6	-0.1
46	16	6.0	5.9	-0.1
46	17	5.7	5.6	-0.1
46	18	5.6	5.4	-0.2
46	19	5.6	5.3	-0.3
46	20	5.7	5.4	-0.3
46	21	6.2	5.7	-0.5
46	22	6.9	6.8	-0.1
46	23	8.1	8.1	-0.0
46	24	10.4	10.0	-0.4
46	25	12.7	13.7	1.0
46	26	13.7	14.0	0.3
46	27	13.5	14.0	0.5
46	28	12.6	13.0	0.4
46	29	10.8	10.6	-0.2
46	30	9.4	9.5	0.1
46	31	8.5	8.4	-0.1
46	32	7.7	7.6	-0.1
46	33	7.0	7.0	-0.0
46	34	6.4	6.4	-0.0
46	35	5.9	5.9	0.0
46	36	5.4	5.4	-0.0

4.2.- Derivación y continuación de campos.

Suprimido el ruido, la obtención de la deriva - verticales primera y segunda, tiene por objeto resaltar - las anomalías presentes.

Con la continuación de campos hacia arriba, lo que se pretende es obtener una representación de la superficie regional.

Para ello se ha probado inicialmente con 1,2,4 y 8 pasos de malla, resultado que se visualiza en el ejemplo adjunto.

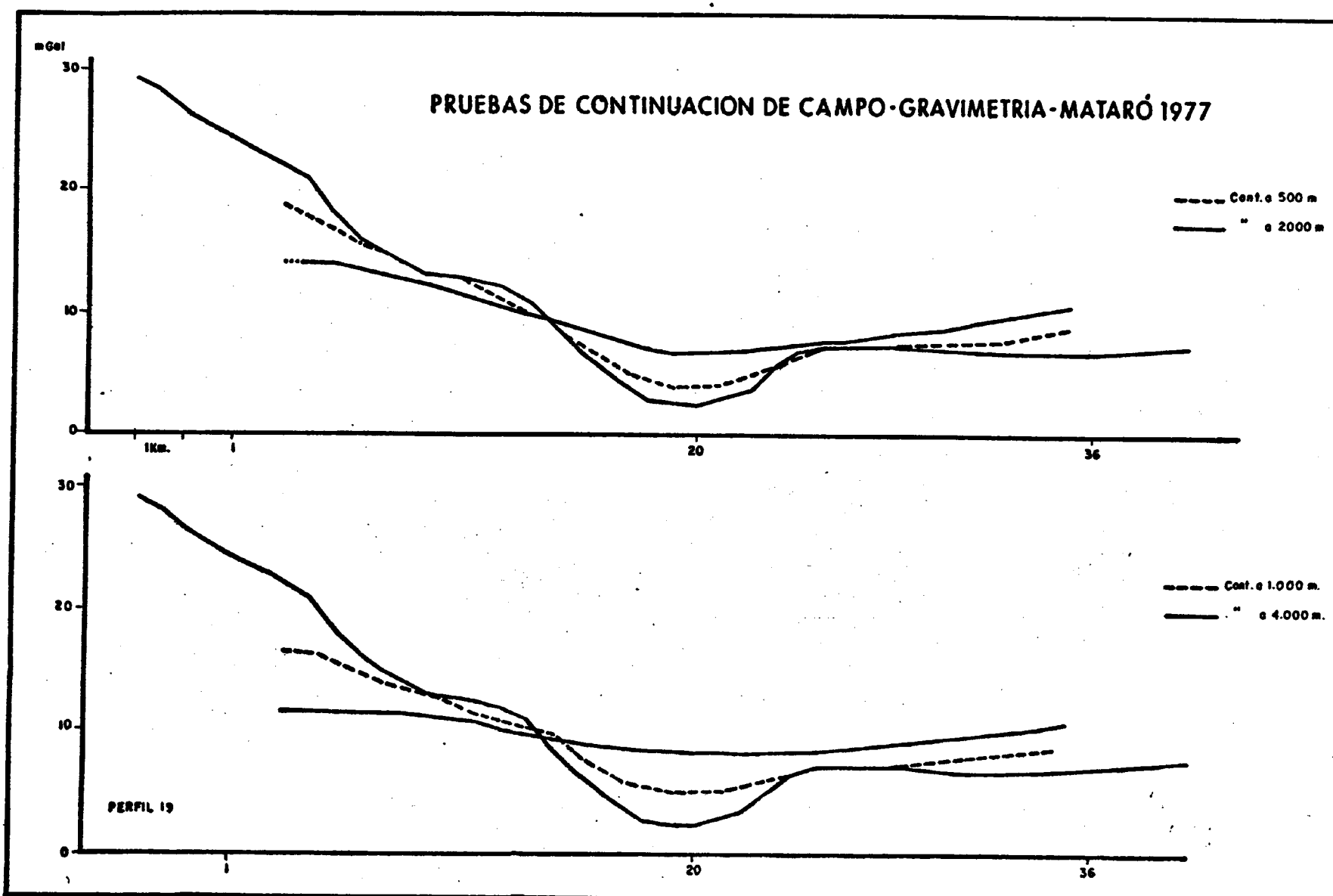
Según el mapa de Bouguer Nacional 1/1.000.000 editado por - el I.G.C., el gradiente normal, de origen profundo, en esta zona es del orden de 2 mGal/Km, en la dirección elegida para los perfiles y buzamiento NW, pasando a 1 mGal/Km a partir de la línea central de nuestra zona. Además es ya conocido el tipo de anomalía gravimétrica que produce una depresión sedimentaria, por lo que nos interesa incluir esta en la regional, ya que nuestro interés está centrado en las - estructuras interiores de la cuenca y no en ella misma.

Por estas razones, tras las pruebas de continuación, hemos optado por elegir la de 1.000 m. como más representativa - de una regional, siendo su diferencia con los valores medidos una estimación cualitativa de la residual.

Debido al método matemático empleado en el cálculo de las - derivadas y continuación de campos (solución de la ecuación de Laplace por desarrollo de Fourier bidimensional) se pierden unos 2 Km en cada extremo de los perfiles.

En los listados de este programa se incluye no obstante la regional y residual de 8 pasos de malla. Los valores de 2ª derivada deben multiplicarse por 10 para obtenerlos en unidades de mGal/Km^2.

En el ejemplo adjunto puede apreciarse el tipo de información suministrado por la derivación. La 2ª derivada es más sensible a la reparación de todo tipo de integración de anomalías. La primera derivada permite deducir la dirección del buzamiento de las fallas, aunque integra en una misma variación de gradiente el efecto de varias estructuras.


mGal
30
20
10
0
PRUEBAS DE CONTINUACION DE CAMPO-GRAVIMETRIA-MATARÓ 1977
Cont. a 500 m
" a 2000 m
1Km.
1
20
36
30
20
10
0
Cont. a 1.000 m.
" a 4.000 m.
PERFIL 19
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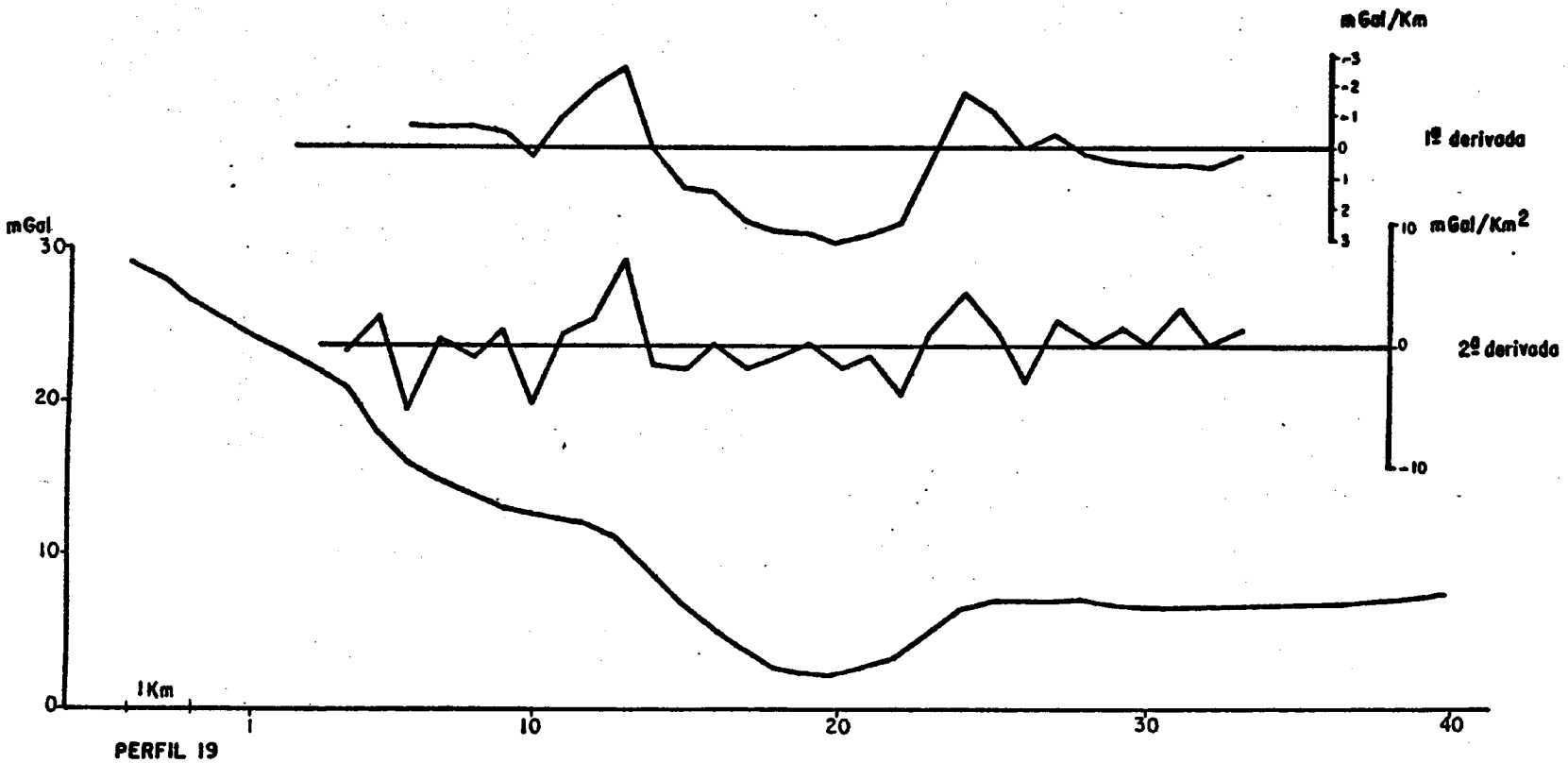
36

DERIVADAS VERTICALES
GRAVIMETRIA - MATARÓ · 1977



Listado de derivación y continuación de campos

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
1	1	21.3	-16.8	4.8	6.3	15.0	9.5	11.8
1	2	19.6	3.4	-6.0	3.4	16.2	7.6	12.0
1	3	18.2	4.9	-3.8	1.7	16.5	6.2	12.0
1	4	17.1	7.2	-4.9	0.7	16.4	5.0	12.1
1	5	16.0	7.8	-4.7	0.1	15.9	4.0	12.0
1	6	15.0	7.9	-4.8	-0.2	15.2	3.1	11.9
1	7	13.8	7.4	-4.1	-0.6	14.4	2.1	11.7
1	8	12.6	6.7	-3.4	-0.9	13.5	1.1	11.5
1	9	11.5	5.5	-2.5	-1.0	12.5	0.3	11.2
1	10	10.6	4.5	-2.0	-1.0	11.6	-0.3	10.9
1	11	9.7	3.6	-1.5	-1.0	10.7	-0.9	10.6
1	12	8.9	2.4	-0.8	-1.0	9.9	-1.4	10.3
1	13	8.2	1.2	0.0	-0.9	9.1	-1.8	10.0
1	14	7.4	1.4	-0.2	-1.0	8.4	-2.4	9.8
1	15	6.7	1.5	-0.2	-1.2	7.9	-2.8	9.5
1	16	6.2	1.2	0.1	-1.2	7.4	-3.1	9.3
1	17	5.7	1.8	-0.1	-1.4	7.1	-3.5	9.2
1	18	5.4	2.1	-0.3	-1.5	6.9	-3.6	9.0
1	19	5.2	2.5	-0.5	-1.6	6.8	-3.8	9.0
1	20	5.1	3.1	-0.8	-1.7	6.8	-3.9	9.0
1	21	5.2	3.6	-1.0	-1.8	7.0	-3.8	9.0
1	22	5.5	4.1	-1.2	-1.9	7.4	-3.6	9.0
1	23	5.9	5.4	-1.7	-2.0	7.9	-3.3	9.2
1	24	6.7	7.5	-3.1	-2.0	8.7	-2.6	9.3
1	25	8.7	6.2	-3.4	-0.8	9.5	-0.8	9.5
1	26	11.5	-0.1	-1.1	1.3	10.2	1.9	9.6
1	27	12.8	-3.2	0.3	2.1	10.7	3.0	9.8
1	28	12.5	-1.8	-0.3	1.6	10.9	2.5	10.0
1	29	12.3	-3.3	1.2	1.4	10.9	2.1	10.2
1	30	12.1	-4.2	1.7	1.2	10.9	1.7	10.4
1	31	11.8	-4.9	2.4	1.0	10.8	1.2	10.6
1	32	11.5	-4.8	2.3	0.7	10.8	0.7	10.8
1	33	11.2	-5.2	3.2	0.3	10.9	0.2	11.0
1	34	10.9	-4.0	2.5	-0.3	11.2	-0.3	11.2
1	35	10.4	-3.2	4.6	-1.5	11.9	-1.0	11.4
1	36	10.1	12.9	-4.6	-3.2	13.3	-1.5	11.6
2	1	20.9	-21.1	9.0	6.2	14.7	9.1	11.8
2	2	19.1	-3.1	-1.2	3.5	15.6	7.2	11.9
2	3	17.9	-2.7	1.5	2.0	15.8	5.8	12.0
2	4	16.8	-1.2	0.6	1.2	15.6	4.8	12.0
2	5	15.7	-0.9	1.3	0.6	15.1	3.8	11.9
2	6	14.6	-0.0	0.8	0.2	14.4	2.8	11.8
2	7	13.5	0.1	1.0	-0.2	13.7	1.9	11.6
2	8	12.4	0.7	0.6	-0.5	12.9	1.0	11.4
2	9	11.4	0.8	0.5	-0.6	12.0	0.3	11.1
2	10	10.6	0.5	0.5	-0.6	11.2	-0.2	10.8
2	11	9.6	1.2	0.2	-0.8	10.4	-1.0	10.6
2	12	8.8	1.3	-0.0	-0.9	9.7	-1.5	10.3
2	13	8.2	0.7	0.2	-0.8	9.0	-1.8	10.0
2	14	7.5	0.9	0.0	-0.9	8.4	-2.2	9.7
2	15	6.8	1.1	0.1	-1.1	7.9	-2.7	9.5
2	16	6.2	1.6	-0.2	-1.2	7.4	-3.1	9.3
2	17	5.8	1.6	-0.1	-1.3	7.1	-3.4	9.2

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESO. 1000.M	CONT. 1000.M	RESO. 2000.M	CONT. 4000.M
2	18	5.6	1.3	0.1	-1.3	6.9	-3.4	9.0
2	19	5.5	0.9	0.4	-1.3	6.8	-3.5	9.0
2	20	5.4	1.3	0.2	-1.4	6.8	-3.5	8.9
2	21	5.5	1.2	0.4	-1.4	6.9	-3.5	9.0
2	22	5.7	1.5	0.3	-1.6	7.3	-3.3	9.0
2	23	6.0	2.2	0.4	-1.8	7.8	-3.1	9.1
2	24	6.8	3.4	-0.3	-1.7	8.5	-2.5	9.3
2	25	9.3	-0.4	0.7	-0.0	9.3	-0.1	9.4
2	26	12.0	-4.5	1.3	1.9	10.1	2.4	9.6
2	27	12.8	-3.9	0.7	2.1	10.7	3.0	9.8
2	28	12.4	-1.5	-0.2	1.5	10.9	2.4	10.0
2	29	12.2	-1.1	-0.3	1.2	11.0	2.0	10.2
2	30	12.2	-1.6	-0.2	1.1	11.1	1.8	10.4
2	31	11.8	-0.7	-0.4	0.8	11.0	1.2	10.6
2	32	11.5	-0.1	-0.8	0.4	11.1	0.7	10.8
2	33	11.2	-0.2	-0.2	0.0	11.2	0.2	11.0
2	34	10.8	1.8	-1.4	-0.7	11.5	-0.4	11.2
2	35	10.4	1.9	1.0	-1.7	12.1	-1.0	11.4
2	36	10.1	16.1	-9.1	-3.2	13.3	-1.5	11.6
3	1	20.5	-19.6	7.5	6.1	14.4	8.8	11.7
3	2	18.8	-2.7	-2.2	3.6	15.2	7.0	11.8
3	3	17.5	-1.9	-0.1	2.2	15.3	5.6	11.9
3	4	16.6	-0.9	-0.7	1.5	15.1	4.7	11.9
3	5	15.5	-0.5	-0.3	0.9	14.6	3.7	11.8
3	6	14.4	0.3	-0.6	0.4	14.0	2.7	11.7
3	7	13.3	0.5	-0.3	0.0	13.3	1.8	11.5
3	8	12.2	1.1	-0.5	-0.3	12.5	0.9	11.3
3	9	11.3	1.1	-0.3	-0.5	11.8	0.2	11.1
3	10	10.6	0.6	-0.1	-0.4	11.0	-0.2	10.8
3	11	9.7	0.8	-0.1	-0.6	10.3	-0.8	10.5
3	12	8.8	1.3	-0.2	-0.8	9.6	-1.4	10.2
3	13	8.1	1.1	-0.1	-0.9	9.0	-1.9	10.0
3	14	7.5	0.8	0.1	-0.9	8.4	-2.2	9.7
3	15	6.8	1.3	-0.1	-1.1	7.9	-2.7	9.5
3	16	6.3	1.3	-0.1	-1.1	7.4	-3.0	9.3
3	17	5.9	1.3	0.1	-1.2	7.1	-3.2	9.1
3	18	5.6	1.4	-0.0	-1.3	6.9	-3.4	9.0
3	19	5.4	1.6	-0.1	-1.3	6.7	-3.6	9.0
3	20	5.3	1.9	-0.3	-1.4	6.7	-3.6	8.9
3	21	5.4	2.0	-0.2	-1.5	6.9	-3.6	9.0
3	22	5.6	2.1	-0.2	-1.6	7.2	-3.4	9.0
3	23	5.8	3.4	-0.6	-1.8	7.6	-3.3	9.1
3	24	6.9	3.4	-1.0	-1.4	8.3	-2.4	9.3
3	25	9.6	-0.9	0.0	0.4	9.2	0.2	9.4
3	26	12.2	-5.0	1.0	2.2	10.0	2.6	9.6
3	27	12.8	-4.0	0.5	2.2	10.6	3.0	9.8
3	28	12.3	-1.1	-0.5	1.4	10.9	2.3	10.0
3	29	12.2	-1.3	0.1	1.2	11.0	2.1	10.1
3	30	12.2	-1.8	0.3	1.1	11.1	1.9	10.3
3	31	11.8	-1.1	0.3	0.6	11.2	1.3	10.5
3	32	11.5	-0.5	0.1	0.3	11.2	0.8	10.7
3	33	11.2	-0.5	0.6	-0.1	11.3	0.3	10.9
3	34	10.8	1.2	-0.3	-0.8	11.6	-0.3	11.1

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
3	35	10.3	1.8	1.7	-1.8	12.1	-1.0	11.3
3	36	10.0	15.4	-7.0	-3.2	13.2	-1.5	11.5
4	1	20.3	-19.9	8.0	6.0	14.3	8.7	11.6
4	2	18.6	-3.0	-1.9	3.6	15.0	6.9	11.7
4	3	17.5	-3.3	0.9	2.4	15.1	5.7	11.8
4	4	16.5	-1.7	-0.1	1.7	14.8	4.7	11.8
4	5	15.4	-1.4	0.5	1.1	14.3	3.7	11.7
4	6	14.3	-0.5	0.0	0.6	13.7	2.7	11.6
4	7	13.2	-0.2	0.3	0.2	13.0	1.8	11.4
4	8	12.1	0.7	-0.1	-0.2	12.3	0.9	11.2
4	9	11.3	0.3	0.2	-0.3	11.6	0.3	11.0
4	10	10.6	0.2	0.1	-0.3	10.9	-0.1	10.7
4	11	9.8	0.2	0.2	-0.4	10.2	-0.7	10.5
4	12	8.9	0.8	-0.1	-0.7	9.6	-1.3	10.2
4	13	8.1	1.0	0.0	-0.8	8.9	-1.8	9.9
4	14	7.4	1.2	-0.1	-1.0	8.4	-2.3	9.7
4	15	6.8	1.2	0.0	-1.1	7.9	-2.7	9.5
4	16	6.4	0.9	0.2	-1.0	7.4	-2.9	9.3
4	17	5.9	1.3	-0.0	-1.2	7.1	-3.2	9.1
4	18	5.5	1.7	-0.2	-1.3	6.8	-3.5	9.0
4	19	5.3	1.6	-0.0	-1.4	6.7	-3.6	8.9
4	20	5.3	1.5	-0.1	-1.4	6.7	-3.6	8.9
4	21	5.5	1.1	0.2	-1.3	6.8	-3.4	8.9
4	22	5.7	1.4	0.1	-1.3	7.0	-3.3	9.0
4	23	5.9	2.6	-0.2	-1.6	7.5	-3.2	9.1
4	24	6.9	2.9	-0.7	-1.3	8.2	-2.3	9.2
4	25	9.4	-1.2	0.5	0.4	9.0	0.0	9.4
4	26	11.8	-4.6	1.0	2.0	9.8	2.3	9.5
4	27	12.6	-4.3	0.7	2.2	10.4	2.9	9.7
4	28	12.4	-2.2	0.0	1.6	10.8	2.5	9.9
4	29	12.3	-2.0	0.3	1.3	11.0	2.2	10.1
4	30	12.1	-1.2	-0.1	1.0	11.1	1.8	10.3
4	31	11.7	-0.4	-0.1	0.5	11.2	1.2	10.5
4	32	11.4	0.4	-0.5	0.2	11.2	0.7	10.7
4	33	11.2	-0.1	0.3	-0.1	11.3	0.3	10.9
4	34	10.8	1.6	-0.8	-0.8	11.6	-0.3	11.1
4	35	10.3	2.1	1.3	-1.8	12.1	-1.0	11.3
4	36	10.0	15.4	-7.3	-3.1	13.1	-1.5	11.5
5	1	20.1	-18.9	7.2	5.9	14.2	8.5	11.6
5	2	18.6	-3.2	-1.9	3.7	14.9	6.9	11.7
5	3	17.5	-3.3	0.6	2.6	14.9	5.8	11.7
5	4	16.4	-1.4	-0.5	1.7	14.7	4.7	11.7
5	5	15.3	-1.1	0.0	1.1	14.2	3.6	11.7
5	6	14.3	-0.7	-0.2	0.8	13.5	2.7	11.5
5	7	13.2	-0.2	0.0	0.3	12.9	1.8	11.4
5	8	12.1	0.7	-0.4	-0.1	12.2	0.9	11.2
5	9	11.3	0.5	-0.1	-0.2	11.5	0.4	10.9
5	10	10.6	0.3	-0.0	-0.2	10.8	-0.1	10.7
5	11	9.8	0.4	-0.0	-0.4	10.2	-0.6	10.4
5	12	9.0	0.5	0.0	-0.5	9.5	-1.2	10.2
5	13	8.1	1.1	-0.1	-0.8	8.9	-1.8	9.9
5	14	7.3	1.6	-0.2	-1.1	8.4	-2.4	9.7
5	15	6.7	1.6	-0.2	-1.2	7.9	-2.7	9.4

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1800.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
5	16	6.3	1.3	-0.1	-1.1	7.4	-3.0	9.2
5	17	5.9	1.1	0.1	-1.2	7.1	-3.2	9.1
5	18	5.5	1.3	0.1	-1.3	6.8	-3.5	9.0
5	19	5.2	1.5	-0.0	-1.4	6.6	-3.7	8.9
5	20	5.2	1.2	0.1	-1.3	6.5	-3.7	8.9
5	21	5.4	0.7	0.3	-1.2	6.6	-3.5	8.9
5	22	5.7	0.8	0.2	-1.2	6.9	-3.2	8.9
5	23	6.1	1.4	0.0	-1.2	7.3	-2.9	9.0
5	24	7.0	1.9	-0.4	-1.0	8.0	-2.2	9.2
5	25	8.8	0.2	-0.3	0.1	8.7	-0.5	9.3
5	26	10.8	-2.4	0.3	1.3	9.5	1.3	9.5
5	27	11.9	-3.4	0.6	1.8	10.1	2.2	9.7
5	28	12.1	-2.3	0.1	1.6	10.5	2.2	9.9
5	29	12.1	-1.7	0.1	1.3	10.8	2.1	10.0
5	30	12.0	-1.2	-0.1	1.0	11.0	1.8	10.2
5	31	11.8	-1.1	0.3	0.7	11.1	1.4	10.4
5	32	11.5	-0.3	-0.1	0.3	11.2	0.9	10.6
5	33	11.2	-0.3	0.5	-0.1	11.3	0.4	10.8
5	34	10.8	1.3	-0.4	-0.8	11.6	-0.2	11.0
5	35	10.3	1.8	1.5	-1.8	12.1	-0.9	11.2
5	36	10.1	14.4	-6.6	-2.9	13.0	-1.3	11.4
6	1	20.2	-19.7	7.7	6.1	14.1	8.7	11.5
6	2	18.6	-3.2	-1.9	3.8	14.8	7.0	11.6
6	3	17.5	-3.4	0.7	2.6	14.9	5.8	11.7
6	4	16.4	-1.6	-0.3	1.8	14.6	4.7	11.7
6	5	15.2	-0.9	0.1	1.1	14.1	3.6	11.6
6	6	14.2	-0.5	-0.1	0.7	13.5	2.7	11.5
6	7	13.2	-0.5	0.2	0.4	12.8	1.9	11.3
6	8	12.2	0.1	-0.0	0.1	12.1	1.1	11.1
6	9	11.4	-0.0	0.2	-0.1	11.5	0.5	10.9
6	10	10.6	0.4	-0.1	-0.2	10.8	-0.1	10.7
6	11	9.8	0.4	0.1	-0.4	10.2	-0.6	10.4
6	12	9.0	0.6	-0.0	-0.5	9.5	-1.1	10.1
6	13	8.2	0.8	0.1	-0.7	8.9	-1.7	9.9
6	14	7.4	1.4	-0.2	-1.0	8.4	-2.2	9.6
6	15	6.8	1.2	0.1	-1.1	7.9	-2.6	9.4
6	16	6.3	1.3	-0.1	-1.1	7.4	-2.9	9.2
6	17	5.8	1.4	-0.1	-1.2	7.0	-3.3	9.1
6	18	5.3	1.7	-0.2	-1.4	6.7	-3.6	8.9
6	19	4.9	1.7	0.1	-1.5	6.4	-4.0	8.9
6	20	4.6	2.2	-0.2	-1.7	6.3	-4.2	8.8
6	21	4.6	2.3	-0.1	-1.8	6.4	-4.2	8.8
6	22	5.0	2.1	-0.1	-1.7	6.7	-3.9	8.9
6	23	5.8	1.3	0.2	-1.3	7.1	-3.2	9.0
6	24	6.9	1.1	-0.1	-0.8	7.7	-2.2	9.1
6	25	8.4	-0.3	0.3	-0.0	8.4	-0.8	9.2
6	26	9.8	-1.0	-0.0	0.6	9.2	0.4	9.4
6	27	10.9	-1.9	0.2	1.1	9.8	1.3	9.6
6	28	11.5	-1.9	0.0	1.3	10.2	1.7	9.8
6	29	11.9	-2.4	0.5	1.3	10.6	1.9	10.0
6	30	12.0	-1.9	0.1	1.2	10.8	1.8	10.2
6	31	11.9	-1.8	0.4	1.0	10.9	1.5	10.4
6	32	11.6	-0.8	-0.1	0.5	11.1	1.0	10.6

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1600.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
6	33	11.2	-0.5	0.4	-0.0	11.2	0.4	10.8
6	34	10.7	1.5	-0.7	-0.8	11.5	-0.3	11.0
6	35	10.2	2.1	1.3	-1.8	12.0	-1.0	11.2
6	36	10.0	14.9	-7.1	-3.0	13.0	-1.4	11.4
7	1	20.4	-20.4	7.9	6.3	14.1	8.9	11.5
7	2	18.8	-3.6	-1.9	4.0	14.8	7.2	11.6
7	3	17.7	-3.8	0.7	2.8	14.9	6.1	11.6
7	4	16.6	-1.9	-0.4	2.0	14.6	5.0	11.6
7	5	15.4	-1.5	0.2	1.3	14.1	3.8	11.6
7	6	14.2	-0.1	-0.5	0.7	13.5	2.7	11.5
7	7	13.2	-0.4	0.2	0.4	12.8	1.9	11.3
7	8	12.1	0.8	-0.4	-0.0	12.1	1.0	11.1
7	9	11.4	0.4	-0.1	-0.1	11.5	0.5	10.9
7	10	10.8	-0.0	0.0	-0.1	10.9	0.2	10.6
7	11	9.9	0.5	-0.1	-0.3	10.2	-0.5	10.4
7	12	9.0	1.0	-0.2	-0.6	9.6	-1.1	10.1
7	13	8.3	0.6	0.1	-0.7	9.0	-1.6	9.9
7	14	7.6	0.9	-0.0	-0.8	8.4	-2.0	9.6
7	15	6.9	1.4	-0.2	-1.0	7.9	-2.5	9.4
7	16	6.4	1.3	-0.2	-1.0	7.4	-2.8	9.2
7	17	5.9	0.9	0.2	-1.1	7.0	-3.1	9.0
7	18	5.2	1.5	-0.0	-1.4	6.6	-3.7	8.9
7	19	4.5	2.3	-0.2	-1.8	6.3	-4.3	8.8
7	20	4.0	3.0	-0.3	-2.1	6.1	-4.8	8.8
7	21	3.8	3.6	-0.4	-2.3	6.1	-5.0	8.8
7	22	4.1	3.7	-0.6	-2.3	6.4	-4.7	8.8
7	23	4.1	2.4	-0.2	-1.7	6.8	-3.8	8.7
7	24	6.6	0.6	0.1	-0.8	7.4	-2.4	9.0
7	25	7.9	0.0	-0.0	-0.2	8.1	-1.3	9.2
7	26	9.0	-0.3	-0.1	0.2	8.8	-0.3	9.3
7	27	10.0	-1.2	0.2	0.6	9.4	0.5	9.5
7	28	10.7	-1.4	0.1	0.9	9.8	1.0	9.7
7	29	11.2	-1.7	0.2	1.0	10.2	1.3	9.9
7	30	11.6	-2.2	0.4	1.1	10.5	1.5	10.1
7	31	11.6	-1.9	0.5	0.9	10.7	1.3	10.3
7	32	11.4	-1.1	0.1	0.5	10.9	0.9	10.5
7	33	11.0	-0.6	0.6	-0.1	11.1	0.3	10.7
7	34	10.5	1.6	-0.6	-0.9	11.4	-0.4	10.9
7	35	10.1	1.9	1.5	-1.8	11.9	-1.0	11.1
7	36	9.9	15.2	-7.1	-3.0	12.9	-1.4	11.3
8	1	20.4	-20.3	7.9	6.3	14.1	9.0	11.4
8	2	18.9	-3.7	-1.9	4.1	14.8	7.4	11.5
8	3	17.8	-3.8	0.7	2.9	14.9	6.2	11.6
8	4	16.8	-2.2	-0.3	2.2	14.6	5.2	11.6
8	5	15.6	-1.7	0.2	1.5	14.1	4.1	11.5
8	6	14.4	-0.7	-0.1	0.9	13.5	3.0	11.4
8	7	13.2	-0.1	0.1	0.3	12.9	1.9	11.3
8	8	12.1	1.1	-0.5	-0.1	12.2	1.0	11.1
8	9	11.6	0.0	0.1	0.0	11.6	0.7	10.9
8	10	11.1	-0.5	0.1	0.2	10.9	0.5	10.6
8	11	10.2	-0.2	0.2	-0.1	10.3	-0.2	10.4
8	12	9.1	1.0	-0.2	-0.5	9.6	-1.0	10.1
8	13	8.3	1.2	-0.2	-0.7	9.0	-1.5	9.8

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
8	14	7.8	0.5	0.1	-0.6	8.4	-1.8	9.6
8	15	7.2	0.6	0.1	-0.7	7.9	-2.2	9.4
8	16	6.7	0.3	0.2	-0.7	7.4	-2.5	9.2
8	17	6.0	0.7	0.1	-0.9	6.9	-3.0	9.0
8	18	5.1	1.6	-0.1	-1.4	6.5	-3.8	8.9
8	19	4.3	2.2	0.0	-1.8	6.1	-4.5	8.8
8	20	3.7	3.1	-0.3	-2.2	5.9	-5.0	8.7
8	21	3.5	3.2	-0.1	-2.4	5.9	-5.2	8.7
8	22	3.6	3.7	-0.3	-2.5	6.1	-5.1	8.7
8	23	4.4	3.4	-0.5	-2.1	6.5	-4.4	8.8
8	24	6.1	0.8	0.1	-1.0	7.1	-2.8	8.9
8	25	7.5	-0.5	0.4	-0.3	7.8	-1.6	9.1
8	26	8.3	0.1	-0.2	-0.1	8.4	-0.9	9.2
8	27	9.1	-0.3	0.1	0.2	8.9	-0.3	9.4
8	28	9.7	-0.2	-0.1	0.3	9.4	0.1	9.6
8	29	10.2	-0.6	0.1	0.4	9.8	0.4	9.8
8	30	10.6	-0.6	-0.1	0.5	10.1	0.6	10.0
8	31	10.8	-0.7	0.1	0.4	10.4	0.6	10.2
8	32	10.8	-0.2	-0.2	0.2	10.6	0.3	10.4
8	33	10.5	0.3	0.3	-0.4	10.9	-0.2	10.7
8	34	10.2	2.1	-0.8	-1.0	11.2	-0.7	10.9
8	35	10.0	1.8	1.6	-1.8	11.8	-1.1	11.1
8	36	9.8	15.5	-7.4	-3.1	12.9	-1.5	11.3
9	1	20.5	-20.2	7.7	6.4	14.1	9.1	11.4
9	2	19.0	-3.6	-1.9	4.1	14.9	7.5	11.5
9	3	17.9	-3.5	0.4	2.9	15.0	6.3	11.6
9	4	17.1	-2.7	-0.1	2.4	14.7	5.5	11.6
9	5	15.9	-2.0	0.2	1.7	14.2	4.4	11.5
9	6	14.6	-0.7	-0.3	1.0	13.6	3.2	11.4
9	7	13.4	-0.3	0.1	0.5	12.9	2.1	11.3
9	8	12.4	0.7	-0.4	0.1	12.3	1.3	11.1
9	9	11.9	-0.3	0.0	0.2	11.7	1.0	10.9
9	10	11.4	-1.0	0.2	0.4	11.0	0.8	10.6
9	11	10.4	-0.2	0.1	0.0	10.4	0.0	10.4
9	12	9.3	0.9	-0.3	-0.4	9.7	-0.8	10.1
9	13	8.5	0.8	-0.0	-0.6	9.1	-1.3	9.8
9	14	7.9	0.7	-0.0	-0.6	8.5	-1.7	9.6
9	15	7.3	0.7	-0.1	-0.6	7.9	-2.1	9.4
9	16	6.8	0.3	0.1	-0.6	7.4	-2.3	9.1
9	17	6.1	0.1	0.3	-0.8	6.9	-2.9	9.0
9	18	5.0	1.6	-0.1	-1.4	6.4	-3.8	8.8
9	19	4.1	2.4	-0.2	-1.9	6.0	-4.6	8.7
9	20	3.6	2.6	-0.1	-2.1	5.7	-5.1	8.7
9	21	3.4	2.4	0.2	-2.3	5.7	-5.2	8.6
9	22	3.2	4.0	-0.5	-2.6	5.8	-5.5	8.7
9	23	3.9	3.6	-0.4	-2.3	6.2	-4.9	8.8
9	24	5.6	1.0	0.2	-1.2	6.8	-3.3	8.9
9	25	7.0	-0.4	0.3	-0.4	7.4	-2.0	9.0
9	26	7.7	0.3	-0.1	-0.3	8.0	-1.5	9.2
9	27	8.4	-0.0	0.1	-0.1	8.5	-0.9	9.3
9	28	8.9	0.3	-0.2	-0.1	9.0	-0.6	9.5
9	29	9.3	0.4	-0.1	-0.1	9.4	-0.4	9.7
9	30	9.7	0.5	-0.3	-0.0	9.7	-0.2	9.9

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1800.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
9	31	10.1	-0.2	0.2	0.0	10.1	-0.1	10.2
9	32	10.3	-0.0	-0.1	-0.0	10.3	-0.1	10.4
9	33	10.1	0.7	0.2	-0.5	10.6	-0.5	10.6
9	34	10.0	2.0	-0.6	-1.0	11.0	-0.8	10.8
9	35	9.9	1.8	1.6	-1.8	11.7	-1.1	11.0
9	36	9.8	15.4	-7.2	-3.0	12.8	-1.4	11.2
10	1	21.0	-21.8	8.4	6.8	14.2	9.6	11.4
10	2	19.2	-3.4	-2.2	4.2	15.0	7.7	11.5
10	3	18.1	-3.7	0.7	3.0	15.1	6.5	11.6
10	4	17.3	-2.7	-0.2	2.5	14.8	5.7	11.6
10	5	16.2	-2.6	0.5	1.8	14.3	4.7	11.5
10	6	14.8	-0.8	-0.2	1.1	13.7	3.4	11.4
10	7	13.6	-0.2	-0.1	0.5	13.1	2.3	11.3
10	8	12.8	-0.3	-0.0	0.4	12.4	1.7	11.1
10	9	12.2	-0.9	0.3	0.4	11.8	1.3	10.9
10	10	11.5	-0.8	0.2	0.4	11.1	0.9	10.6
10	11	10.5	0.1	-0.1	0.0	10.5	0.1	10.4
10	12	9.6	0.2	0.1	-0.2	9.8	-0.5	10.1
10	13	8.7	0.7	-0.1	-0.5	9.2	-1.1	9.8
10	14	8.0	0.6	-0.0	-0.5	8.5	-1.6	9.6
10	15	7.4	0.3	0.2	-0.5	7.9	-1.9	9.3
10	16	6.8	0.1	0.1	-0.6	7.4	-2.3	9.1
10	17	6.0	0.0	0.4	-0.8	6.8	-2.9	8.9
10	18	4.8	1.6	-0.1	-1.5	6.3	-4.0	8.8
10	19	3.9	2.2	0.0	-1.9	5.8	-4.8	8.7
10	20	3.4	2.4	-0.0	-2.2	5.6	-5.2	8.6
10	21	3.1	2.7	0.0	-2.4	5.5	-5.5	8.6
10	22	2.9	3.8	-0.3	-2.7	5.6	-5.7	8.6
10	23	3.4	4.2	-0.5	-2.6	6.0	-5.3	8.7
10	24	5.0	1.9	-0.1	-1.5	6.5	-3.8	8.8
10	25	6.5	-0.2	0.5	-0.6	7.1	-2.4	8.9
10	26	7.1	0.9	-0.3	-0.6	7.7	-2.0	9.1
10	27	7.8	0.1	0.2	-0.4	8.2	-1.5	9.3
10	28	8.4	-0.0	0.1	-0.2	8.6	-1.0	9.4
10	29	8.8	0.1	0.1	-0.2	9.0	-0.8	9.6
10	30	9.2	0.2	-0.1	-0.2	9.4	-0.7	9.9
10	31	9.6	-0.1	0.1	-0.1	9.7	-0.5	10.1
10	32	10.0	-0.4	0.0	-0.0	10.0	-0.3	10.3
10	33	10.0	-0.1	0.5	-0.4	10.4	-0.5	10.5
10	34	9.9	1.8	-0.8	-1.0	10.9	-0.9	10.8
10	35	9.9	1.2	1.9	-1.7	11.6	-1.1	11.0
10	36	9.8	15.8	-7.6	-3.0	12.8	-1.4	11.2
11	1	21.7	-23.5	8.9	7.5	14.2	10.4	11.3
11	2	19.7	-3.8	-2.4	4.6	15.1	8.2	11.5
11	3	18.3	-3.4	0.5	3.1	15.2	6.7	11.5
11	4	17.4	-2.3	-0.4	2.4	15.0	5.8	11.6
11	5	16.4	-2.7	0.5	1.9	14.5	4.9	11.5
11	6	15.0	-0.7	-0.4	1.2	13.8	3.6	11.4
11	7	13.9	-0.8	0.2	0.7	13.2	2.6	11.3
11	8	13.0	-0.3	-0.2	0.5	12.5	1.9	11.1
11	9	12.2	-0.4	0.1	0.3	11.9	1.3	10.9
11	10	11.4	0.2	-0.3	0.2	11.2	0.8	10.6
11	11	10.7	-0.3	0.2	0.1	10.6	0.3	10.4

P	E	MEDIOOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
11	12	9.8	0.3	-0.2	-0.1	9.9	-0.3	10.1
11	13	8.9	0.3	0.1	-0.4	9.3	-0.9	9.8
11	14	8.0	0.9	-0.1	-0.6	8.6	-1.6	9.6
11	15	7.3	0.6	0.0	-0.6	7.9	-2.0	9.3
11	16	6.6	0.4	0.1	-0.7	7.3	-2.5	9.1
11	17	5.6	0.8	0.2	-1.1	6.7	-3.3	8.9
11	18	4.3	2.4	-0.2	-1.8	6.1	-4.4	8.7
11	19	3.4	3.0	-0.2	-2.3	5.7	-5.2	8.6
11	20	3.0	2.8	-0.1	-2.4	5.4	-5.6	8.6
11	21	2.8	2.7	0.1	-2.5	5.3	-5.7	8.5
11	22	2.6	4.1	-0.3	-2.8	5.4	-6.0	8.6
11	23	3.1	4.5	-0.7	-2.7	5.8	-5.5	8.6
11	24	4.7	1.9	-0.0	-1.6	6.3	-4.0	8.7
11	25	6.1	0.2	0.3	-0.8	6.9	-2.7	8.8
11	26	6.7	0.7	0.0	-0.7	7.4	-2.3	9.0
11	27	7.1	1.3	-0.3	-0.7	7.8	-2.1	9.2
11	28	7.8	0.4	0.0	-0.5	8.3	-1.6	9.4
11	29	8.3	0.1	0.2	-0.3	8.6	-1.3	9.6
11	30	8.7	0.3	-0.1	-0.3	9.0	-1.1	9.8
11	31	9.1	-0.1	0.2	-0.3	9.4	-0.9	10.0
11	32	9.5	-0.2	0.0	-0.2	9.7	-0.7	10.2
11	33	9.7	-0.6	0.8	-0.4	10.1	-0.8	10.5
11	34	9.7	1.2	-0.4	-0.9	10.6	-1.0	10.7
11	35	9.6	1.3	2.0	-1.9	11.5	-1.3	10.9
11	36	9.6	16.5	-7.9	-3.2	12.8	-1.6	11.1
12	1	22.8	-27.3	10.6	8.5	14.3	11.5	11.3
12	2	20.5	-4.8	-2.4	5.2	15.3	9.0	11.5
12	3	18.7	-3.8	0.6	3.3	15.4	7.2	11.5
12	4	17.5	-1.9	-0.6	2.4	15.1	5.9	11.6
12	5	16.5	-2.6	0.5	1.9	14.6	5.0	11.5
12	6	15.2	-1.1	-0.2	1.2	14.0	3.8	11.4
12	7	14.0	-0.5	0.0	0.7	13.3	2.7	11.3
12	8	13.1	-0.3	-0.0	0.5	12.6	2.0	11.1
12	9	12.2	0.2	-0.1	0.2	12.0	1.3	10.9
12	10	11.5	0.3	-0.2	0.1	11.4	0.9	10.6
12	11	10.9	-0.3	0.1	0.2	10.7	0.5	10.4
12	12	10.1	-0.1	-0.0	0.0	10.1	0.0	10.1
12	13	9.1	0.2	0.1	-0.3	9.4	-0.7	9.8
12	14	8.0	1.3	-0.4	-0.6	8.6	-1.6	9.6
12	15	7.2	0.8	0.1	-0.7	7.9	-2.1	9.3
12	16	6.3	1.0	-0.1	-1.0	7.3	-2.8	9.1
12	17	5.2	1.4	0.2	-1.4	6.6	-3.7	8.9
12	18	3.8	3.4	-0.5	-2.2	6.0	-4.9	8.7
12	19	2.9	3.8	-0.3	-2.6	5.5	-5.7	8.6
12	20	2.5	3.8	-0.3	-2.8	5.3	-6.0	8.5
12	21	2.4	3.4	0.0	-2.8	5.2	-6.1	8.5
12	22	2.4	4.6	-0.7	-2.9	5.3	-6.1	8.5
12	23	3.2	3.8	-0.3	-2.5	5.7	-5.3	8.5
12	24	4.7	1.7	-0.1	-1.5	6.2	-3.9	8.6
12	25	6.0	-0.0	0.5	-0.7	6.7	-2.8	8.8
12	26	6.4	1.1	-0.3	-0.8	7.2	-2.5	8.9
12	27	6.7	1.2	-0.1	-0.9	7.6	-2.4	9.1
12	28	7.2	0.9	-0.1	-0.7	7.9	-2.1	9.3

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
12	29	7.7	0.3	0.3	-0.6	8.3	-1.8	9.5
12	30	8.1	0.5	-0.1	-0.5	8.6	-1.6	9.7
12	31	8.5	0.1	0.3	-0.5	9.0	-1.4	9.9
12	32	8.7	1.0	-0.4	-0.7	9.4	-1.5	10.2
12	33	8.8	1.0	0.3	-1.0	9.8	-1.6	10.4
12	34	8.9	2.7	-1.0	-1.5	10.4	-1.7	10.6
12	35	8.9	2.4	2.0	-2.4	11.3	-2.0	10.9
12	36	8.9	19.8	-9.6	-3.8	12.7	-2.2	11.1
13	1	23.8	-30.4	11.7	9.4	14.4	12.5	11.3
13	2	21.3	-6.0	-2.4	5.9	15.4	9.8	11.4
13	3	19.2	-4.6	0.9	3.6	15.6	7.7	11.5
13	4	17.7	-1.8	-0.8	2.4	15.3	6.1	11.6
13	5	16.6	-2.4	0.5	1.9	14.7	5.1	11.5
13	6	15.3	-0.8	-0.4	1.2	14.1	3.9	11.4
13	7	14.1	-0.3	-0.1	0.7	13.4	2.8	11.3
13	8	13.2	0.2	-0.4	0.4	12.8	2.1	11.1
13	9	12.5	-0.4	0.2	0.4	12.1	1.6	10.9
13	10	11.8	0.1	-0.3	0.3	11.5	1.2	10.6
13	11	11.3	-0.8	0.2	0.4	10.9	0.9	10.4
13	12	10.5	-0.6	0.0	0.3	10.2	0.4	10.1
13	13	9.4	0.1	-0.0	-0.1	9.5	-0.4	9.8
13	14	8.3	0.5	-0.0	-0.4	8.7	-1.3	9.6
13	15	7.2	1.1	-0.1	-0.8	8.0	-2.1	9.3
13	16	6.2	1.2	-0.1	-1.0	7.2	-2.9	9.1
13	17	5.0	1.8	-0.1	-1.5	6.5	-3.9	8.9
13	18	3.7	3.2	-0.4	-2.2	5.9	-5.0	8.7
13	19	2.8	3.7	-0.2	-2.7	5.5	-5.8	8.6
13	20	2.3	4.1	-0.4	-2.9	5.2	-6.2	8.5
13	21	2.2	4.3	-0.5	-2.9	5.1	-6.2	8.4
13	22	2.7	3.4	-0.1	-2.6	5.3	-5.7	8.4
13	23	3.6	2.9	-0.3	-2.1	5.7	-4.9	8.5
13	24	5.0	1.0	0.0	-1.2	6.2	-3.6	8.6
13	25	6.1	-0.3	0.3	-0.6	6.7	-2.6	8.7
13	26	6.5	0.0	0.3	-0.6	7.1	-2.3	8.8
13	27	6.5	1.2	-0.2	-0.9	7.4	-2.5	9.0
13	28	6.7	1.3	-0.1	-1.0	7.7	-2.5	9.2
13	29	6.9	1.4	-0.1	-1.1	8.0	-2.5	9.4
13	30	7.3	1.2	-0.2	-1.0	8.3	-2.3	9.6
13	31	7.8	0.3	0.5	-0.8	8.6	-2.0	9.8
13	32	8.1	0.9	-0.2	-0.9	9.0	-2.0	10.1
13	33	8.2	1.2	0.4	-1.3	9.5	-2.1	10.3
13	34	8.3	3.3	-1.1	-1.8	10.1	-2.3	10.6
13	35	8.4	2.7	2.2	-2.7	11.1	-2.5	10.9
13	36	8.5	21.5	-10.4	-4.2	12.7	-2.6	11.1
14	1	24.3	-31.6	12.1	9.8	14.5	13.0	11.3
14	2	21.7	-6.0	-2.6	6.1	15.6	10.2	11.4
14	3	19.4	-4.0	0.5	3.6	15.8	7.8	11.6
14	4	17.9	-1.9	-0.5	2.5	15.4	6.3	11.6
14	5	16.6	-1.7	0.2	1.7	14.9	5.0	11.6
14	6	15.5	-1.2	-0.1	1.3	14.2	4.0	11.5
14	7	14.4	-0.8	0.2	0.8	13.6	3.1	11.3
14	8	13.5	-0.3	-0.1	0.6	12.9	2.4	11.1
14	9	12.8	-0.4	-0.0	0.5	12.3	1.9	10.9

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 2000.M	CONT. 4000.M
14	10	12.2	-0.4	-0.1	0.5	11.7	1.5	10.7
14	11	11.7	-1.2	0.3	0.7	11.0	1.3	10.4
14	12	10.9	-1.0	0.1	0.5	10.4	0.8	10.1
14	13	9.8	-0.6	0.2	0.2	9.6	-0.0	9.8
14	14	8.6	0.1	-0.0	-0.2	8.8	-1.0	9.6
14	15	7.4	0.6	0.0	-0.6	8.0	-1.9	9.3
14	16	6.3	0.8	0.1	-0.9	7.2	-2.7	9.0
14	17	5.1	1.4	0.2	-1.4	6.5	-3.7	8.8
14	18	3.9	2.5	-0.2	-2.0	5.9	-4.8	8.7
14	19	3.0	3.2	-0.2	-2.4	5.4	-5.5	8.5
14	20	2.5	3.6	-0.3	-2.7	5.2	-5.9	8.4
14	21	2.5	3.4	-0.1	-2.6	5.1	-5.9	8.4
14	22	3.0	3.2	-0.3	-2.3	5.3	-5.4	8.4
14	23	4.1	1.6	0.1	-1.6	5.7	-4.3	8.4
14	24	5.4	0.0	0.4	-0.8	6.2	-3.1	8.5
14	25	6.2	-0.4	0.4	-0.4	6.6	-2.4	8.6
14	26	6.4	0.6	-0.1	-0.6	7.0	-2.4	8.8
14	27	6.5	0.6	0.2	-0.8	7.3	-2.5	9.0
14	28	6.4	1.7	-0.3	-1.1	7.5	-2.7	9.1
14	29	6.3	2.2	-0.2	-1.4	7.7	-3.0	9.3
14	30	6.4	2.6	-0.5	-1.6	8.0	-3.1	9.5
14	31	6.8	1.9	0.1	-1.5	8.3	-3.0	9.8
14	32	7.4	1.4	-0.1	-1.3	8.7	-2.6	10.0
14	33	7.8	0.6	0.8	-1.4	9.2	-2.5	10.3
14	34	8.0	2.7	-0.8	-1.9	9.9	-2.6	10.6
14	35	8.1	2.3	2.5	-2.8	10.9	-2.7	10.8
14	36	8.3	21.8	-10.5	-4.3	12.6	-2.8	11.1
15	1	24.6	-32.3	12.3	10.0	14.6	13.3	11.3
15	2	22.1	-5.7	-3.1	6.3	15.8	10.6	11.4
15	3	19.9	-4.5	0.7	3.9	16.0	8.3	11.6
15	4	18.1	-1.4	-1.0	2.5	15.6	6.5	11.6
15	5	16.7	-1.6	0.3	1.7	15.0	5.1	11.6
15	6	15.6	-0.9	-0.3	1.2	14.4	4.1	11.5
15	7	14.6	-1.0	0.2	0.9	13.7	3.3	11.3
15	8	13.7	-0.1	-0.4	0.7	13.0	2.5	11.2
15	9	13.2	-1.2	0.4	0.8	12.4	2.3	10.9
15	10	12.6	-0.9	-0.1	0.8	11.8	1.9	10.7
15	11	12.0	-1.2	0.1	0.8	11.2	1.6	10.4
15	12	11.2	-1.1	0.0	0.7	10.5	1.1	10.1
15	13	10.0	-0.3	-0.0	0.3	9.7	0.2	9.8
15	14	8.8	0.0	-0.0	-0.1	8.9	-0.7	9.5
15	15	7.6	0.2	0.1	-0.5	8.1	-1.7	9.3
15	16	6.3	1.2	-0.2	-0.9	7.2	-2.7	9.0
15	17	5.1	1.6	-0.1	-1.4	6.5	-3.7	8.8
15	18	4.1	1.9	0.0	-1.8	5.9	-4.5	8.6
15	19	3.3	2.3	0.1	-2.1	5.4	-5.2	8.5
15	20	2.8	3.0	-0.2	-2.4	5.2	-5.6	8.4
15	21	2.8	2.9	-0.1	-2.4	5.2	-5.6	8.4
15	22	3.3	2.7	-0.2	-2.1	5.4	-5.1	8.4
15	23	4.3	1.7	-0.0	-1.5	5.8	-4.1	8.4
15	24	5.5	0.6	-0.1	-0.8	6.3	-3.0	8.5
15	25	6.3	-0.2	0.3	-0.4	6.7	-2.3	8.6
15	26	6.4	1.0	-0.3	-0.6	7.0	-2.3	8.7

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
15	27	6.5	0.8	0.0	-0.7	7.2	-2.4	8.9
15	28	6.5	0.9	0.1	-0.9	7.4	-2.6	9.1
15	29	6.2	1.9	-0.0	-1.4	7.6	-3.1	9.3
15	30	5.9	3.4	-0.7	-1.9	7.8	-3.6	9.5
15	31	6.0	3.3	-0.3	-2.0	8.0	-3.7	9.7
15	32	6.5	2.8	-0.5	-1.9	8.4	-3.5	10.0
15	33	7.0	1.6	0.7	-1.9	8.9	-3.2	10.2
15	34	7.3	3.4	-0.8	-2.3	9.6	-3.2	10.5
15	35	7.4	3.2	2.5	-3.4	10.8	-3.4	10.8
15	36	7.6	24.0	-11.3	-4.9	12.5	-3.5	11.1
16	1	25.3	-35.0	13.7	10.7	14.6	14.0	11.3
16	2	23.0	-7.2	-3.0	7.1	15.9	11.5	11.5
16	3	20.9	-6.6	1.3	4.7	16.2	9.3	11.6
16	4	18.7	-2.1	-0.8	2.9	15.8	7.1	11.6
16	5	16.8	-0.8	-0.1	1.6	15.2	5.2	11.6
16	6	15.7	-0.8	-0.2	1.2	14.5	4.2	11.5
16	7	14.7	-0.8	0.1	0.9	13.8	3.3	11.4
16	8	13.9	-0.5	-0.1	0.7	13.2	2.7	11.2
16	9	13.3	-0.7	-0.0	0.7	12.6	2.3	11.0
16	10	12.9	-1.4	0.2	0.9	12.0	2.2	10.7
16	11	12.3	-1.5	0.2	1.0	11.3	1.9	10.4
16	12	11.6	-1.8	0.3	1.0	10.6	1.5	10.1
16	13	10.3	-0.8	0.1	0.5	9.8	0.5	9.8
16	14	8.9	0.2	-0.2	-0.1	9.0	-0.6	9.5
16	15	7.7	-0.1	0.3	-0.4	8.1	-1.6	9.3
16	16	6.4	0.6	0.1	-0.8	7.2	-2.6	9.0
16	17	5.1	1.3	0.1	-1.4	6.5	-3.7	8.8
16	18	4.0	2.2	-0.2	-1.8	5.8	-4.6	8.6
16	19	3.3	2.4	0.0	-2.1	5.4	-5.2	8.5
16	20	2.9	2.8	-0.1	-2.3	5.2	-5.5	8.4
16	21	2.9	2.9	-0.1	-2.3	5.2	-5.4	8.3
16	22	3.4	2.9	-0.3	-2.0	5.4	-4.9	8.3
16	23	4.5	1.9	-0.2	-1.4	5.9	-3.9	8.4
16	24	5.9	0.0	0.1	-0.4	6.3	-2.5	8.4
16	25	6.7	-0.7	0.3	-0.1	6.8	-1.9	8.6
16	26	6.8	0.1	-0.0	-0.3	7.1	-1.9	8.7
16	27	6.7	0.5	0.1	-0.6	7.3	-2.2	8.9
16	28	6.6	1.0	-0.2	-0.8	7.4	-2.4	9.0
16	29	6.5	0.8	0.4	-1.0	7.5	-2.7	9.2
16	30	6.2	2.1	-0.3	-1.5	7.7	-3.2	9.4
16	31	6.0	2.6	0.0	-1.9	7.9	-3.7	9.7
16	32	6.0	3.9	-0.9	-2.2	8.2	-3.9	9.9
16	33	6.2	3.3	0.2	-2.5	8.7	-4.0	10.2
16	34	6.4	5.5	-1.5	-3.0	9.4	-4.1	10.5
16	35	6.6	4.6	2.4	-4.0	10.6	-4.2	10.8
16	36	6.8	27.1	-12.7	-5.7	12.5	-4.2	11.0
17	1	25.6	-35.5	13.7	10.9	14.7	14.3	11.3
17	2	23.8	-9.1	-2.4	7.7	16.1	12.3	11.5
17	3	21.8	-8.0	1.5	5.4	16.4	10.2	11.6
17	4	19.5	-3.4	-0.6	3.5	16.0	7.9	11.6
17	5	17.2	-1.1	-0.2	1.8	15.4	5.6	11.6
17	6	15.8	-0.3	-0.5	1.2	14.6	4.3	11.5
17	7	14.8	-0.7	0.1	0.9	13.9	3.4	11.4

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 500.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
17	8	14.0	-0.4	-0.3	0.7	13.3	2.8	11.2
17	9	13.4	-0.9	0.2	0.8	12.6	2.4	11.0
17	10	12.9	-1.1	-0.0	0.9	12.0	2.2	10.7
17	11	12.4	-1.3	0.0	1.0	11.4	2.0	10.4
17	12	11.9	-2.3	0.4	1.2	10.7	1.8	10.1
17	13	10.6	-1.3	0.1	0.7	9.9	0.8	9.8
17	14	9.0	-0.1	-0.0	0.0	9.0	-0.5	9.5
17	15	7.5	0.6	-0.0	-0.6	8.1	-1.8	9.3
17	16	6.2	0.8	0.1	-1.0	7.2	-2.8	9.0
17	17	4.8	1.9	-0.0	-1.6	6.4	-4.0	8.8
17	18	3.7	2.8	-0.3	-2.1	5.8	-4.9	8.6
17	19	3.1	2.6	0.0	-2.2	5.3	-5.3	8.4
17	20	2.8	3.0	-0.3	-2.3	5.1	-5.5	8.3
17	21	2.9	3.0	-0.1	-2.3	5.2	-5.4	8.3
17	22	3.5	3.2	-0.6	-2.0	5.5	-4.8	8.3
17	23	5.0	0.8	0.1	-0.9	5.9	-3.3	8.3
17	24	6.6	-1.5	0.4	0.2	6.4	-1.8	8.4
17	25	7.3	-1.9	0.6	0.4	6.9	-1.2	8.5
17	26	7.2	-0.5	0.0	0.1	7.1	-1.5	8.7
17	27	7.0	0.1	0.1	-0.3	7.3	-1.8	8.8
17	28	6.8	0.9	-0.2	-0.6	7.4	-2.2	9.0
17	29	6.7	0.8	0.1	-0.9	7.6	-2.5	9.2
17	30	6.6	1.1	-0.0	-1.1	7.7	-2.8	9.4
17	31	6.4	1.5	0.2	-1.5	7.9	-3.3	9.7
17	32	6.3	2.6	-0.3	-1.9	8.2	-3.6	9.9
17	33	6.2	3.1	0.3	-2.4	8.6	-4.0	10.2
17	34	6.3	5.4	-1.4	-3.1	9.4	-4.2	10.5
17	35	6.5	4.5	2.5	-4.0	10.5	-4.3	10.8
17	36	6.7	27.3	-12.7	-5.8	12.5	-4.3	11.0
18	1	25.2	-33.8	13.0	10.5	14.7	13.9	11.3
18	2	23.7	-8.4	-2.6	7.5	16.1	12.2	11.5
18	3	22.2	-8.6	1.6	5.7	16.5	10.6	11.6
18	4	20.2	-4.8	-0.2	4.0	16.2	8.5	11.7
18	5	17.8	-2.3	0.2	2.3	15.5	6.1	11.6
18	6	16.0	-0.2	-0.6	1.2	14.8	4.4	11.6
18	7	14.9	-0.6	0.1	0.9	14.0	3.5	11.4
18	8	14.1	-0.7	-0.1	0.8	13.3	2.9	11.2
18	9	13.3	-0.5	0.0	0.6	12.7	2.3	11.0
18	10	12.7	-0.3	-0.2	0.6	12.1	2.0	10.7
18	11	12.4	-1.4	0.2	1.0	11.4	2.0	10.4
18	12	12.0	-2.2	0.3	1.3	10.7	1.9	10.1
18	13	10.9	-2.2	0.5	1.0	9.9	1.1	9.8
18	14	9.0	-0.0	-0.1	0.0	9.0	-0.5	9.5
18	15	7.2	1.3	-0.2	-0.8	8.0	-2.0	9.2
18	16	5.8	1.6	-0.1	-1.3	7.1	-3.2	9.0
18	17	4.4	2.6	-0.2	-1.9	6.3	-4.3	8.7
18	18	3.4	3.0	-0.3	-2.2	5.6	-5.1	8.5
18	19	2.8	3.2	-0.3	-2.4	5.2	-5.6	8.4
18	20	2.7	2.8	-0.0	-2.4	5.1	-5.6	8.3
18	21	2.9	2.8	-0.1	-2.2	5.1	-5.3	8.2
18	22	3.7	2.4	-0.2	-1.8	5.5	-4.5	8.2
18	23	5.3	0.3	0.1	-0.7	6.0	-3.0	8.3
18	24	7.0	-2.4	0.8	0.5	6.5	-1.4	8.4

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 500.M	CONT. 1000.M	RESD. 2000.M	CONT. 4000.M
18	25	7.5	-2.1	0.6	0.6	6.9	-1.0	8.5
18	26	7.3	-0.3	-0.2	0.1	7.2	-1.3	8.6
18	27	7.3	-0.6	0.4	-0.1	7.4	-1.5	8.8
18	28	7.1	0.3	-0.0	-0.4	7.5	-1.9	9.0
18	29	6.9	0.6	0.2	-0.7	7.6	-2.3	9.2
18	30	6.8	1.2	-0.3	-0.9	7.7	-2.6	9.4
18	31	6.8	0.7	0.4	-1.1	7.9	-2.8	9.6
18	32	6.7	2.1	-0.6	-1.5	8.2	-3.2	9.9
18	33	6.8	1.4	0.8	-1.9	8.7	-3.4	10.2
18	34	6.8	4.1	-1.2	-2.6	9.4	-3.7	10.5
18	35	6.9	3.3	2.8	-3.6	10.5	-3.9	10.8
18	36	7.0	25.8	-12.0	-5.5	12.5	-4.0	11.0
19	1	24.5	-31.4	12.1	9.8	14.7	13.2	11.3
19	2	23.2	-7.1	-2.9	7.1	16.1	11.7	11.5
19	3	22.0	-7.7	1.2	5.5	16.5	10.4	11.6
19	4	20.4	-5.0	-0.1	4.1	16.3	8.7	11.7
19	5	18.2	-2.8	0.2	2.6	15.6	6.5	11.7
19	6	16.3	-0.5	-0.6	1.4	14.9	4.7	11.6
19	7	15.0	-0.5	0.0	0.9	14.1	3.6	11.4
19	8	14.1	-0.6	-0.1	0.7	13.4	2.9	11.2
19	9	13.2	-0.3	0.1	0.5	12.7	2.2	11.0
19	10	12.5	0.4	-0.5	0.4	12.1	1.8	10.7
19	11	12.3	-1.0	0.1	0.8	11.5	1.9	10.4
19	12	12.0	-2.1	0.2	1.2	10.8	1.9	10.1
19	13	11.0	-2.6	0.7	1.1	9.9	1.2	9.8
19	14	8.9	0.2	-0.2	-0.0	8.9	-0.6	9.5
19	15	7.0	1.5	-0.2	-0.9	7.9	-2.2	9.2
19	16	5.6	1.7	-0.0	-1.4	7.0	-3.3	8.9
19	17	4.2	2.6	-0.2	-2.0	6.2	-4.5	8.7
19	18	3.2	2.9	-0.1	-2.3	5.5	-5.3	8.5
19	19	2.6	2.9	0.0	-2.5	5.1	-5.8	8.4
19	20	2.4	3.2	-0.2	-2.5	4.9	-5.9	8.3
19	21	2.7	3.0	-0.1	-2.3	5.0	-5.5	8.2
19	22	3.6	2.6	-0.4	-1.8	5.4	-4.6	8.2
19	23	5.3	0.3	0.1	-0.6	5.9	-3.0	8.3
19	24	6.9	-1.8	0.4	0.4	6.5	-1.4	8.3
19	25	7.3	-1.0	0.1	0.4	6.9	-1.2	8.5
19	26	7.2	0.3	-0.3	-0.0	7.2	-1.4	8.6
19	27	7.3	-0.3	0.2	-0.1	7.4	-1.5	8.8
19	28	7.2	0.2	-0.0	-0.3	7.5	-1.7	8.9
19	29	7.0	0.6	0.1	-0.6	7.6	-2.2	9.2
19	30	7.0	0.6	-0.0	-0.8	7.8	-2.4	9.4
19	31	7.0	0.6	0.3	-1.0	8.0	-2.6	9.6
19	32	7.1	0.9	-0.0	-1.1	8.2	-2.8	9.9
19	33	7.2	0.3	1.0	-1.5	8.7	-3.0	10.2
19	34	7.2	2.7	-0.6	-2.2	9.4	-3.3	10.5
19	35	7.1	3.0	2.6	-3.4	10.5	-3.7	10.8
19	36	7.1	25.0	-11.5	-5.3	12.4	-3.9	11.0
20	1	24.0	-30.0	11.6	9.4	14.6	12.7	11.3
20	2	23.0	-7.4	-2.4	6.9	16.1	11.5	11.5
20	3	21.7	-7.1	1.1	5.2	16.5	10.0	11.6
20	4	20.2	-4.3	-0.4	3.9	16.3	8.5	11.7
20	5	18.5	-3.7	0.6	2.8	15.7	6.8	11.7

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESO. 500.M	CONT. 1000.M	RESO. 4000.M	CONT. 4000.M
20	6	16.7	-1.6	-0.2	1.7	15.0	5.1	11.6
20	7	15.1	-0.5	-0.1	0.9	14.2	3.6	11.5
20	8	14.0	-0.1	-0.2	0.6	13.4	2.7	11.3
20	9	13.1	0.1	-0.1	0.4	12.7	2.1	11.0
20	10	12.5	0.2	-0.3	0.4	12.1	1.8	10.7
20	11	12.3	-1.1	0.1	0.8	11.5	1.9	10.4
20	12	12.0	-2.2	0.2	1.3	10.7	1.9	10.1
20	13	10.9	-2.3	0.5	1.0	9.9	1.1	9.8
20	14	8.8	0.4	-0.3	-0.1	8.9	-0.7	9.5
20	15	6.9	1.6	-0.2	-0.9	7.8	-2.3	9.2
20	16	5.5	1.6	-0.0	-1.4	6.9	-3.4	8.9
20	17	4.1	2.2	0.0	-1.9	6.0	-4.6	8.7
20	18	2.9	3.4	-0.3	-2.5	5.4	-5.6	8.5
20	19	2.2	3.7	-0.3	-2.7	4.9	-6.1	8.3
20	20	2.0	3.7	-0.3	-2.8	4.8	-6.2	8.2
20	21	2.3	3.4	-0.2	-2.6	4.9	-5.9	8.2
20	22	3.3	2.9	-0.4	-2.0	5.3	-4.9	8.2
20	23	5.2	-0.0	0.3	-0.6	5.8	-3.0	8.2
20	24	6.8	-1.8	0.5	0.4	6.4	-1.5	8.3
20	25	7.3	-1.2	0.2	0.4	6.9	-1.1	8.4
20	26	7.3	-0.1	-0.2	0.1	7.2	-1.3	8.6
20	27	7.3	-0.0	0.0	-0.1	7.4	-1.4	8.7
20	28	7.2	0.3	-0.1	-0.3	7.5	-1.7	8.9
20	29	7.0	0.6	0.1	-0.6	7.6	-2.1	9.1
20	30	6.9	1.0	-0.2	-0.9	7.8	-2.5	9.4
20	31	6.9	0.7	0.4	-1.1	8.0	-2.7	9.6
20	32	6.9	1.4	-0.2	-1.3	8.2	-3.0	9.9
20	33	6.8	1.6	0.6	-1.9	8.7	-3.4	10.2
20	34	6.8	3.9	-1.0	-2.6	9.4	-3.7	10.5
20	35	6.9	3.4	2.6	-3.6	10.5	-3.9	10.8
20	36	7.0	24.7	-11.2	-5.4	12.4	-4.1	11.1
21	1	23.9	-30.1	11.6	9.3	14.6	12.6	11.3
21	2	22.9	-7.8	-2.2	6.9	16.0	11.4	11.5
21	3	21.4	-6.7	1.1	4.9	16.5	9.7	11.7
21	4	19.8	-3.3	-0.7	3.5	16.3	8.1	11.7
21	5	18.4	-3.3	0.4	2.7	15.7	6.7	11.7
21	6	16.9	-2.1	-0.0	1.9	15.0	5.3	11.6
21	7	15.2	-0.6	-0.1	1.0	14.2	3.7	11.5
21	8	14.0	0.1	-0.3	0.6	13.4	2.7	11.3
21	9	13.2	-0.3	0.1	0.5	12.7	2.2	11.0
21	10	12.6	-0.2	-0.2	0.5	12.1	1.8	10.8
21	11	12.3	-1.1	0.0	0.9	11.4	1.8	10.5
21	12	12.0	-2.5	0.4	1.3	10.7	1.9	10.1
21	13	10.8	-2.1	0.4	1.0	9.8	1.0	9.8
21	14	8.8	-0.0	-0.1	-0.0	8.8	-0.7	9.5
21	15	6.9	1.2	-0.1	-0.9	7.8	-2.3	9.2
21	16	5.4	1.5	0.0	-1.4	6.8	-3.5	8.9
21	17	3.9	2.5	-0.1	-2.0	5.9	-4.7	8.6
21	18	2.7	3.3	-0.3	-2.5	5.2	-5.7	8.4
21	19	2.0	3.4	-0.1	-2.8	4.8	-6.3	8.3
21	20	1.7	3.7	-0.2	-2.9	4.6	-6.5	8.2
21	21	1.8	4.1	-0.3	-2.9	4.7	-6.3	8.1
21	22	2.8	3.6	-0.7	-2.3	5.1	-5.3	8.1

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 500.M	CONT. 1000.M	RESD. 2000.M	CONT. 4000.M
21	23	4.9	-0.0	0.4	-0.8	5.7	-3.3	8.2
21	24	6.6	-1.6	0.3	0.3	6.3	-1.7	8.3
21	25	7.4	-2.0	0.5	0.6	6.8	-1.0	8.4
21	26	7.5	-0.8	-0.0	0.4	7.1	-1.1	8.6
21	27	7.5	-0.9	0.4	0.1	7.4	-1.2	8.7
21	28	7.2	0.5	-0.2	-0.3	7.5	-1.7	8.9
21	29	7.0	0.5	0.2	-0.6	7.6	-2.1	9.1
21	30	6.7	1.7	-0.4	-1.1	7.8	-2.7	9.4
21	31	6.5	2.0	-0.1	-1.5	8.0	-3.1	9.6
21	32	6.4	2.8	-0.5	-1.8	8.2	-3.5	9.9
21	33	6.2	3.4	0.1	-2.4	8.6	-4.0	10.2
21	34	6.2	5.7	-1.5	-3.1	9.3	-4.3	10.5
21	35	6.5	4.7	2.1	-4.0	10.5	-4.3	10.8
21	36	6.9	24.7	-11.2	-5.5	12.4	-4.2	11.1
22	1	23.9	-30.6	11.9	9.3	14.6	12.5	11.4
22	2	22.6	-7.1	-2.4	6.6	16.0	11.0	11.6
22	3	21.0	-5.9	1.0	4.6	16.4	9.3	11.7
22	4	19.4	-2.3	-0.9	3.2	16.2	7.6	11.8
22	5	18.2	-2.9	0.4	2.5	15.7	6.4	11.7
22	6	16.9	-2.0	-0.1	1.9	15.0	5.2	11.7
22	7	15.3	-0.7	-0.1	1.1	14.2	3.8	11.5
22	8	14.1	-0.1	-0.2	0.6	13.5	2.8	11.3
22	9	13.2	-0.1	-0.0	0.4	12.7	2.2	11.0
22	10	12.6	-0.2	-0.2	0.5	12.1	1.8	10.8
22	11	12.3	-1.2	0.1	0.9	11.4	1.8	10.5
22	12	11.9	-2.3	0.2	1.2	10.7	1.8	10.1
22	13	10.7	-2.2	0.5	1.0	9.7	0.9	9.8
22	14	8.7	0.1	-0.2	-0.0	8.7	-0.8	9.5
22	15	6.9	0.6	0.1	-0.7	7.6	-2.3	9.2
22	16	5.2	1.6	-0.1	-1.4	6.6	-3.7	8.9
22	17	3.7	2.3	0.1	-2.1	5.8	-4.9	8.6
22	18	2.5	3.3	-0.3	-2.6	5.1	-5.9	8.4
22	19	1.8	3.3	-0.0	-2.8	4.6	-6.4	8.2
22	20	1.4	3.5	0.0	-3.0	4.4	-6.7	8.1
22	21	1.3	4.6	-0.4	-3.1	4.4	-6.8	8.1
22	22	2.3	3.7	-0.3	-2.5	4.8	-5.8	8.1
22	23	4.3	1.1	0.0	-1.1	5.4	-3.9	8.2
22	24	6.3	-1.6	0.5	0.2	6.1	-2.0	8.3
22	25	7.2	-1.8	0.4	0.5	6.7	-1.2	8.4
22	26	7.5	-1.3	0.2	0.4	7.1	-1.0	8.5
22	27	7.5	-1.0	0.4	0.2	7.3	-1.2	8.7
22	28	7.2	0.2	-0.1	-0.3	7.5	-1.7	8.9
22	29	7.0	0.5	0.1	-0.6	7.6	-2.1	9.1
22	30	6.8	1.3	-0.2	-1.0	7.8	-2.6	9.4
22	31	6.6	1.7	0.0	-1.4	8.0	-3.0	9.6
22	32	6.5	2.7	-0.6	-1.8	8.3	-3.4	9.9
22	33	6.4	2.7	0.3	-2.3	8.7	-3.8	10.2
22	34	6.4	5.1	-1.4	-3.0	9.4	-4.1	10.5
22	35	6.7	3.9	2.4	-3.8	10.5	-4.1	10.8
22	36	7.0	24.3	-11.0	-5.4	12.4	-4.1	11.1
23	1	23.7	-30.0	11.8	9.1	14.6	12.3	11.4
23	2	22.3	-6.5	-2.5	6.3	16.0	10.7	11.6
23	3	20.8	-5.7	1.0	4.4	16.4	9.1	11.7

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
23	1	23.7	-30.0	11.8	9.1	14.6	12.3	11.4
23	2	22.3	-6.5	-2.5	6.3	16.0	10.7	11.6
23	3	20.8	-5.7	1.0	4.4	16.4	9.1	11.7
23	4	19.3	-2.4	-0.8	3.1	16.2	7.5	11.8
23	5	18.1	-2.7	0.3	2.4	15.7	6.3	11.8
23	6	16.9	-2.1	-0.1	1.9	15.0	5.2	11.7
23	7	15.5	-1.6	0.3	1.2	14.3	4.0	11.5
23	8	14.2	-0.3	-0.3	0.7	13.5	2.9	11.3
23	9	13.2	-0.3	0.1	0.4	12.8	2.1	11.1
23	10	12.5	0.1	-0.4	0.4	12.1	1.7	10.8
23	11	12.3	-1.6	0.3	0.9	11.4	1.8	10.5
23	12	11.8	-2.5	0.4	1.2	10.6	1.7	10.1
23	13	10.4	-1.7	0.4	0.8	9.6	0.6	9.8
23	14	8.5	-0.0	-0.1	-0.1	8.6	-1.0	9.5
23	15	6.7	0.4	0.3	-0.8	7.5	-2.4	9.1
23	16	4.8	2.3	-0.2	-1.7	6.5	-4.0	8.8
23	17	3.3	3.3	-0.3	-2.3	5.6	-5.3	8.6
23	18	2.3	3.3	-0.2	-2.6	4.9	-6.1	8.4
23	19	1.5	3.5	-0.0	-2.9	4.4	-6.7	8.2
23	20	0.9	4.5	-0.4	-3.3	4.2	-7.2	8.1
23	21	0.8	4.9	-0.4	-3.4	4.2	-7.3	8.1
23	22	1.6	4.9	-0.8	-3.0	4.6	-6.5	8.1
23	23	3.7	1.5	0.1	-1.5	5.2	-4.4	8.1
23	24	5.9	-1.8	0.7	0.0	5.9	-2.3	8.2
23	25	6.8	-1.5	0.4	0.3	6.5	-1.6	8.4
23	26	7.1	-0.9	0.2	0.2	6.9	-1.4	8.5
23	27	7.2	-0.8	0.4	-0.0	7.2	-1.5	8.7
23	28	7.0	0.8	-0.3	-0.5	7.5	-1.9	8.9
23	29	7.0	0.5	0.2	-0.7	7.7	-2.1	9.1
23	30	7.0	0.8	-0.1	-0.9	7.8	-2.4	9.4
23	31	7.0	0.6	0.5	-1.1	8.1	-2.6	9.6
23	32	7.0	1.3	-0.0	-1.4	8.4	-2.9	9.9
23	33	7.0	1.1	0.8	-1.8	8.8	-3.2	10.2
23	34	7.0	3.4	-0.7	-2.5	9.5	-3.5	10.5
23	35	7.0	3.1	2.5	-3.6	10.6	-3.8	10.8
23	36	7.0	24.5	-11.1	-5.4	12.4	-4.1	11.1
24	1	23.5	-29.4	11.6	8.9	14.6	12.1	11.4
24	2	22.1	-5.9	-2.7	6.1	16.0	10.5	11.6
24	3	20.8	-6.0	1.2	4.4	16.4	9.0	11.8
24	4	19.3	-2.5	-0.7	3.0	16.3	7.5	11.8
24	5	18.1	-3.0	0.6	2.4	15.7	6.3	11.8
24	6	16.7	-1.5	-0.2	1.6	15.1	5.0	11.7
24	7	15.3	-0.8	0.0	1.0	14.3	3.7	11.6
24	8	14.2	-0.5	-0.0	0.7	13.5	2.9	11.3
24	9	13.1	0.2	-0.2	0.3	12.8	2.0	11.1
24	10	12.4	0.4	-0.5	0.4	12.0	1.6	10.8
24	11	12.2	-1.5	0.2	0.9	11.3	1.7	10.5
24	12	11.5	-2.2	0.4	1.0	10.5	1.4	10.1
24	13	9.9	-0.8	0.1	0.4	9.5	0.1	9.8
24	14	8.1	0.3	-0.0	-0.3	8.4	-1.3	9.4
24	15	6.2	1.6	-0.1	-1.2	7.4	-2.9	9.1
24	16	4.4	3.1	-0.5	-2.0	6.4	-4.4	8.8
24	17	3.2	2.9	-0.1	-2.3	5.5	-5.4	8.6

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
24	18	2.3	2.7	0.1	-2.5	4.8	-6.0	8.3
24	19	1.3	3.9	-0.3	-3.0	4.3	-6.9	8.2
24	20	0.7	4.4	-0.2	-3.3	4.0	-7.4	8.1
24	21	0.5	5.1	-0.4	-3.5	4.0	-7.5	8.0
24	22	1.1	5.2	-0.7	-3.3	4.4	-6.9	8.0
24	23	3.0	2.4	-0.1	-1.9	4.9	-5.1	8.1
24	24	5.2	-0.9	0.5	-0.4	5.6	-3.0	8.2
24	25	6.2	-1.1	0.5	-0.0	6.2	-2.1	8.3
24	26	6.3	0.9	-0.4	-0.4	6.7	-2.2	8.5
24	27	6.6	0.7	-0.0	-0.5	7.1	-2.1	8.7
24	28	6.9	0.6	-0.1	-0.5	7.4	-2.0	8.9
24	29	7.0	0.7	0.1	-0.7	7.7	-2.2	9.2
24	30	7.0	1.2	-0.2	-0.9	7.9	-2.4	9.4
24	31	7.0	1.2	0.2	-1.2	8.2	-2.7	9.7
24	32	7.0	2.1	-0.5	-1.5	8.5	-3.0	10.0
24	33	7.1	1.5	0.7	-1.8	8.9	-3.2	10.3
24	34	7.1	3.9	-1.0	-2.5	9.6	-3.5	10.6
24	35	7.1	3.5	2.5	-3.6	10.7	-3.8	10.9
24	36	7.0	24.8	-11.3	-5.5	12.5	-4.2	11.2
25	1	23.5	-28.7	11.2	8.7	14.8	12.0	11.5
25	2	22.1	-5.8	-2.6	6.0	16.1	10.4	11.7
25	3	20.8	-5.8	1.1	4.3	16.5	9.0	11.8
25	4	19.3	-2.4	-0.7	3.0	16.3	7.4	11.9
25	5	18.0	-2.3	0.3	2.2	15.8	6.1	11.9
25	6	16.5	-0.3	-0.7	1.4	15.1	4.7	11.8
25	7	15.1	0.2	-0.3	0.8	14.3	3.5	11.6
25	8	14.1	0.0	-0.3	0.6	13.5	2.7	11.4
25	9	13.2	-0.3	0.1	0.4	12.8	2.1	11.1
25	10	12.5	-0.1	-0.4	0.5	12.0	1.7	10.8
25	11	12.2	-2.2	0.6	1.0	11.2	1.7	10.5
25	12	11.1	-1.5	0.2	0.8	10.3	1.0	10.1
25	13	9.4	-0.1	-0.0	0.1	9.3	-0.4	9.8
25	14	7.7	0.9	-0.2	-0.6	8.3	-1.7	9.4
25	15	6.0	1.5	0.0	-1.2	7.2	-3.1	9.1
25	16	4.3	3.0	-0.4	-2.0	6.3	-4.5	8.8
25	17	3.2	2.6	-0.0	-2.2	5.4	-5.3	8.5
25	18	2.3	2.6	-0.0	-2.4	4.7	-6.0	8.3
25	19	1.3	3.5	-0.1	-2.9	4.2	-6.9	8.2
25	20	0.7	4.2	-0.3	-3.2	3.9	-7.3	8.0
25	21	0.6	4.0	0.0	-3.3	3.9	-7.4	8.0
25	22	0.8	5.3	-0.8	-3.3	4.1	-7.2	8.0
25	23	2.3	3.4	-0.3	-2.4	4.7	-5.8	8.1
25	24	4.5	-0.2	0.5	-0.9	5.4	-3.7	8.2
25	25	5.6	-0.4	0.3	-0.4	6.0	-2.7	8.3
25	26	5.8	1.6	-0.5	-0.8	6.6	-2.7	8.5
25	27	6.3	1.3	-0.2	-0.7	7.0	-2.4	8.7
25	28	7.0	0.2	0.0	-0.4	7.4	-1.9	8.9
25	29	7.2	0.3	0.2	-0.6	7.8	-2.0	9.2
25	30	7.1	1.5	-0.4	-0.9	8.0	-2.3	9.4
25	31	7.1	1.5	0.1	-1.2	8.3	-2.6	9.7
25	32	7.1	2.4	-0.5	-1.6	8.7	-2.9	10.0
25	33	7.1	2.5	0.2	-2.0	9.1	-3.2	10.3
25	34	7.1	4.8	-1.3	-2.7	9.8	-3.5	10.6

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
25	35	7.2	4.3	2.0	-3.7	10.9	-3.7	10.9
25	36	7.4	23.8	-10.8	-5.3	12.7	-3.8	11.2
26	1	23.8	-28.8	11.2	8.9	14.9	12.2	11.6
26	2	22.3	-6.0	-2.5	6.0	16.3	10.5	11.8
26	3	20.9	-5.6	1.0	4.2	16.7	9.0	11.9
26	4	19.4	-2.1	-0.8	2.9	16.5	7.5	11.9
26	5	18.3	-2.6	0.3	2.3	16.0	6.4	11.9
26	6	17.1	-1.9	-0.1	1.8	15.3	5.3	11.8
26	7	15.5	-0.6	-0.1	1.0	14.5	3.9	11.6
26	8	14.2	-0.1	-0.2	0.6	13.6	2.8	11.4
26	9	13.2	-0.0	-0.1	0.4	12.8	2.1	11.1
26	10	12.6	-0.7	-0.0	0.6	12.0	1.8	10.8
26	11	12.0	-1.9	0.5	0.9	11.1	1.5	10.5
26	12	10.7	-1.0	0.1	0.5	10.2	0.6	10.1
26	13	9.0	0.4	-0.1	-0.2	9.2	-0.8	9.8
26	14	7.5	0.8	-0.1	-0.7	8.2	-1.9	9.4
26	15	6.0	1.0	0.2	-1.1	7.1	-3.1	9.1
26	16	4.4	2.3	-0.2	-1.8	6.2	-4.4	8.8
26	17	3.2	2.5	-0.0	-2.1	5.3	-5.3	8.5
26	18	2.3	2.4	0.1	-2.3	4.6	-6.0	8.3
26	19	1.3	3.6	-0.3	-2.8	4.1	-6.8	8.1
26	20	0.8	3.7	-0.2	-3.0	3.8	-7.2	8.0
26	21	0.7	3.3	0.2	-3.1	3.8	-7.3	8.0
26	22	0.7	4.7	-0.5	-3.3	4.0	-7.3	8.0
26	23	1.7	4.2	-0.5	-2.8	4.5	-6.4	8.1
26	24	3.8	0.7	0.4	-1.3	5.1	-4.4	8.2
26	25	5.3	-0.8	0.7	-0.5	5.8	-3.0	8.3
26	26	5.8	0.9	-0.3	-0.7	6.5	-2.7	8.5
26	27	6.5	0.5	0.1	-0.5	7.0	-2.2	8.7
26	28	7.3	-0.6	0.3	-0.2	7.5	-1.7	9.0
26	29	7.5	-0.1	0.3	-0.4	7.9	-1.7	9.2
26	30	7.5	0.8	-0.2	-0.7	8.2	-2.0	9.5
26	31	7.6	0.6	0.4	-0.9	8.5	-2.2	9.8
26	32	7.6	1.8	-0.4	-1.3	8.9	-2.5	10.1
26	33	7.7	1.2	0.7	-1.6	9.3	-2.7	10.4
26	34	7.7	3.7	-0.9	-2.3	10.0	-3.0	10.7
26	35	7.8	3.4	2.3	-3.3	11.1	-3.2	11.0
26	36	8.1	22.2	-10.2	-4.8	12.9	-3.2	11.3
27	1	24.1	-28.7	11.1	8.9	15.2	12.5	11.6
27	2	22.6	-6.0	-2.6	6.1	16.5	10.8	11.8
27	3	21.2	-5.7	1.0	4.3	16.9	9.2	11.9
27	4	19.7	-2.3	-0.8	3.0	16.7	7.7	12.0
27	5	18.8	-3.4	0.5	2.6	16.1	6.8	12.0
27	6	17.9	-3.9	0.6	2.4	15.4	6.0	11.9
27	7	16.1	-2.1	0.4	1.5	14.6	4.4	11.7
27	8	14.3	0.2	-0.5	0.6	13.7	2.9	11.4
27	9	13.2	0.0	-0.0	0.4	12.8	2.0	11.2
27	10	12.5	-0.8	0.1	0.5	12.0	1.7	10.8
27	11	11.6	-1.0	0.2	0.5	11.1	1.1	10.5
27	12	10.3	-0.5	0.1	0.2	10.1	0.2	10.1
27	13	8.7	0.8	-0.3	-0.4	9.1	-1.1	9.8
27	14	7.4	0.5	0.1	-0.7	8.1	-2.0	9.4
27	15	5.9	1.1	0.1	-1.1	7.0	-3.2	9.1

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
27	16	4.4	1.8	0.1	-1.7	6.1	-4.4	8.8
27	17	3.1	2.6	-0.1	-2.1	5.2	-5.4	8.5
27	18	2.2	2.6	-0.1	-2.4	4.6	-6.1	8.3
27	19	1.4	2.8	0.1	-2.7	4.1	-6.7	8.1
27	20	0.8	3.5	-0.2	-2.9	3.7	-7.2	8.0
27	21	0.6	3.5	0.0	-3.1	3.7	-7.4	8.0
27	22	0.6	4.3	-0.3	-3.3	3.9	-7.4	8.0
27	23	1.2	4.8	-0.6	-3.1	4.3	-6.9	8.1
27	24	2.9	2.6	-0.2	-2.1	5.0	-5.3	8.2
27	25	4.7	0.4	0.3	-1.0	5.7	-3.6	8.3
27	26	5.9	0.0	0.2	-0.5	6.4	-2.6	8.5
27	27	6.7	0.2	0.1	-0.4	7.1	-2.0	8.7
27	28	7.4	-0.1	0.0	-0.2	7.6	-1.6	9.0
27	29	7.7	-0.0	0.2	-0.3	8.0	-1.5	9.2
27	30	7.8	0.9	-0.3	-0.6	8.4	-1.7	9.5
27	31	8.0	0.4	0.4	-0.7	8.7	-1.8	9.8
27	32	8.1	1.1	-0.1	-1.0	9.1	-2.0	10.1
27	33	8.1	1.4	0.5	-1.5	9.6	-2.3	10.4
27	34	8.2	3.4	-0.8	-2.1	10.3	-2.6	10.8
27	35	8.3	3.1	2.3	-3.1	11.4	-2.8	11.1
27	36	8.5	22.3	-10.3	-4.7	13.2	-2.9	11.4
28	1	24.4	-28.1	10.7	8.9	15.5	12.7	11.7
28	2	23.1	-6.7	-2.2	6.4	16.7	11.2	11.9
28	3	21.6	-5.9	1.0	4.5	17.1	9.6	12.0
28	4	20.0	-2.2	-0.9	3.1	16.9	7.9	12.1
28	5	19.0	-3.0	0.3	2.6	16.4	7.0	12.0
28	6	18.0	-3.1	0.2	2.3	15.6	6.1	11.9
28	7	16.2	-1.4	0.0	1.4	14.8	4.5	11.7
28	8	14.4	0.4	-0.5	0.6	13.8	2.9	11.5
28	9	13.2	0.2	-0.1	0.3	12.9	2.0	11.2
28	10	12.3	-0.1	-0.2	0.3	12.0	1.4	10.9
28	11	11.3	-0.7	0.3	0.3	11.0	0.8	10.5
28	12	9.9	0.3	-0.2	-0.1	10.0	-0.2	10.1
28	13	8.6	0.3	0.1	-0.4	9.0	-1.2	9.8
28	14	7.3	0.4	0.1	-0.7	8.0	-2.1	9.4
28	15	5.7	1.4	-0.0	-1.2	6.9	-3.4	9.1
28	16	4.1	2.6	-0.3	-1.9	6.0	-4.7	8.8
28	17	2.9	2.9	-0.2	-2.3	5.2	-5.6	8.5
28	18	2.1	2.5	0.1	-2.4	4.5	-6.2	8.3
28	19	1.3	3.0	0.0	-2.7	4.0	-6.8	8.1
28	20	0.6	3.9	-0.3	-3.1	3.7	-7.4	8.0
28	21	0.4	3.7	0.0	-3.2	3.6	-7.6	8.0
28	22	0.5	4.1	-0.2	-3.3	3.8	-7.5	8.0
28	23	1.0	4.4	-0.3	-3.2	4.2	-7.1	8.1
28	24	2.2	4.1	-0.6	-2.6	4.8	-6.0	8.2
28	25	4.1	1.9	-0.0	-1.5	5.6	-4.3	8.4
28	26	5.9	0.1	0.1	-0.5	6.4	-2.7	8.6
28	27	7.0	-0.3	0.1	-0.1	7.1	-1.8	8.8
28	28	7.6	-0.0	-0.1	-0.1	7.7	-1.4	9.0
28	29	7.9	0.3	-0.0	-0.3	8.2	-1.4	9.3
28	30	8.2	0.5	-0.1	-0.4	8.6	-1.4	9.6
28	31	8.3	1.1	-0.1	-0.7	9.0	-1.6	9.9
28	32	8.4	2.0	-0.7	-1.0	9.4	-1.8	10.2

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
28	33	8.5	1.8	0.3	-1.4	9.9	-2.0	10.5
28	34	8.6	3.9	-1.2	-2.0	10.6	-2.2	10.8
28	35	8.7	3.6	1.9	-3.0	11.7	-2.4	11.1
28	36	8.9	22.4	-10.4	-4.6	13.5	-2.5	11.4
29	1	25.0	-28.8	11.0	9.2	15.8	13.2	11.8
29	2	23.6	-6.9	-2.3	6.6	17.0	11.6	12.0
29	3	22.1	-6.3	1.1	4.7	17.4	10.0	12.1
29	4	20.4	-2.3	-0.9	3.2	17.2	8.3	12.1
29	5	19.2	-2.5	0.2	2.6	16.6	7.1	12.1
29	6	18.1	-2.2	-0.3	2.2	15.9	6.1	12.0
29	7	16.5	-1.5	0.1	1.5	15.0	4.7	11.8
29	8	14.7	0.4	-0.6	0.7	14.0	3.2	11.5
29	9	13.4	-0.2	0.1	0.4	13.0	2.2	11.2
29	10	12.3	-0.3	-0.1	0.3	12.0	1.4	10.9
29	11	11.1	-0.4	0.2	0.1	11.0	0.6	10.5
29	12	9.6	0.9	-0.4	-0.3	9.9	-0.6	10.2
29	13	8.4	0.5	0.1	-0.5	8.9	-1.4	9.8
29	14	7.2	0.3	0.2	-0.7	7.9	-2.2	9.4
29	15	5.6	1.1	0.2	-1.3	6.9	-3.5	9.1
29	16	3.9	2.9	-0.4	-2.0	5.9	-4.9	8.8
29	17	2.8	2.7	0.0	-2.3	5.1	-5.7	8.5
29	18	1.9	3.2	-0.3	-2.5	4.4	-6.4	8.3
29	19	1.2	2.9	0.2	-2.7	3.9	-6.9	8.1
29	20	0.4	4.4	-0.5	-3.2	3.6	-7.6	8.0
29	21	0.1	4.7	-0.4	-3.4	3.5	-7.9	8.0
29	22	0.4	4.2	-0.2	-3.3	3.7	-7.6	8.0
29	23	1.0	3.8	-0.0	-3.1	4.1	-7.1	8.1
29	24	2.0	4.2	-0.5	-2.8	4.8	-6.2	8.2
29	25	3.9	2.6	-0.4	-1.7	5.6	-4.5	8.4
29	26	6.2	-0.5	0.2	-0.3	6.5	-2.4	8.6
29	27	7.6	-1.8	0.7	0.3	7.3	-1.2	8.8
29	28	8.0	-0.4	-0.1	0.1	7.9	-1.1	9.1
29	29	8.3	-0.1	0.1	-0.1	8.4	-1.0	9.3
29	30	8.7	0.2	-0.2	-0.1	8.8	-0.9	9.6
29	31	9.1	-0.3	0.4	-0.2	9.3	-0.8	9.9
29	32	9.3	0.6	-0.3	-0.4	9.7	-0.9	10.2
29	33	9.4	0.7	0.4	-0.9	10.3	-1.2	10.6
29	34	9.5	2.8	-1.0	-1.5	11.0	-1.4	10.9
29	35	9.6	2.5	2.1	-2.5	12.1	-1.6	11.2
29	36	9.7	21.5	-10.3	-4.1	13.8	-1.8	11.5
30	1	25.4	-28.3	10.5	9.3	16.0	13.6	11.8
30	2	24.1	-7.4	-2.1	6.8	17.3	12.1	12.0
30	3	22.6	-6.5	1.0	4.9	17.7	10.4	12.2
30	4	21.0	-3.0	-0.6	3.5	17.5	8.8	12.2
30	5	19.7	-2.6	-0.0	2.8	16.9	7.5	12.2
30	6	18.7	-3.0	0.1	2.5	16.2	6.7	12.0
30	7	17.2	-2.4	0.2	2.0	15.2	5.4	11.8
30	8	15.4	-1.2	0.0	1.2	14.2	3.8	11.6
30	9	13.6	0.1	-0.2	0.5	13.1	2.3	11.3
30	10	12.3	-0.0	-0.1	0.3	12.0	1.4	10.9
30	11	11.0	-0.1	0.1	0.0	11.0	0.4	10.6
30	12	9.5	0.8	-0.2	-0.4	9.9	-0.7	10.2
30	13	8.2	0.9	-0.1	-0.7	8.9	-1.6	9.8

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
30	14	7.0	0.6	0.1	-0.8	7.8	-2.4	9.4
30	15	5.4	1.6	-0.0	-1.4	6.8	-3.7	9.1
30	16	3.8	2.8	-0.3	-2.1	5.9	-5.0	8.8
30	17	2.7	2.8	-0.1	-2.4	5.1	-5.8	8.5
30	18	1.9	2.7	0.1	-2.5	4.4	-6.4	8.3
30	19	1.1	3.2	-0.1	-2.8	3.9	-7.0	8.1
30	20	0.5	3.7	-0.0	-3.1	3.6	-7.5	8.0
30	21	0.2	4.2	-0.2	-3.3	3.5	-7.8	8.0
30	22	0.4	4.1	-0.2	-3.3	3.7	-7.6	8.0
30	23	0.9	4.1	-0.1	-3.2	4.1	-7.2	8.1
30	24	1.9	4.7	-0.7	-2.9	4.8	-6.3	8.2
30	25	4.2	1.7	0.0	-1.5	5.7	-4.2	8.4
30	26	6.7	-1.6	0.6	0.1	6.6	-1.9	8.6
30	27	8.0	-2.2	0.6	0.6	7.4	-0.9	8.9
30	28	8.3	-0.7	0.0	0.3	8.0	-0.8	9.1
30	29	8.6	-0.3	0.1	0.0	8.6	-0.8	9.4
30	30	9.2	-0.5	0.0	0.2	9.0	-0.5	9.7
30	31	9.8	-1.3	0.5	0.3	9.5	-0.2	10.0
30	32	10.2	-0.9	0.1	0.2	10.0	-0.1	10.3
30	33	10.4	-1.1	0.9	-0.2	10.6	-0.2	10.6
30	34	10.5	1.2	-0.7	-0.8	11.3	-0.5	11.0
30	35	10.7	0.5	2.6	-1.7	12.4	-0.6	11.3
30	36	10.7	19.3	-9.5	-3.4	14.1	-0.9	11.6
31	1	25.6	-27.8	10.2	+ 9.3	+16.3	13.7	11.9
31	2	24.5	-7.5	-2.1	6.9	17.6	12.4	12.1
31	3	23.1	-6.5	0.8	5.1	18.0	10.9	12.2
31	4	21.7	-3.6	-0.7	3.9	17.8	9.4	12.3
31	5	20.5	-3.9	0.4	3.3	17.2	8.3	12.2
31	6	19.3	-3.1	-0.2	2.8	16.4	7.2	12.1
31	7	18.0	-3.8	0.7	2.5	15.5	6.1	11.9
31	8	16.0	-1.7	-0.1	1.6	14.4	4.4	11.6
31	9	13.9	0.0	-0.2	0.6	13.3	2.6	11.3
31	10	12.4	0.1	-0.2	0.3	12.1	1.4	11.0
31	11	11.1	-0.4	0.2	0.1	11.0	0.5	10.6
31	12	9.5	0.8	-0.2	-0.4	9.9	-0.7	10.2
31	13	8.1	1.0	-0.0	-0.7	8.8	-1.7	9.8
31	14	6.9	0.5	0.2	-0.9	7.8	-2.6	9.5
31	15	5.3	1.5	0.1	-1.5	6.8	-3.8	9.1
31	16	3.7	2.9	-0.3	-2.1	5.8	-5.1	8.8
31	17	2.6	2.9	-0.1	-2.4	5.0	-5.9	8.5
31	18	1.8	2.9	-0.0	-2.6	4.4	-6.5	8.3
31	19	1.0	3.5	-0.1	-2.9	3.9	-7.2	8.2
31	20	0.5	4.1	-0.3	-3.2	3.7	-7.6	8.1
31	21	0.4	3.8	-0.1	-3.2	3.6	-7.6	8.0
31	22	0.5	3.9	-0.1	-3.3	3.8	-7.6	8.1
31	23	0.8	4.7	-0.2	-3.4	4.2	-7.3	8.1
31	24	1.9	5.0	-0.9	-3.0	4.9	-6.4	8.3
31	25	4.5	1.0	0.2	-1.3	5.8	-4.0	8.5
31	26	7.0	-2.1	0.7	0.3	6.7	-1.7	8.7
31	27	8.1	-2.1	0.6	0.6	7.5	-0.8	8.9
31	28	8.3	-0.2	-0.2	0.2	8.1	-0.9	9.2
31	29	8.6	0.3	-0.1	-0.1	8.7	-0.8	9.4
31	30	9.3	-0.2	-0.1	0.1	9.2	-0.4	9.7

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
31	31	10.0	-1.2	0.5	0.3	9.7	-0.1	10.1
31	32	10.4	-0.8	0.0	0.2	10.2	0.0	10.4
31	33	10.6	-0.9	0.8	-0.2	10.8	-0.1	10.7
31	34	10.8	1.2	-0.7	-0.7	11.5	-0.2	11.0
31	35	11.1	-0.1	2.8	-1.5	12.6	-0.2	11.3
31	36	10.9	19.7	-9.7	-3.4	14.3	-0.7	11.6
32	1	25.9	-28.8	10.9	9.5	16.4	13.9	12.0
32	2	24.9	-7.7	-2.1	7.1	17.8	12.7	12.2
32	3	23.7	-7.3	1.0	5.5	18.2	11.4	12.3
32	4	22.5	-5.0	-0.2	4.5	18.0	10.2	12.3
32	5	21.1	-4.3	0.3	3.6	17.5	8.8	12.3
32	6	19.8	-3.4	-0.2	3.1	16.7	7.7	12.1
32	7	18.5	-3.9	0.5	2.7	15.8	6.6	11.9
32	8	16.6	-2.5	0.1	1.9	14.6	4.9	11.7
32	9	14.3	-0.5	-0.1	0.9	13.4	3.0	11.3
32	10	12.5	0.3	-0.3	0.3	12.2	1.5	11.0
32	11	11.2	-0.5	0.3	0.1	11.1	0.6	10.6
32	12	9.6	0.5	-0.1	-0.4	10.0	-0.6	10.2
32	13	8.0	1.4	-0.2	-0.9	8.9	-1.8	9.8
32	14	6.7	1.2	-0.0	-1.1	7.8	-2.8	9.5
32	15	5.2	1.7	0.1	-1.6	6.8	-3.9	9.1
32	16	3.6	3.1	-0.3	-2.2	5.8	-5.2	8.8
32	17	2.5	3.1	-0.1	-2.5	5.0	-6.1	8.6
32	18	1.7	3.2	-0.1	-2.7	4.4	-6.7	8.4
32	19	1.0	3.4	-0.3	-3.0	4.0	-7.2	8.2
32	20	0.7	3.7	-0.2	-3.0	3.7	-7.4	8.1
32	21	0.7	3.0	0.2	-3.0	3.7	-7.4	8.1
32	22	0.6	4.1	-0.2	-3.3	3.9	-7.5	8.1
32	23	0.8	5.4	-0.7	-3.5	4.3	-7.4	8.2
32	24	2.1	4.8	-0.7	-2.9	5.0	-6.2	8.3
32	25	4.6	1.3	0.0	-1.3	5.9	-3.9	8.5
32	26	7.0	-1.8	0.6	0.2	6.8	-1.7	8.7
32	27	8.0	-1.3	0.3	0.4	7.6	-1.0	9.0
32	28	8.3	-0.1	-0.1	0.1	8.2	-0.9	9.2
32	29	8.6	0.5	-0.2	-0.2	8.8	-0.9	9.5
32	30	9.3	-0.0	-0.1	0.0	9.3	-0.5	9.8
32	31	9.9	-0.6	0.3	0.1	9.8	-0.2	10.1
32	32	10.1	0.6	-0.5	-0.2	10.3	-0.3	10.4
32	33	10.2	0.8	0.2	-0.6	10.8	-0.6	10.8
32	34	10.5	2.1	-0.9	-1.1	11.6	-0.6	11.1
32	35	10.7	1.1	2.6	-2.0	12.7	-0.7	11.4
32	36	10.4	21.8	-10.5	-4.0	14.4	-1.3	11.7
33	1	26.1	-29.5	11.2	9.6	16.5	14.1	12.0
33	2	25.2	-7.8	-2.3	7.2	18.0	13.0	12.2
33	3	24.1	-7.5	1.0	5.7	18.4	11.8	12.3
33	4	23.0	-5.6	-0.1	4.7	18.3	10.6	12.4
33	5	21.5	-4.6	0.4	3.8	17.7	9.2	12.3
33	6	20.1	-3.5	-0.1	3.2	16.9	7.9	12.2
33	7	18.8	-3.9	0.5	2.8	16.0	6.8	12.0
33	8	17.1	-3.5	0.4	2.3	14.8	5.4	11.7
33	9	14.6	-0.8	-0.1	1.0	13.6	3.2	11.4
33	10	12.5	0.9	-0.6	0.2	12.3	1.5	11.0
33	11	11.2	-0.2	0.2	0.1	11.1	0.6	10.6

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESO. 1000.M	CONT. 1000.M	RESO. 4000.M	CONT. 4000.M
33	12	9.7	0.2	0.0	-0.3	10.0	-0.6	10.3
33	13	8.1	1.0	-0.0	-0.8	8.9	-1.8	9.9
33	14	6.7	1.4	-0.2	-1.1	7.8	-2.8	9.5
33	15	5.2	1.9	-0.0	-1.6	6.8	-4.0	9.2
33	16	3.6	3.2	-0.3	-2.3	5.9	-5.3	8.9
33	17	2.4	3.5	-0.2	-2.7	5.1	-6.2	8.6
33	18	1.7	3.4	-0.2	-2.8	4.5	-6.7	8.4
33	19	1.3	2.9	0.1	-2.8	4.1	-6.9	8.2
33	20	1.0	3.1	-0.0	-2.9	3.9	-7.2	8.2
33	21	0.8	3.4	0.0	-3.0	3.8	-7.3	8.1
33	22	0.8	4.3	-0.3	-3.3	4.1	-7.4	8.2
33	23	1.3	4.5	-0.3	-3.2	4.5	-6.9	8.2
33	24	2.6	4.0	-0.5	-2.6	5.2	-5.8	8.4
33	25	4.8	1.1	0.2	-1.3	6.1	-3.8	8.6
33	26	6.9	-1.1	0.4	-0.0	6.9	-1.9	8.8
33	27	8.0	-1.3	0.4	0.3	7.7	-1.0	9.0
33	28	8.4	-0.3	-0.1	0.1	8.3	-0.9	9.3
33	29	8.7	0.1	0.1	-0.1	8.8	-0.9	9.6
33	30	9.3	-0.1	-0.0	-0.0	9.3	-0.6	9.9
33	31	9.9	-0.8	0.5	0.1	9.8	-0.3	10.2
33	32	10.1	0.3	-0.3	-0.2	10.3	-0.4	10.5
33	33	10.1	0.6	0.5	-0.8	10.9	-0.7	10.8
33	34	10.1	3.0	-1.2	-1.5	11.6	-1.0	11.1
33	35	10.1	2.4	2.4	-2.6	12.7	-1.4	11.5
33	36	9.8	23.8	-11.1	-4.6	14.4	-2.0	11.8
34	1	26.3	-30.2	11.6	9.7	16.6	14.2	12.1
34	2	25.4	-7.9	-2.3	7.3	19.1	13.1	12.3
34	3	24.3	-7.7	1.2	5.7	18.6	11.9	12.4
34	4	23.0	-4.9	-0.4	4.6	18.4	10.6	12.4
34	5	21.5	-4.1	0.3	3.6	17.9	9.1	12.4
34	6	20.1	-2.9	-0.3	3.0	17.1	7.9	12.2
34	7	18.8	-3.3	0.2	2.7	16.1	6.8	12.0
34	8	17.2	-3.2	0.3	2.2	15.0	5.4	11.8
34	9	14.8	-1.1	0.1	1.1	13.7	3.4	11.4
34	10	12.6	0.6	-0.4	0.2	12.4	1.5	11.1
34	11	11.2	-0.4	0.4	-0.0	11.2	0.5	10.7
34	12	9.7	0.4	-0.1	-0.4	10.1	-0.6	10.3
34	13	8.2	1.0	-0.1	-0.8	9.0	-1.7	9.9
34	14	7.0	0.5	0.3	-0.9	7.9	-2.5	9.5
34	15	5.5	1.3	0.1	-1.4	6.9	-3.7	9.2
34	16	3.8	2.9	-0.3	-2.2	6.0	-5.1	8.9
34	17	2.4	4.0	-0.4	-2.8	5.2	-6.2	8.6
34	18	1.7	3.6	-0.2	-2.9	4.6	-6.7	8.4
34	19	1.4	2.9	0.2	-2.8	4.2	-6.9	8.3
34	20	1.1	3.2	0.1	-2.9	4.0	-7.1	8.2
34	21	0.8	4.4	-0.3	-3.2	4.0	-7.4	8.2
34	22	1.1	4.5	-0.5	-3.2	4.3	-7.1	8.2
34	23	2.0	3.4	-0.0	-2.8	4.8	-6.3	8.3
34	24	3.2	3.1	-0.3	-2.2	5.4	-5.3	8.5
34	25	4.9	1.9	-0.2	-1.4	6.3	-3.7	8.6
34	26	6.8	-0.2	0.1	-0.3	7.1	-2.1	8.9
34	27	8.0	-1.1	0.3	0.2	7.8	-1.1	9.1
34	28	8.5	-0.8	0.3	0.1	8.4	-0.8	9.3

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
34	29	8.6	0.5	-0.1	-0.3	8.9	-1.0	9.6
34	30	9.1	0.7	-0.4	-0.3	9.4	-0.8	9.9
34	31	9.8	-0.5	0.3	-0.0	9.8	-0.4	10.2
34	32	10.2	-0.2	-0.1	-0.1	10.3	-0.3	10.5
34	33	10.1	0.5	0.5	-0.8	10.8	-0.8	10.9
34	34	10.0	2.8	-1.0	-1.6	11.5	-1.2	11.2
34	35	9.8	2.8	2.4	-2.9	12.7	-1.7	11.5
34	36	9.5	24.7	-11.4	-4.9	14.4	-2.3	11.8
35	1	26.5	-30.8	11.8	9.8	16.7	14.4	12.1
35	2	25.5	-7.5	-2.7	7.3	18.2	13.2	12.3
35	3	24.4	-7.6	1.2	5.7	18.7	12.0	12.4
35	4	22.9	-3.8	-0.9	4.4	18.5	10.4	12.5
35	5	21.5	-3.5	0.1	3.5	18.0	9.1	12.4
35	6	20.2	-2.7	-0.4	3.0	17.2	7.9	12.3
35	7	18.9	-3.3	0.3	2.7	16.2	6.8	12.1
35	8	17.2	-2.7	0.0	2.1	15.1	5.4	11.8
35	9	14.9	-1.4	0.2	1.1	13.8	3.4	11.5
35	10	12.5	1.1	-0.5	0.0	12.5	1.4	11.1
35	11	10.9	1.1	-0.3	-0.3	11.2	0.2	10.7
35	12	9.7	0.3	0.1	-0.4	10.1	-0.6	10.3
35	13	8.3	1.0	-0.1	-0.7	9.0	-1.6	9.9
35	14	7.1	1.0	-0.1	-0.9	8.0	-2.5	9.6
35	15	5.8	0.8	0.3	-1.2	7.0	-3.4	9.2
35	16	4.2	2.2	-0.1	-1.9	6.1	-4.7	8.9
35	17	2.7	3.6	-0.2	-2.6	5.3	-6.0	8.7
35	18	1.7	4.4	-0.5	-3.0	4.7	-6.8	8.5
35	19	1.3	3.9	-0.1	-3.1	4.4	-7.1	8.4
35	20	1.1	4.2	-0.4	-3.1	4.2	-7.2	8.3
35	21	1.1	4.8	-0.6	-3.2	4.3	-7.2	8.3
35	22	1.8	3.6	-0.3	-2.8	4.6	-6.5	8.3
35	23	2.7	2.8	0.0	-2.4	5.1	-5.7	8.4
35	24	3.8	2.8	-0.3	-2.0	5.8	-4.7	8.5
35	25	5.4	1.4	-0.1	-1.1	6.5	-3.3	8.7
35	26	7.0	-0.0	-0.0	-0.3	7.3	-1.9	8.9
35	27	8.0	-1.0	0.5	0.1	7.9	-1.2	9.2
35	28	8.3	0.1	-0.1	-0.2	8.5	-1.1	9.4
35	29	8.5	0.6	0.0	-0.4	8.9	-1.2	9.7
35	30	9.0	0.6	-0.1	-0.4	9.4	-1.0	10.0
35	31	9.7	-0.4	0.4	-0.1	9.8	-0.6	10.3
35	32	10.2	-0.5	0.1	-0.1	10.3	-0.4	10.6
35	33	10.1	0.1	0.7	-0.7	10.8	-0.8	10.9
35	34	9.9	2.7	-0.9	-1.6	11.5	-1.3	11.2
35	35	9.7	2.5	2.7	-2.9	12.6	-1.8	11.5
35	36	9.4	24.7	-11.4	-5.0	14.4	-2.4	11.8
36	1	26.7	-31.5	12.1	10.0	16.7	14.6	12.1
36	2	25.8	-8.3	-2.3	7.6	18.2	13.5	12.3
36	3	24.6	-7.7	1.1	5.8	18.8	12.1	12.5
36	4	23.2	-4.3	-0.7	4.5	18.6	10.7	12.5
36	5	21.9	-4.3	0.3	3.8	18.1	9.5	12.4
36	6	20.6	-3.4	-0.2	3.3	17.3	8.3	12.3
36	7	19.1	-3.5	0.3	2.8	16.3	7.0	12.1
36	8	17.3	-2.9	0.2	2.2	15.1	5.5	11.8
36	9	14.9	-1.0	0.0	1.1	13.8	3.4	11.5

P	F	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
36	10	12.5	1.4	-0.7	-0.0	12.5	1.4	11.1
36	11	10.9	0.9	0.0	-0.4	11.3	0.2	10.7
36	12	9.6	1.0	-0.3	-0.5	10.1	-0.8	10.4
36	13	8.5	0.4	0.1	-0.6	9.1	-1.5	10.0
36	14	7.3	0.6	0.1	-0.8	8.1	-2.3	9.6
36	15	5.9	1.4	-0.1	-1.3	7.2	-3.4	9.3
36	16	4.6	1.7	0.1	-1.7	6.3	-4.4	9.0
36	17	3.2	2.8	-0.1	-2.3	5.5	-5.6	8.8
36	18	2.1	3.8	-0.2	-2.8	4.9	-6.5	8.6
36	19	1.5	4.4	-0.5	-3.1	4.6	-6.9	8.4
36	20	1.6	3.8	-0.3	-2.9	4.5	-6.8	8.4
36	21	2.1	2.8	0.0	-2.5	4.6	-6.2	8.3
36	22	2.8	1.8	0.3	-2.1	4.9	-5.6	8.4
36	23	3.3	2.6	-0.1	-2.1	5.4	-5.2	8.5
36	24	4.4	2.7	-0.5	-1.7	6.1	-4.2	8.6
36	25	6.3	-0.0	0.3	-0.5	6.8	-2.5	8.8
36	26	7.6	-1.0	0.3	0.1	7.5	-1.4	9.0
36	27	7.9	0.1	0.0	-0.2	8.1	-1.3	9.2
36	28	8.1	0.9	-0.2	-0.5	8.6	-1.4	9.5
36	29	8.4	0.7	0.2	-0.6	9.0	-1.3	9.7
36	30	8.7	1.5	-0.5	-0.7	9.4	-1.3	10.0
36	31	9.5	-0.3	0.5	-0.3	9.8	-0.8	10.3
36	32	10.0	-0.0	-0.1	-0.3	10.3	-0.6	10.6
36	33	9.9	0.5	0.6	-0.9	10.8	-1.0	10.9
36	34	9.6	3.5	-1.2	-1.9	11.5	-1.7	11.3
36	35	9.4	3.0	2.6	-3.2	12.6	-2.2	11.6
36	36	9.1	25.8	-11.9	-5.3	14.4	-2.8	11.9
37	1	26.9	-32.4	12.5	10.2	16.7	14.7	12.2
37	2	25.9	-8.0	-2.7	7.6	18.3	13.5	12.4
37	3	24.9	-8.5	1.4	6.1	18.8	12.4	12.5
37	4	23.6	-5.2	-0.5	4.9	18.7	11.1	12.5
37	5	22.4	-5.4	0.6	4.2	18.2	9.9	12.5
37	6	21.1	-4.7	0.2	3.7	17.4	8.8	12.3
37	7	19.3	-3.6	0.2	2.9	16.4	7.2	12.1
37	8	17.3	-2.3	-0.2	2.1	15.2	5.5	11.8
37	9	15.1	-1.4	0.2	1.2	13.9	3.6	11.5
37	10	12.9	0.0	-0.1	0.3	12.6	1.8	11.1
37	11	11.0	0.9	-0.2	-0.3	11.3	0.2	10.8
37	12	9.6	1.0	-0.2	-0.6	10.2	-0.8	10.4
37	13	8.6	0.1	0.4	-0.6	9.2	-1.4	10.0
37	14	7.4	0.9	-0.1	-0.8	8.2	-2.3	9.7
37	15	6.1	1.3	-0.0	-1.2	7.3	-3.2	9.3
37	16	4.9	1.6	-0.0	-1.6	6.4	-4.1	9.0
37	17	3.7	2.1	0.1	-2.0	5.7	-5.1	8.8
37	18	2.6	3.4	-0.3	-2.6	5.2	-6.0	8.6
37	19	2.1	3.5	-0.1	-2.8	4.9	-6.4	8.5
37	20	2.3	2.9	-0.2	-2.5	4.8	-6.1	8.4
37	21	3.0	1.1	0.5	-1.9	4.9	-5.4	8.4
37	22	3.4	1.3	0.4	-1.9	5.3	-5.1	8.5
37	23	3.6	3.5	-0.5	-2.2	5.8	-5.0	8.6
37	24	5.1	2.2	-0.5	-1.4	6.5	-3.6	8.7
37	25	7.4	-2.2	1.0	0.2	7.2	-1.5	8.9
37	26	8.3	-2.0	0.6	0.5	7.8	-0.8	9.1

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
37	27	8.0	0.9	-0.3	-0.3	8.3	-1.3	9.3
37	28	8.1	1.6	-0.5	-0.6	8.7	-1.4	9.5
37	29	8.4	1.0	0.1	-0.7	9.1	-1.4	9.8
37	30	8.5	2.2	-0.6	-1.0	9.5	-1.6	10.1
37	31	9.1	1.2	-0.0	-0.7	9.8	-1.3	10.4
37	32	9.8	0.2	-0.0	-0.5	10.3	-0.9	10.7
37	33	9.8	0.2	0.8	-0.9	10.7	-1.2	11.0
37	34	9.4	3.6	-1.2	-2.0	11.4	-1.9	11.3
37	35	9.1	3.5	2.6	-3.4	12.5	-2.5	11.6
37	36	8.8	26.7	-12.2	-5.6	14.4	-3.1	11.9
38	1	27.1	-33.6	13.1	10.5	16.6	14.9	12.2
38	2	25.8	-7.7	-2.8	7.6	18.2	13.4	12.4
38	3	24.8	-8.3	1.5	6.0	18.8	12.3	12.5
38	4	23.6	-5.2	-0.5	4.9	18.7	11.1	12.5
38	5	22.4	-5.3	0.6	4.2	18.2	9.9	12.5
38	6	21.1	-4.6	0.1	3.7	17.4	8.8	12.3
38	7	19.4	-4.2	0.6	3.0	16.4	7.3	12.1
38	8	17.4	-2.8	0.1	2.2	15.2	5.5	11.8
38	9	15.2	-1.6	0.2	1.3	13.9	3.7	11.5
38	10	13.1	-0.5	0.0	0.5	12.6	1.9	11.2
38	11	11.1	0.4	0.1	-0.3	11.3	0.3	10.8
38	12	9.4	1.7	-0.4	-0.8	10.2	-1.0	10.4
38	13	8.4	1.1	-0.1	-0.8	9.2	-1.6	10.0
38	14	7.6	0.2	0.3	-0.7	8.3	-2.1	9.7
38	15	6.4	0.8	0.1	-1.0	7.4	-3.0	9.4
38	16	5.1	1.8	-0.2	-1.5	6.6	-4.0	9.1
38	17	4.0	1.9	0.1	-1.9	5.9	-4.9	8.9
38	18	3.0	2.9	-0.1	-2.4	5.4	-5.7	8.7
38	19	2.5	3.3	-0.2	-2.6	5.1	-6.1	8.6
38	20	2.7	2.6	-0.0	-2.3	5.0	-5.8	8.5
38	21	3.2	1.7	0.3	-2.0	5.2	-5.3	8.5
38	22	3.4	2.7	-0.1	-2.1	5.5	-5.2	8.6
38	23	3.8	4.3	-0.8	-2.3	6.1	-4.9	8.7
38	24	5.8	1.5	-0.2	-1.0	6.8	-3.0	8.8
38	25	8.1	-2.5	0.9	0.5	7.6	-0.9	9.0
38	26	8.7	-1.3	0.1	0.5	8.2	-0.5	9.2
38	27	8.5	0.5	-0.2	-0.1	8.6	-0.9	9.4
38	28	8.7	0.6	-0.2	-0.3	9.0	-0.9	9.6
38	29	8.9	0.3	0.3	-0.4	9.3	-1.0	9.9
38	30	8.8	2.0	-0.8	-0.8	9.6	-1.3	10.1
38	31	9.2	1.0	0.1	-0.7	9.9	-1.2	10.4
38	32	9.7	0.7	-0.3	-0.6	10.3	-1.0	10.7
38	33	9.7	0.3	0.7	-1.0	10.7	-1.3	11.0
38	34	9.3	3.6	-1.3	-2.0	11.3	-2.0	11.3
38	35	9.0	3.1	2.9	-3.4	12.4	-2.6	11.6
38	36	8.6	27.3	-12.6	-5.7	14.3	-3.3	11.9
39	1	27.1	-34.1	13.3	10.5	16.6	14.9	12.2
39	2	25.5	-6.7	-3.3	7.3	18.2	13.1	12.4
39	3	24.4	-7.2	1.0	5.6	18.8	11.9	12.5
39	4	23.3	-4.5	-0.7	4.6	18.7	10.8	12.5
39	5	22.1	-4.8	0.5	3.9	18.2	9.6	12.5
39	6	20.7	-3.6	-0.2	3.3	17.4	8.4	12.3
39	7	19.1	-3.4	0.3	2.7	16.4	7.0	12.1

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
39	8	17.2	-2.2	-0.1	2.0	15.2	5.3	11.8
39	9	15.1	-1.3	0.1	1.2	13.9	3.6	11.5
39	10	13.0	-0.0	-0.3	0.4	12.6	1.8	11.2
39	11	11.0	0.7	0.0	-0.4	11.4	0.2	10.8
39	12	9.2	2.4	-0.6	-1.0	10.2	-1.2	10.4
39	13	8.3	1.2	0.1	-0.9	9.2	-1.8	10.1
39	14	7.6	0.4	0.1	-0.7	8.3	-2.1	9.7
39	15	6.6	0.3	0.4	-0.9	7.5	-2.8	9.4
39	16	5.3	1.6	-0.1	-1.4	6.7	-3.8	9.1
39	17	4.1	2.4	-0.0	-2.0	6.1	-4.8	8.9
39	18	3.1	3.6	-0.5	-2.5	5.6	-5.7	8.8
39	19	2.7	3.5	-0.2	-2.6	5.3	-5.9	8.6
39	20	2.8	3.4	-0.4	-2.5	5.3	-5.8	8.6
39	21	3.2	2.7	-0.0	-2.3	5.5	-5.4	8.6
39	22	3.5	3.5	-0.4	-2.3	5.8	-5.1	8.6
39	23	4.3	4.1	-0.8	-2.1	6.4	-4.4	8.7
39	24	6.6	0.4	-0.1	-0.6	7.2	-2.3	8.9
39	25	8.8	-3.4	1.1	0.9	7.9	-0.3	9.1
39	26	9.3	-1.9	0.3	0.8	8.5	0.1	9.2
39	27	9.2	-0.2	-0.1	0.3	8.9	-0.3	9.5
39	28	9.5	-0.7	0.2	0.2	9.3	-0.2	9.7
39	29	9.6	-0.6	0.3	0.1	9.5	-0.3	9.9
39	30	9.6	0.1	-0.1	-0.2	9.8	-0.6	10.2
39	31	9.7	-0.2	0.4	-0.3	10.0	-0.7	10.4
39	32	9.8	0.3	-0.1	-0.5	10.3	-0.9	10.7
39	33	9.6	0.2	0.9	-1.0	10.6	-1.4	11.0
39	34	9.2	3.2	-1.0	-2.0	11.2	-2.1	11.3
39	35	8.8	3.2	2.9	-3.5	12.3	-2.8	11.6
39	36	8.4	27.5	-12.6	-5.8	14.2	-3.5	11.9
40	1	27.0	-34.4	13.5	10.5	16.5	14.9	12.1
40	2	25.4	-7.1	-3.0	7.3	18.1	13.1	12.3
40	3	24.2	-7.1	1.2	5.5	18.7	11.7	12.5
40	4	23.1	-4.6	-0.5	4.5	18.6	10.6	12.5
40	5	21.7	-4.1	0.4	3.6	18.1	9.2	12.5
40	6	20.2	-2.5	-0.4	2.9	17.3	7.9	12.3
40	7	18.8	-3.1	0.4	2.5	16.3	6.7	12.1
40	8	17.0	-1.9	-0.1	1.9	15.1	5.2	11.8
40	9	15.0	-1.3	0.2	1.1	13.9	3.5	11.5
40	10	13.0	-0.5	0.1	0.4	12.6	1.8	11.2
40	11	10.9	1.0	-0.1	-0.4	11.3	0.1	10.8
40	12	9.2	2.0	-0.4	-1.0	10.2	-1.2	10.4
40	13	8.2	1.5	-0.1	-1.0	9.2	-1.9	10.1
40	14	7.5	0.8	0.1	-0.9	8.4	-2.3	9.8
40	15	6.5	1.1	0.0	-1.1	7.6	-3.0	9.5
40	16	5.4	1.6	-0.1	-1.5	6.9	-3.8	9.2
40	17	4.3	2.4	-0.1	-1.9	6.2	-4.7	9.0
40	18	3.4	3.3	-0.3	-2.4	5.8	-5.4	8.8
40	19	3.0	3.5	-0.3	-2.5	5.5	-5.7	8.7
40	20	3.2	2.7	-0.0	-2.3	5.5	-5.5	8.7
40	21	3.5	2.8	-0.1	-2.2	5.7	-5.2	8.7
40	22	4.0	3.0	-0.2	-2.1	6.1	-4.7	8.7
40	23	5.1	2.6	-0.3	-1.6	6.7	-3.7	8.8
40	24	7.3	-1.0	0.6	-0.2	7.5	-1.7	9.0

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESO. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
40	25	9.0	-2.7	0.8	0.8	8.2	-0.1	9.1
40	26	9.6	-1.7	0.2	0.8	8.8	0.3	9.3
40	27	9.8	-1.0	0.2	0.6	9.2	0.3	9.5
40	28	10.0	-0.6	-0.2	0.5	9.5	0.2	9.8
40	29	10.1	-0.8	0.2	0.3	9.8	0.1	10.0
40	30	10.1	-0.5	-0.0	0.2	9.9	-0.1	10.2
40	31	10.0	-0.8	0.6	-0.1	10.1	-0.5	10.5
40	32	9.7	0.6	-0.4	-0.6	10.3	-1.0	10.7
40	33	9.3	0.9	0.6	-1.3	10.6	-1.7	11.0
40	34	8.8	4.0	-1.3	-2.3	11.1	-2.5	11.3
40	35	8.4	3.6	2.9	-3.8	12.2	-3.2	11.6
40	36	8.0	28.3	-12.9	-6.1	14.1	-3.9	11.9
41	1	26.9	-34.7	13.7	-10.5	16.4	14.8	12.1
41	2	25.3	-6.7	-3.4	7.3	18.0	13.0	12.3
41	3	24.1	-6.8	0.9	5.5	18.6	11.7	12.4
41	4	23.0	-4.3	-0.7	4.5	18.5	10.5	12.5
41	5	21.6	-3.9	0.3	3.6	18.0	9.2	12.4
41	6	20.0	-2.1	-0.6	2.8	17.2	7.7	12.3
41	7	18.6	-2.6	0.1	2.4	16.2	6.5	12.1
41	8	17.0	-2.3	0.0	1.9	15.1	5.2	11.8
41	9	14.9	-0.8	-0.1	1.1	13.8	3.4	11.5
41	10	12.9	-0.0	-0.2	0.3	12.6	1.7	11.2
41	11	10.9	0.9	-0.1	-0.4	11.3	0.1	10.8
41	12	9.2	2.0	-0.4	-1.0	10.2	-1.2	10.4
41	13	8.2	1.4	-0.1	-1.0	9.2	-1.9	10.1
41	14	7.5	0.7	0.1	-0.9	8.4	-2.3	9.8
41	15	6.5	1.2	-0.0	-1.1	7.6	-3.0	9.5
41	16	5.5	1.8	-0.2	-1.5	7.0	-3.7	9.2
41	17	4.6	1.9	0.1	-1.8	6.4	-4.4	9.0
41	18	3.8	2.8	-0.2	-2.2	6.0	-5.1	8.9
41	19	3.5	2.6	0.1	-2.3	5.8	-5.3	8.8
41	20	3.6	2.6	-0.1	-2.2	5.8	-5.1	8.7
41	21	4.0	2.0	0.2	-2.0	6.0	-4.7	8.7
41	22	4.5	2.6	-0.2	-1.9	6.4	-4.3	8.8
41	23	5.6	2.0	-0.1	-1.4	7.0	-3.3	8.9
41	24	7.3	0.7	-0.2	-0.5	7.8	-1.7	9.0
41	25	8.8	-0.8	0.2	0.3	8.5	-0.4	9.2
41	26	9.6	-0.4	-0.3	0.5	9.1	0.2	9.4
41	27	10.2	-0.9	0.1	0.7	9.5	0.6	9.6
41	28	10.6	-1.4	0.2	0.8	9.8	0.8	9.8
41	29	10.5	-1.1	0.3	0.5	10.0	0.5	10.0
41	30	10.2	-0.4	-0.0	0.2	10.0	-0.1	10.3
41	31	9.8	-0.1	0.3	-0.3	10.1	-0.7	10.5
41	32	9.4	1.0	-0.3	-0.8	10.2	-1.4	10.8
41	33	9.0	0.8	0.9	-1.5	10.5	-2.0	11.0
41	34	8.4	4.3	-1.2	-2.6	11.0	-2.9	11.3
41	35	7.9	4.3	2.8	-4.1	12.0	-3.7	11.6
41	36	7.5	29.2	-13.2	-6.4	13.9	-4.4	11.9
42	1	26.8	-35.0	14.0	10.5	16.3	14.7	12.1
42	2	25.4	-7.3	-3.1	7.5	17.9	13.1	12.3
42	3	24.3	-7.8	1.5	5.7	18.6	11.9	12.4
42	4	23.1	-4.6	-0.6	4.6	18.5	10.7	12.4
42	5	21.8	-4.9	0.8	3.8	18.0	9.4	12.4

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
42	6	20.1	-2.6	-0.4	2.9	17.2	7.8	12.3
42	7	18.6	-2.7	0.3	2.4	16.2	6.5	12.0
42	8	17.0	-2.3	0.0	1.9	15.0	5.2	11.8
42	9	15.0	-1.5	0.3	1.2	13.8	3.5	11.5
42	10	12.9	0.0	-0.2	0.3	12.6	1.8	11.1
42	11	11.0	0.5	0.2	-0.3	11.3	0.2	10.8
42	12	9.2	2.2	-0.5	-1.0	10.2	-1.2	10.4
42	13	8.2	1.4	0.0	-1.1	9.3	-1.9	10.1
42	14	7.5	0.7	0.1	-0.9	8.4	-2.3	9.8
42	15	6.6	1.0	0.1	-1.1	7.7	-2.9	9.5
42	16	5.7	1.5	-0.1	-1.4	7.1	-3.6	9.3
42	17	4.8	2.0	-0.0	-1.8	6.6	-4.3	9.1
42	18	4.0	2.9	-0.3	-2.2	6.2	-4.9	8.9
42	19	3.7	2.7	0.1	-2.3	6.0	-5.1	8.8
42	20	3.8	2.7	-0.1	-2.2	6.0	-5.0	8.8
42	21	4.2	2.3	0.1	-2.0	6.2	-4.6	8.8
42	22	4.7	3.2	-0.5	-2.0	6.7	-4.2	8.9
42	23	5.9	2.5	-0.3	-1.4	7.3	-3.1	9.0
42	24	7.6	1.0	-0.2	-0.5	8.1	-1.5	9.1
42	25	9.0	0.3	-0.2	0.2	8.8	-0.3	9.3
42	26	10.0	-0.1	-0.3	0.6	9.4	0.5	9.5
42	27	10.8	-1.5	0.3	1.0	9.8	1.1	9.7
42	28	11.1	-1.7	0.1	1.0	10.1	1.2	9.9
42	29	10.8	-1.6	0.5	0.7	10.1	0.7	10.1
42	30	10.1	0.3	-0.4	-0.0	10.1	-0.2	10.3
42	31	9.5	0.6	0.2	-0.6	10.1	-1.0	10.5
42	32	9.0	1.9	-0.6	-1.1	10.1	-1.8	10.8
42	33	8.6	1.5	0.6	-1.7	10.3	-2.4	11.0
42	34	8.1	4.4	-1.3	-2.7	10.8	-3.2	11.3
42	35	7.6	4.2	2.9	-4.3	11.9	-4.0	11.6
42	36	7.1	20.9	-13.5	-6.7	13.8	-4.8	11.9
43	1	26.7	-34.8	13.6	10.6	16.1	14.6	12.1
43	2	25.6	-7.7	-3.3	7.7	17.9	13.4	12.2
43	3	24.5	-7.7	1.0	6.0	18.5	12.2	12.3
43	4	23.3	-4.6	-0.9	4.9	18.4	10.9	12.4
43	5	22.0	-4.6	0.2	4.1	17.9	9.7	12.3
43	6	20.4	-2.9	-0.6	3.3	17.1	8.2	12.2
43	7	18.8	-2.8	0.0	2.7	16.1	6.8	12.0
43	8	17.1	-2.4	-0.1	2.1	15.0	5.4	11.7
43	9	15.0	-1.1	-0.1	1.2	13.8	3.6	11.4
43	10	13.0	-0.1	-0.3	0.5	12.5	1.9	11.1
43	11	11.1	0.5	-0.0	-0.2	11.3	0.3	10.8
43	12	9.3	1.8	-0.4	-0.9	10.2	-1.1	10.4
43	13	8.1	1.7	-0.1	-1.2	9.3	-2.0	10.1
43	14	7.3	1.5	-0.2	-1.2	8.5	-2.5	9.8
43	15	6.6	1.2	0.1	-1.2	7.8	-2.9	9.5
43	16	5.9	1.3	0.0	-1.3	7.2	-3.4	9.3
43	17	5.1	1.6	0.2	-1.6	6.7	-4.0	9.1
43	18	4.2	3.2	-0.4	-2.1	6.3	-4.8	9.0
43	19	3.7	4.0	-0.6	-2.5	6.2	-5.2	8.9
43	20	3.9	3.4	-0.4	-2.3	6.2	-5.0	8.9
43	21	4.4	2.9	-0.1	-2.1	6.5	-4.5	8.9
43	22	5.1	3.3	-0.6	-1.9	7.0	-3.8	8.9

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
43	23	6.6	1.9	-0.3	-1.1	7.7	-2.4	9.0
43	24	8.7	-0.5	-0.1	0.2	8.5	-0.5	9.2
43	25	10.4	-2.2	0.3	1.2	9.2	1.0	9.4
43	26	11.2	-1.7	-0.2	1.4	9.8	1.7	9.5
43	27	11.6	-2.0	0.1	1.4	10.2	1.9	9.7
43	28	11.6	-2.3	0.3	1.3	10.3	1.7	9.9
43	29	10.8	-0.8	0.1	0.5	10.3	0.7	10.1
43	30	10.0	0.2	-0.0	-0.2	10.2	-0.3	10.3
43	31	9.2	1.1	0.1	-0.9	10.1	-1.3	10.5
43	32	8.7	1.8	-0.2	-1.4	10.1	-2.1	10.8
43	33	8.2	1.7	0.8	-2.0	10.2	-2.8	11.0
43	34	7.7	4.5	-1.0	-3.0	10.7	-3.6	11.3
43	35	7.2	4.3	3.1	-4.5	11.7	-4.4	11.6
43	36	6.7	30.3	-13.4	-6.9	13.6	-5.1	11.8
44	1	26.7	-35.6	14.3	10.7	16.0	14.7	12.0
44	2	25.9	-9.2	-2.4	8.2	17.7	13.7	12.2
44	3	24.8	-8.9	1.7	6.4	18.4	12.5	12.3
44	4	23.6	-5.7	-0.3	5.3	18.3	11.3	12.3
44	5	22.4	-5.9	0.9	4.6	17.8	10.1	12.3
44	6	20.9	-4.5	0.2	3.9	17.0	8.8	12.1
44	7	19.1	-3.7	0.4	3.1	16.0	7.2	11.9
44	8	17.2	-2.8	0.3	2.3	14.9	5.5	11.7
44	9	15.0	-1.2	0.1	1.3	13.7	3.6	11.4
44	10	13.2	-0.9	0.2	0.7	12.5	2.1	11.1
44	11	11.3	0.0	0.1	0.0	11.3	0.6	10.7
44	12	9.4	1.6	-0.3	-0.8	10.2	-1.0	10.4
44	13	8.0	2.2	-0.3	-1.3	9.3	-2.1	10.1
44	14	7.2	1.8	-0.2	-1.3	8.5	-2.6	9.8
44	15	6.6	1.3	0.1	-1.2	7.8	-2.9	9.5
44	16	6.0	1.3	-0.0	-1.3	7.3	-3.3	9.3
44	17	5.4	1.5	0.0	-1.4	6.8	-3.7	9.1
44	18	4.8	2.0	-0.0	-1.7	6.5	-4.2	9.0
44	19	4.3	3.0	-0.3	-2.1	6.4	-4.6	8.9
44	20	4.4	3.0	-0.3	-2.1	6.5	-4.5	8.9
44	21	4.9	2.6	-0.2	-1.8	6.7	-4.0	8.9
44	22	5.8	2.1	-0.1	-1.4	7.2	-3.2	9.0
44	23	7.3	1.2	-0.1	-0.6	7.9	-1.8	9.1
44	24	9.8	-2.7	0.9	1.0	8.8	0.6	9.2
44	25	11.9	-5.4	1.4	2.3	9.6	2.5	9.4
44	26	12.7	-4.9	0.9	2.5	10.2	3.1	9.6
44	27	12.6	-3.7	0.5	2.1	10.5	2.8	9.8
44	28	12.0	-2.3	0.2	1.5	10.5	2.0	10.0
44	29	10.8	-0.2	-0.1	0.4	10.4	0.7	10.1
44	30	9.8	1.2	-0.5	-0.5	10.3	-0.6	10.4
44	31	9.1	1.1	0.2	-1.0	10.1	-1.5	10.6
44	32	8.4	2.7	-0.8	-1.6	10.0	-2.4	10.8
44	33	7.8	2.6	0.3	-2.4	10.2	-3.2	11.0
44	34	7.2	5.7	-1.6	-3.4	10.6	-4.1	11.3
44	35	6.7	5.3	2.7	-4.9	11.6	-4.8	11.5
44	36	6.2	31.7	-14.2	-7.3	13.5	-5.6	11.8
45	1	26.8	-35.7	13.4	11.0	15.8	14.8	11.9
45	2	26.1	-9.1	-3.8	8.6	17.5	14.0	12.1
45	3	25.1	-9.2	0.4	7.0	18.1	12.9	12.2

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
45	4	24.0	-5.9	-1.8	6.0	18.0	11.8	12.2
45	5	23.0	-6.6	-0.5	5.5	17.5	10.8	12.2
45	6	21.6	-5.3	-1.3	4.8	16.8	9.5	12.1
45	7	19.7	-4.6	-0.6	3.9	15.8	7.8	11.9
45	8	17.4	-2.6	-1.0	2.7	14.7	5.8	11.6
45	9	15.1	-1.0	-0.8	1.6	13.5	3.8	11.3
45	10	13.4	-0.9	-0.6	1.1	12.3	2.4	11.0
45	11	11.7	-1.0	0.1	0.5	11.2	1.0	10.7
45	12	9.6	1.5	-0.7	-0.6	10.2	-0.8	10.4
45	13	8.1	2.0	-0.3	-1.1	9.2	-2.0	10.1
45	14	7.3	1.5	-0.1	-1.2	8.5	-2.5	9.8
45	15	6.6	1.5	-0.0	-1.3	7.9	-2.9	9.5
45	16	6.0	1.8	-0.2	-1.3	7.3	-3.3	9.3
45	17	5.7	1.0	0.3	-1.3	7.0	-3.5	9.2
45	18	5.4	1.1	0.1	-1.3	6.7	-3.6	9.0
45	19	5.1	1.7	-0.1	-1.5	6.6	-3.9	9.0
45	20	5.2	1.8	-0.2	-1.5	6.7	-3.7	8.9
45	21	5.7	1.3	-0.0	-1.2	6.9	-3.3	9.0
45	22	6.4	1.8	-0.5	-1.0	7.4	-2.6	9.0
45	23	7.7	1.5	-0.8	-0.4	8.1	-1.4	9.1
45	24	10.0	-0.8	-0.9	1.1	8.9	0.7	9.3
45	25	12.4	-4.7	0.2	2.6	9.8	3.0	9.4
45	26	13.3	-4.6	-0.1	2.9	10.4	3.7	9.6
45	27	13.2	-4.1	0.4	2.5	10.7	3.4	9.8
45	28	12.4	-2.8	0.3	1.7	10.7	2.4	10.0
45	29	10.9	-0.6	0.4	0.3	10.6	0.7	10.2
45	30	9.6	1.5	-0.1	-0.8	10.4	-0.8	10.4
45	31	8.9	0.9	1.0	-1.3	10.2	-1.7	10.6
45	32	8.2	2.1	0.3	-1.9	10.1	-2.6	10.8
45	33	7.5	2.2	1.5	-2.7	10.2	-3.5	11.0
45	34	6.8	5.7	-0.7	-3.8	10.6	-4.5	11.3
45	35	6.3	5.1	3.8	-5.2	11.5	-5.2	11.5
45	36	5.8	31.9	-13.5	-7.6	13.4	-5.9	11.7
46	1	27.0	-42.3	18.5	11.5	15.5	15.1	11.9
46	2	26.2	-16.9	1.3	9.3	16.9	14.2	12.0
46	3	25.2	-17.6	5.9	7.8	17.4	13.1	12.1
46	4	24.3	-15.3	4.0	7.0	17.3	12.2	12.1
46	5	23.6	-17.2	6.0	6.7	16.9	11.5	12.1
46	6	22.4	-16.4	5.4	6.3	16.1	10.4	12.0
46	7	20.3	-14.0	5.0	5.1	15.2	8.5	11.8
46	8	17.7	-9.5	3.3	3.5	14.2	6.2	11.5
46	9	15.3	-6.3	2.4	2.2	13.1	4.0	11.3
46	10	13.6	-5.1	1.9	1.6	12.0	2.6	11.0
46	11	12.0	-4.3	2.0	1.0	11.0	1.3	10.7
46	12	10.0	-1.2	0.7	-0.0	10.0	-0.4	10.4
46	13	8.3	1.3	-0.1	-0.9	9.2	-1.8	10.1
46	14	7.4	1.3	-0.1	-1.1	8.5	-2.4	9.8
46	15	6.7	1.2	0.2	-1.2	7.9	-2.8	9.5
46	16	6.0	2.1	-0.4	-1.4	7.4	-3.3	9.3
46	17	5.7	1.5	-0.0	-1.3	7.0	-3.5	9.2
46	18	5.6	1.0	0.1	-1.2	6.8	-3.4	9.0
46	19	5.6	0.3	0.6	-1.1	6.7	-3.4	9.0
46	20	5.7	0.4	0.4	-1.1	6.8	-3.2	8.9

P	E	MEDIDOS	DERIVADA1	DERIVADA 2	RESD. 1000.M	CONT. 1000.M	RESD. 4000.M	CONT. 4000.M
46	21	6.2	-0.6	1.0	-0.8	7.0	-2.8	9.0
46	22	6.9	-1.0	1.0	-0.6	7.5	-2.1	9.0
46	23	8.1	-1.9	1.3	0.0	8.1	-1.1	9.2
46	24	10.4	-6.0	2.6	1.5	8.9	1.1	9.3
46	25	12.7	-9.3	3.5	3.0	9.7	3.2	9.5
46	26	13.7	-8.0	2.1	3.3	10.4	4.1	9.6
46	27	13.5	-5.3	0.9	2.7	10.8	3.7	9.8
46	28	12.6	-3.0	0.5	1.8	10.8	2.6	10.0
46	29	10.8	1.9	-1.1	0.1	10.7	0.6	10.2
46	30	9.4	5.1	-2.3	-1.2	10.6	-1.0	10.4
46	31	8.5	6.1	-2.1	-1.9	10.4	-2.1	10.6
46	32	7.7	8.2	-3.3	-2.7	10.4	-3.1	10.8
46	33	7.0	8.7	-2.4	-3.5	10.5	-4.0	11.0
46	34	6.4	11.8	-4.6	-4.4	10.8	-4.8	11.2
46	35	5.9	11.1	-0.0	-5.8	11.7	-5.6	11.5
46	36	5.4	37.0	-17.9	-7.9	13.3	-6.3	11.7

5.- INTERPRETACION.

5.1.- Información suministrada por la sísmica.

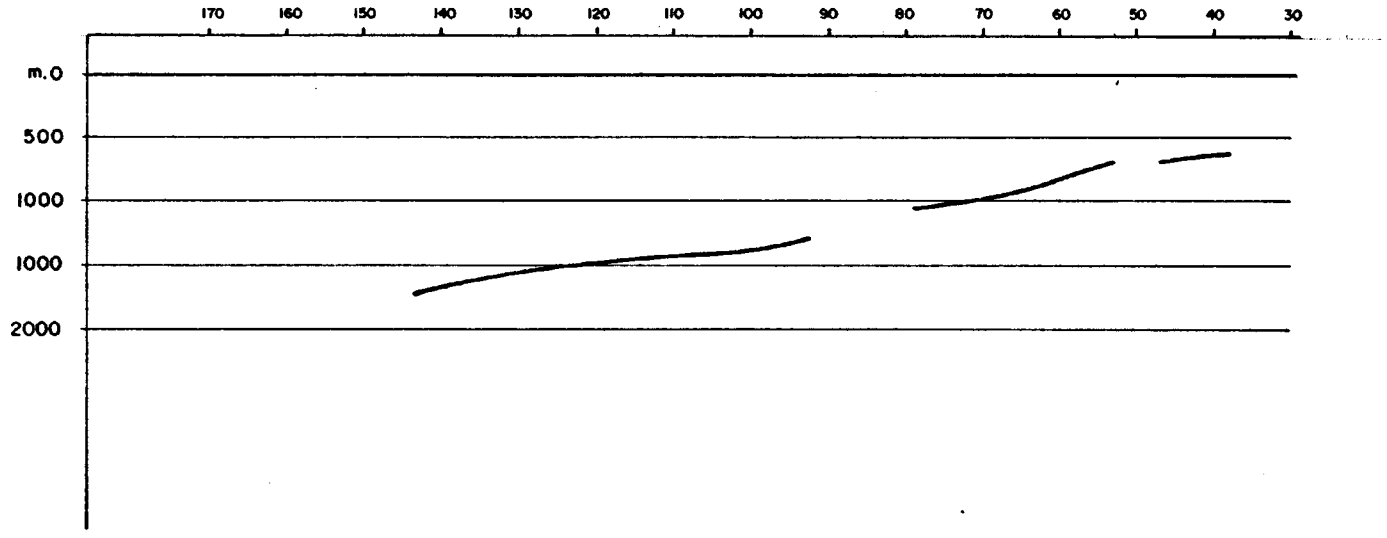
La estructura definida por los perfiles sísmicos S-2, S-3 y S-5 es perfectamente coincidente con la refleja da por el Bouguer. Esto puede apreciarse comparando el primer horizonte de reflexión, suministrado por C.G.S. y los valores residuales de gravedad.

Quiere esto decir, que por lo menos en esta zona, el Bouguer (o su residual) representa las variaciones topográficas del fondo de la cuenca, dando la sísmica su imagen cuantitativa.

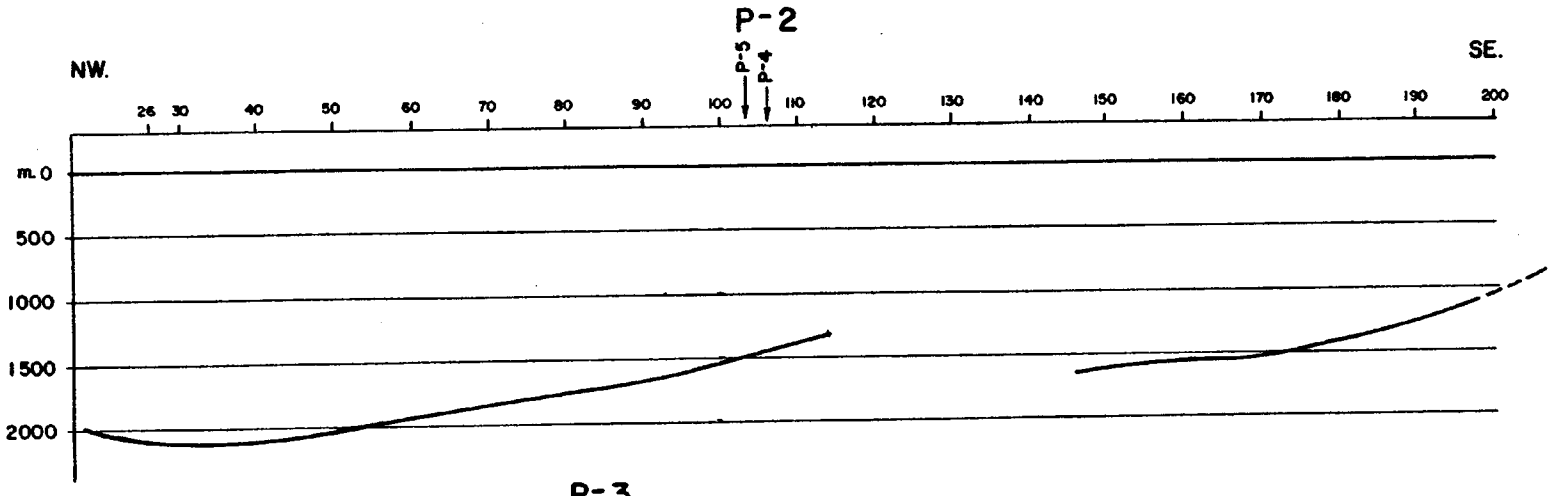
Así pués, en las que nos ocupa (de Sentmenat-La Garriga) la parte más elevada de la cuenca se encuentra bajo Lissa de Vall con unos 500 m. de recubrimiento; esta elevación se va hundiendo hacia Sabadell, de forma lenta, hasta alcanzar los 2000 m. Hacia Caldas de Mombuy el hundimiento reflejado por la sísmica es menor, alcanzando solo 1200 m. por lo que es evidente que en esta zona la situación del Bouguer no obedece tan solo a cambios topográficos del subsuelo, si no a contrastes laterales de densidad que acentuan la gran anomalía mínima entre Caldas y La Garriga Tendriamos que concluir que por tanto, la zona un mayor espesor de recubrimiento es la de Sabadell.

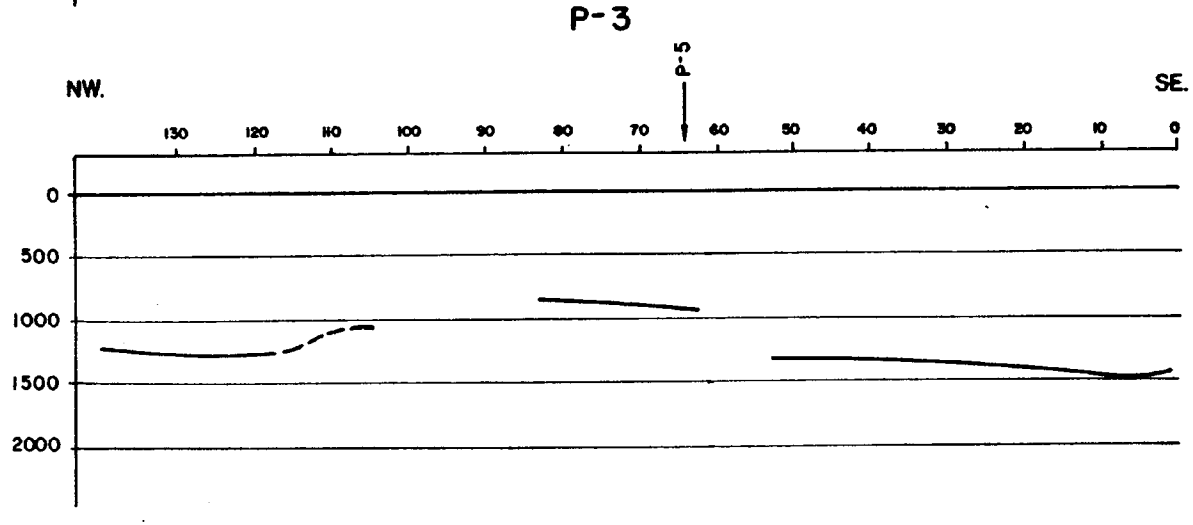
PERFILES SISMICOS

NW. P-1 SE.

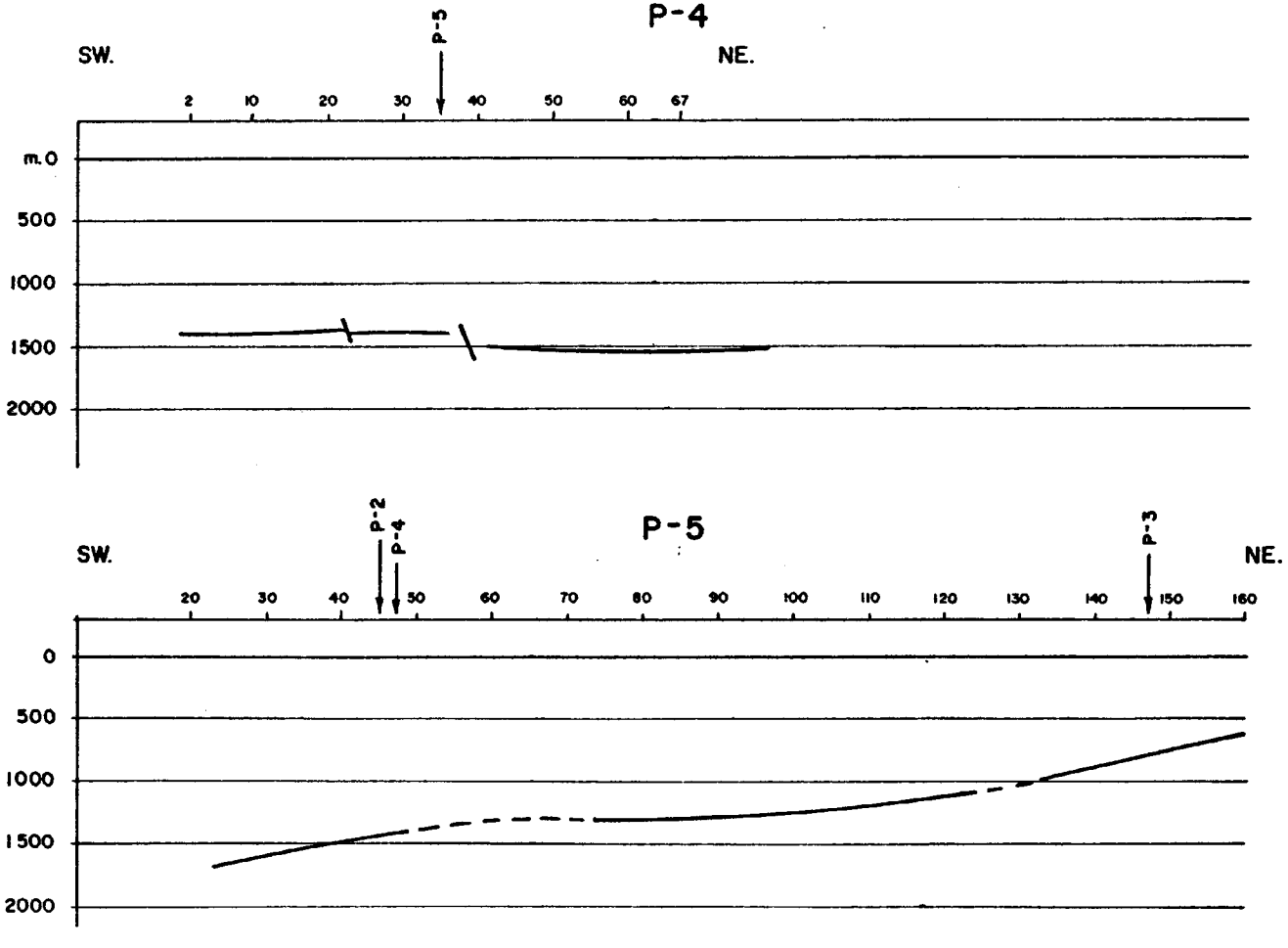


PERFILES SISMICOS





PERFILES SISMICOS



5.2.- Información suministrada por los S.E.V.

La campaña realizada por C.G.S. representada en forma de isobatas del resistivo, podemos dividirla en las siguientes indicaciones:

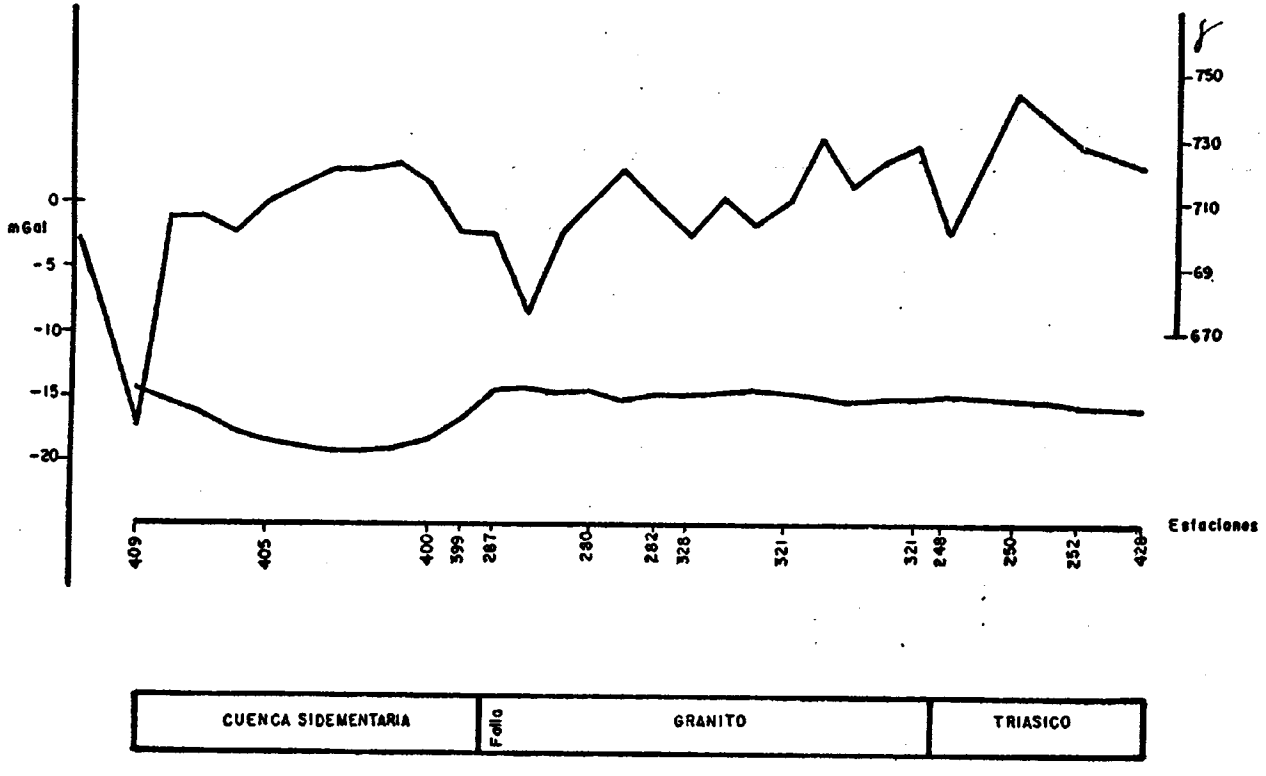
- El hundimiento más rapido se localiza al Sur-este del Caldas.
- Entre Caldas y Sentmenat la pendiente es menor y además casi ortogonal a la anterior.
- Entre Santa Eulalia y La Atmella la pendiente es aun menor pareciendo indicar la existencia de una elevación entre dos zonas más hundidas al este y oeste.
- Nuevamente una fuerte pendiente al Sur de La Garriga.

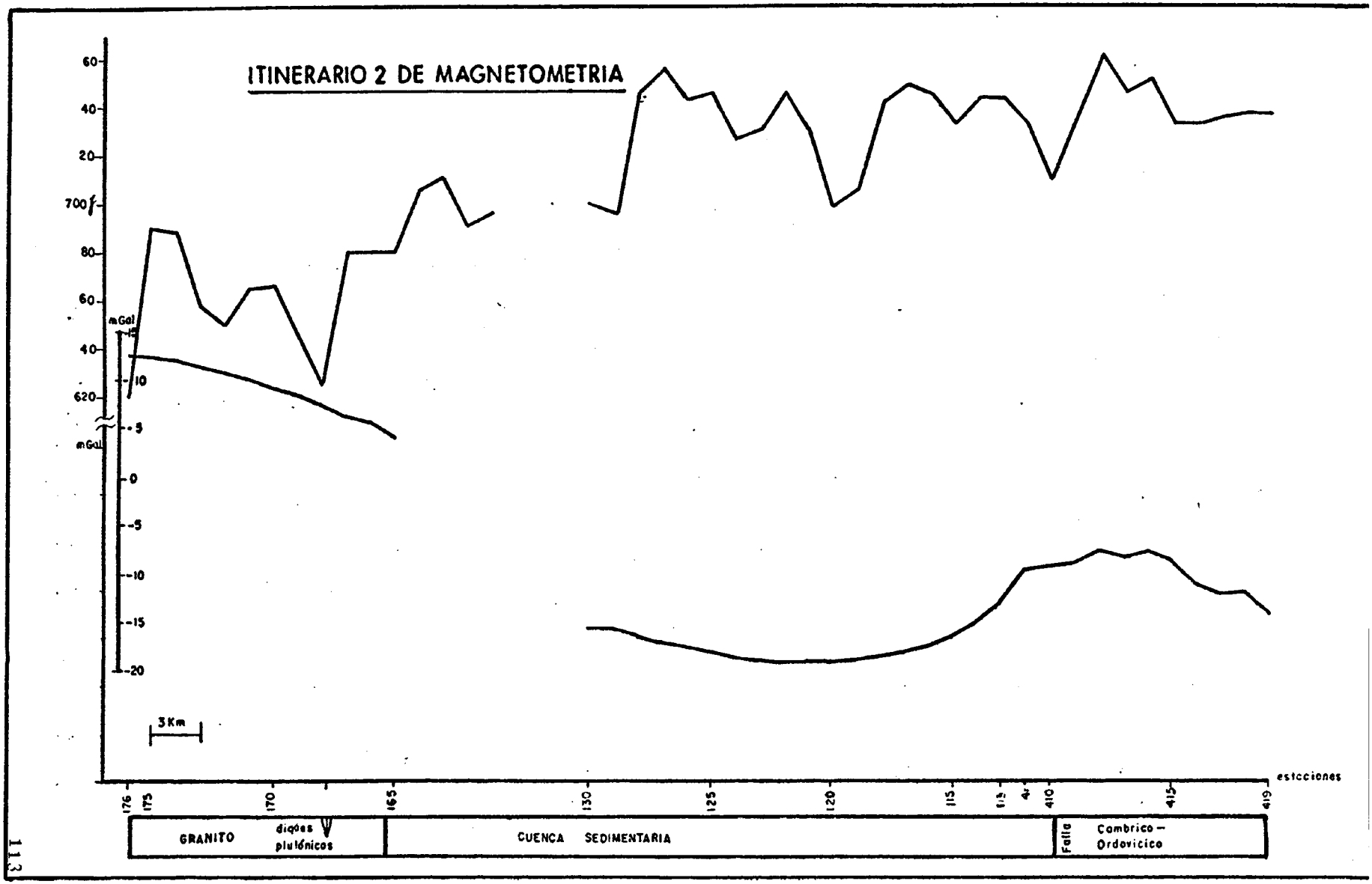
En líneas generales, la coincidencia con el Bouguer vuelve a ser muy buena; esto nos situaría el espesor de recubrimiento en la fosa de Caldas=La Garriga con un máximo al Sur de La Garriga y otro al Sur de Caldas.

5.3.- Información suministrada por los perfiles magnetométricos.

Estos perfiles fueron realizados durante la campaña gravimétrica de junio de 1977 con un magnetometro de protones. Dada la densidad de población e industrias de la zona, solo fué posible realizar dos itinerarios y uno de ellos incompleto por imposibilidad de efectuar las mediciones. Se trata por tanto de unos datos muy aislados y que hay que analizar con las consiguientes reservas.

ITINERARIO 1 DE MAGNETOMETRIA




ITINERARIO 2 DE MAGNETOMETRIA
60
40
20
700f
80
60
mGal
40
620
mGal
10
5
0
-5
-10
-15
-20
3Km
estaciones
176
175
170
165
130
125
120
115
410
415
419
GRANITO
diques plutónicos
CUENCA SEDIMENTARIA
Falla
Cambrico – Ordovicico

El perfil 1 está trazado entre Caldas y Santa Eulalia, atravesando el mínimo gravimétrico hasta internarse en el triásico. Al sur del perfil hay un mínimo interpretable como una falla de lado hundido al norte. Su situación es próxima a la indicada (no muy claramente) por el perfil sísmico 3, por lo que, aunque ninguna de las dos indicaciones sea muy buena, ante la coincidencia, las hemos tenido en cuenta.

En este mismo itinerario, pasada la cuenca sedimentaria se marca otro mínimo: falla de hundimiento norte, esta vez confirmada por la cartografía conocida.

Respecto al itinerario 2, es de destacar la diferente intensidad de campo al norte y sur de Granollers. La parte norte se inicia de nuevo con una probable indicación de falla, presenta un mínimo sin explicación evidente a la altura de las estaciones 118 a 120 y marca claramente la falla norte, esta vez un lado hundido al sur.

5.4.- Análisis del mapa Bouguer.

El borde norte refleja los cambios de facies y topografía sin que para nosotros tenga más interés, ya que solo se ha medido a efectos de tomar una banda en exceso para posibilitar los cálculos de filtros y derivadas. Unicamente dejaremos constancia de que el norte de la falla Caldas-La Garriga, el Bouguer tiene un caracter totalmente distinto del resto del plano y su interpretación se adaptaría mejor a otro tipo de consideraciones de las que aquí vamos a emplear.

A todo lo largo de la curva de -15 mGal, se refleja perfectamente el gradiente elevado motivado por la falla que limita al norte de la depresión del Vallés.

La curva de 0 mGal limita al borde sur, donde el gradiente pasa de ser del orden de 2 mGal/Km, hasta 5 mGal/Km más al norte.

Este fuerte gradiente delimita bien el contacto granítico-Mioceno.

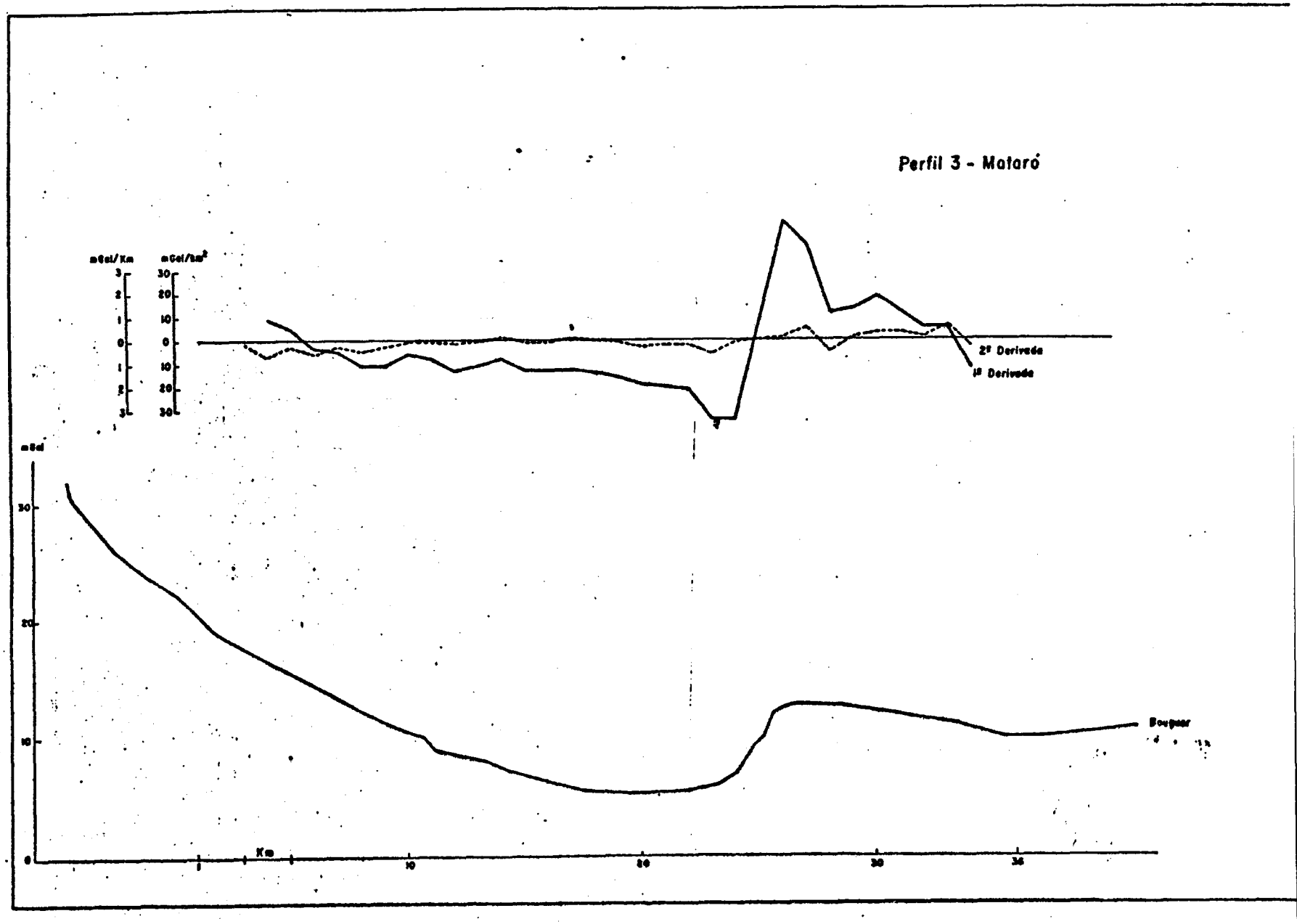
La depresión entre estas dos discontinuidades presenta una serie de "bloques" a distinta profundidad. En general, la mitad norte está más hundida que la sur y ambas separadas por una falla longitudinal que será mejor definida en los perfiles de primera derivada. Estos bloques están señalados en el Bouguer por las variaciones de gradiente y por la discontinuidad de la zona de mínimo.

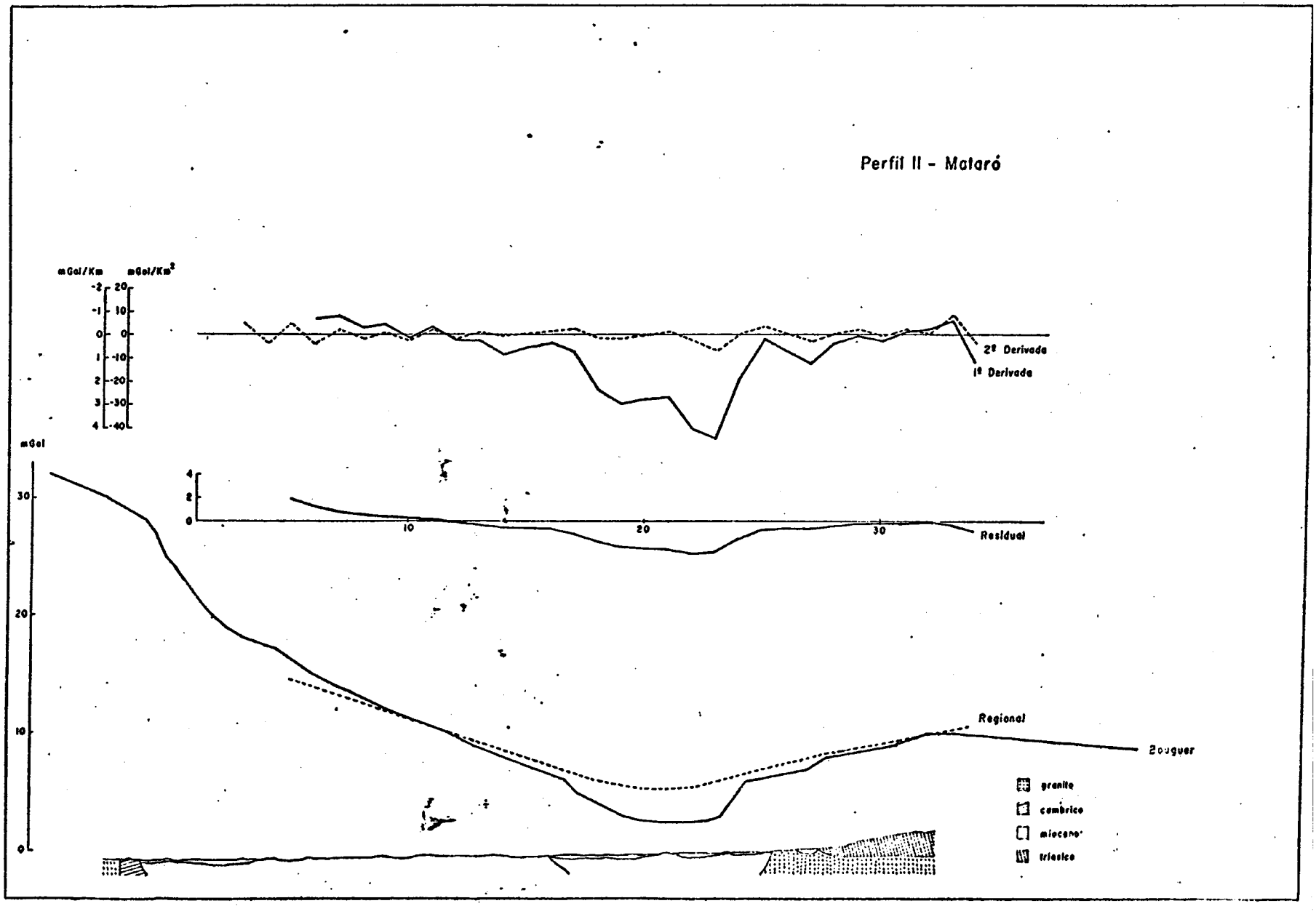
5.5.- Análisis de las derivadas.

Hemos dibujado para todos los perfiles los valores de derivación. Aquí solo incluímos los más representativos.

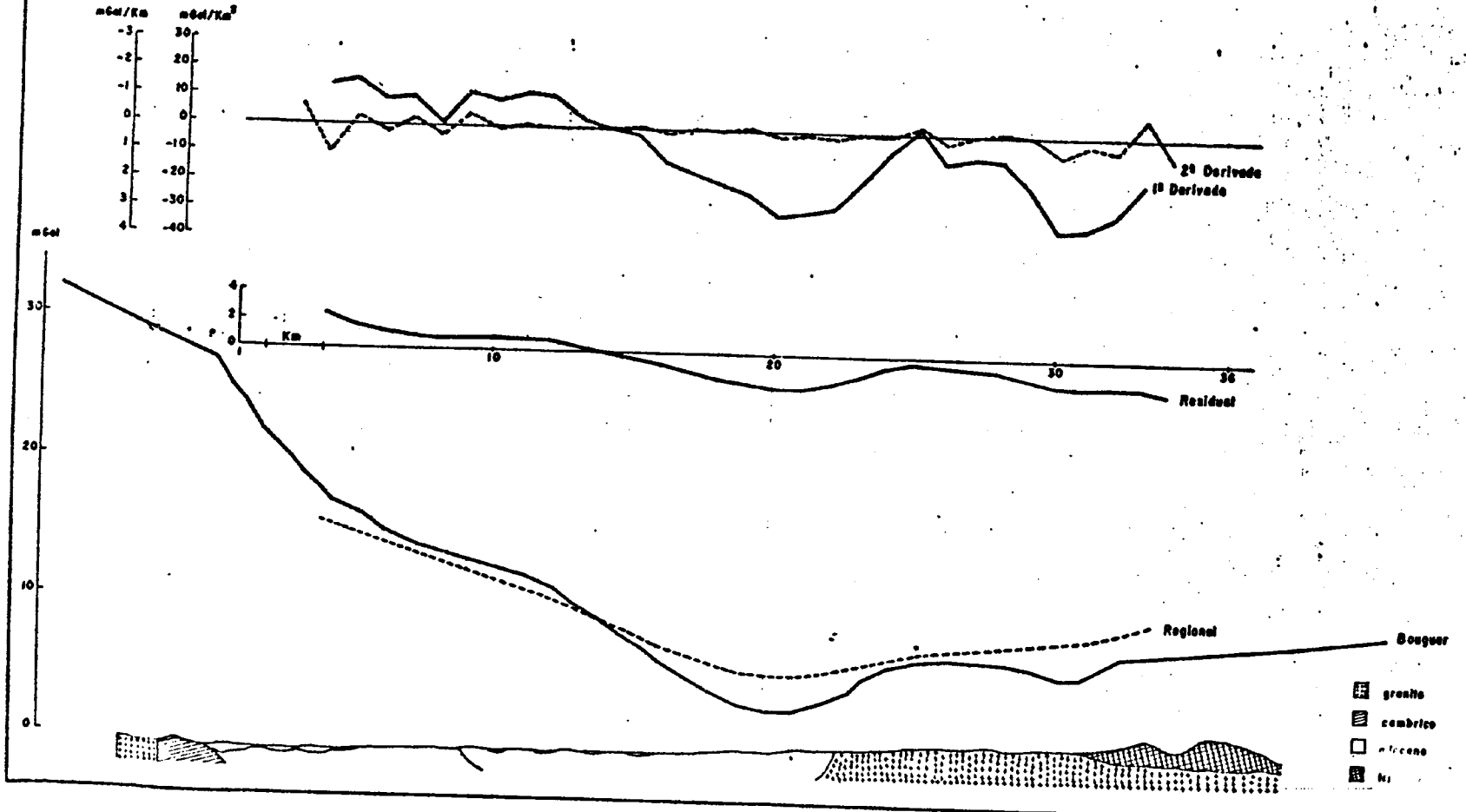
Partiendo de todos los perfiles hemos situado los límites de zonas de discontinuidad que se aprecian con mayor claridad.

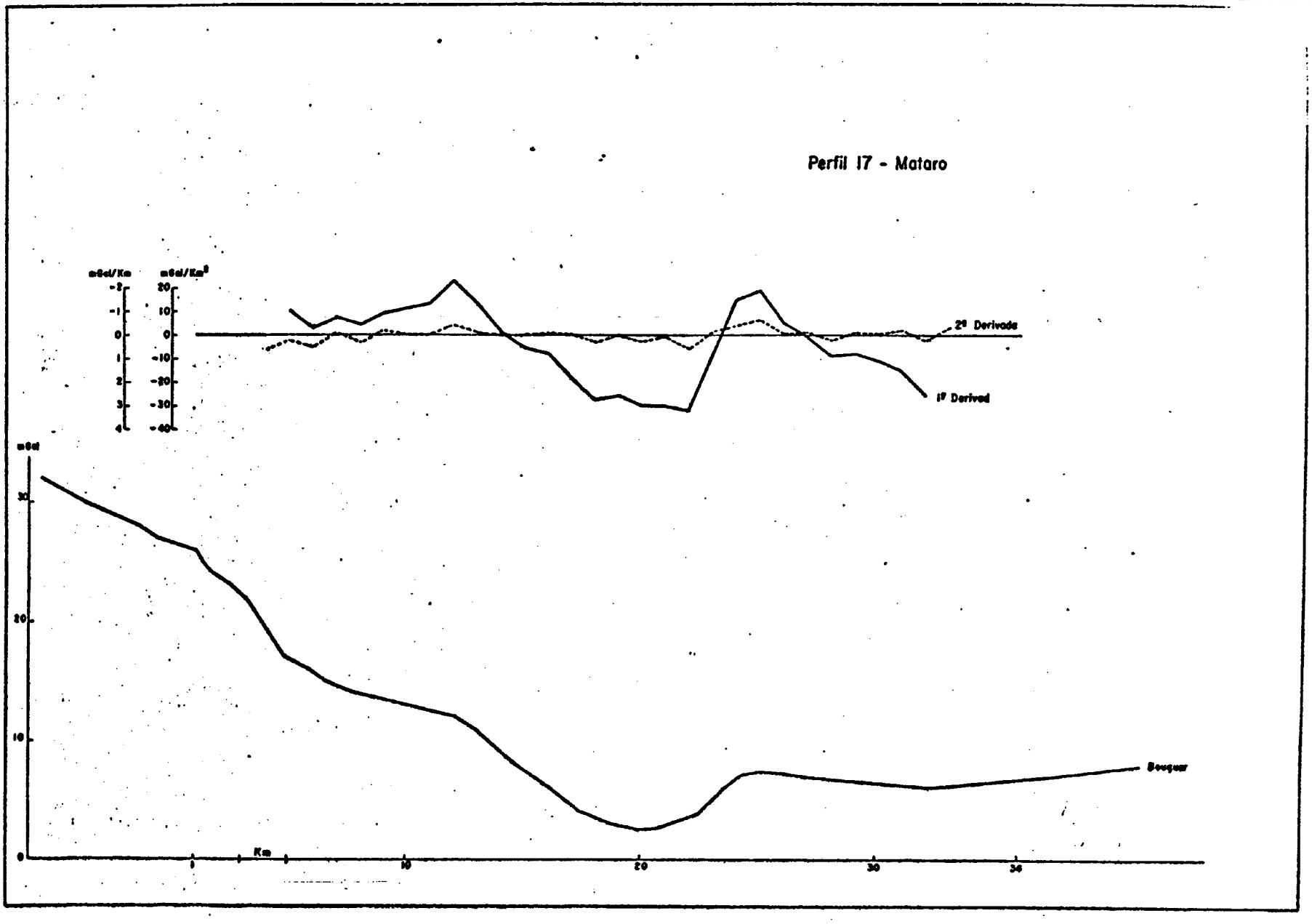
La situación de los puntos de inflexión es incierta, por lo que la localización de los bordes de falla no resulta con mayor precisión que $\pm$ 500 m, que es el paso de malla elegido. Por otra parte, no debe olvidarse que la gravimetría solo pone de manifiesto fallas con contraste de densidad -

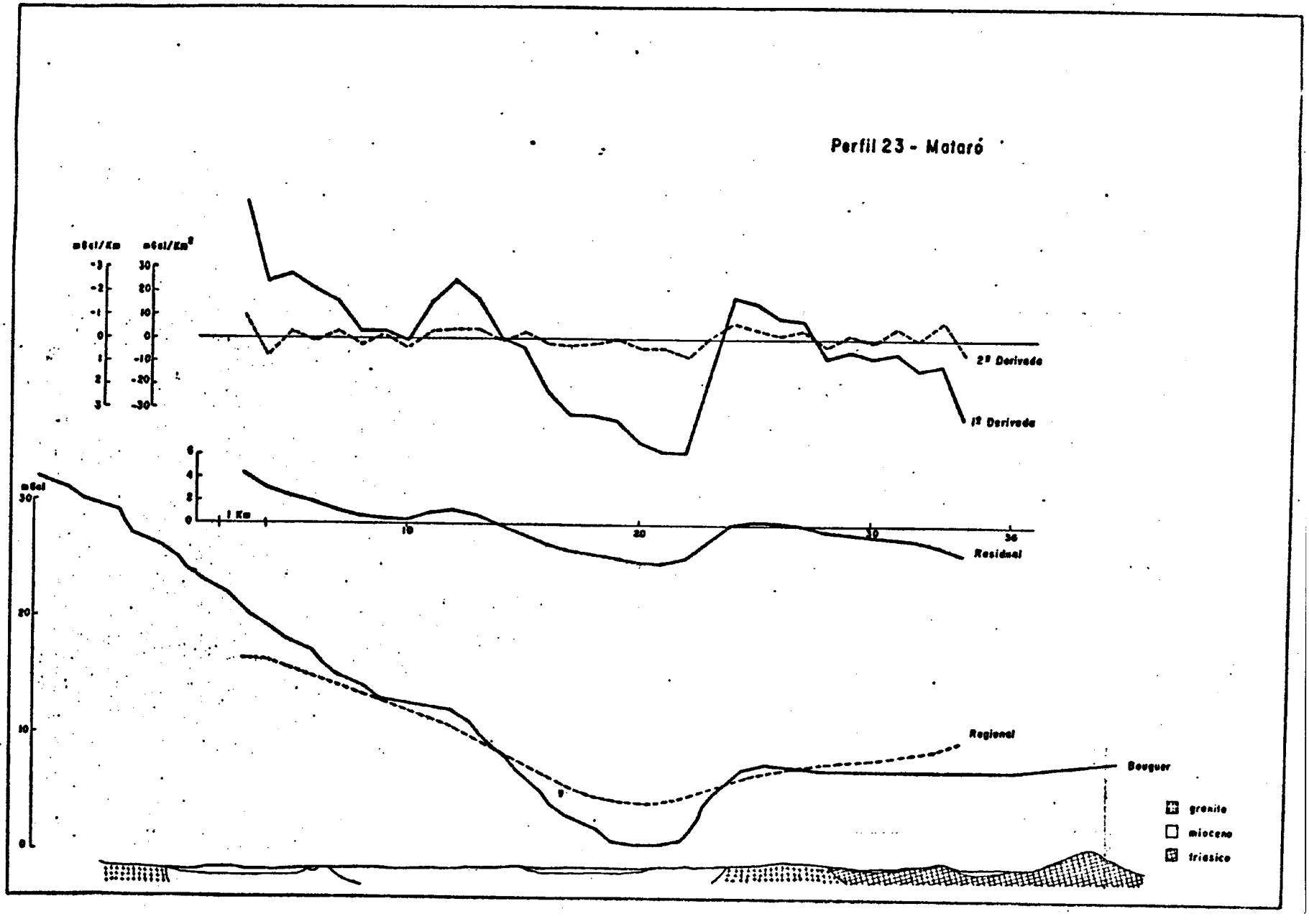

Perfil 3 - Mataró
mGal/Km
mGal/km²
3
2
1
0
1
2
3
30
20
10
0
10
20
30
2ª Derivada
1ª Derivada
mGal
30
20
10
0
Km
1
10
20
30
36
Bouguer

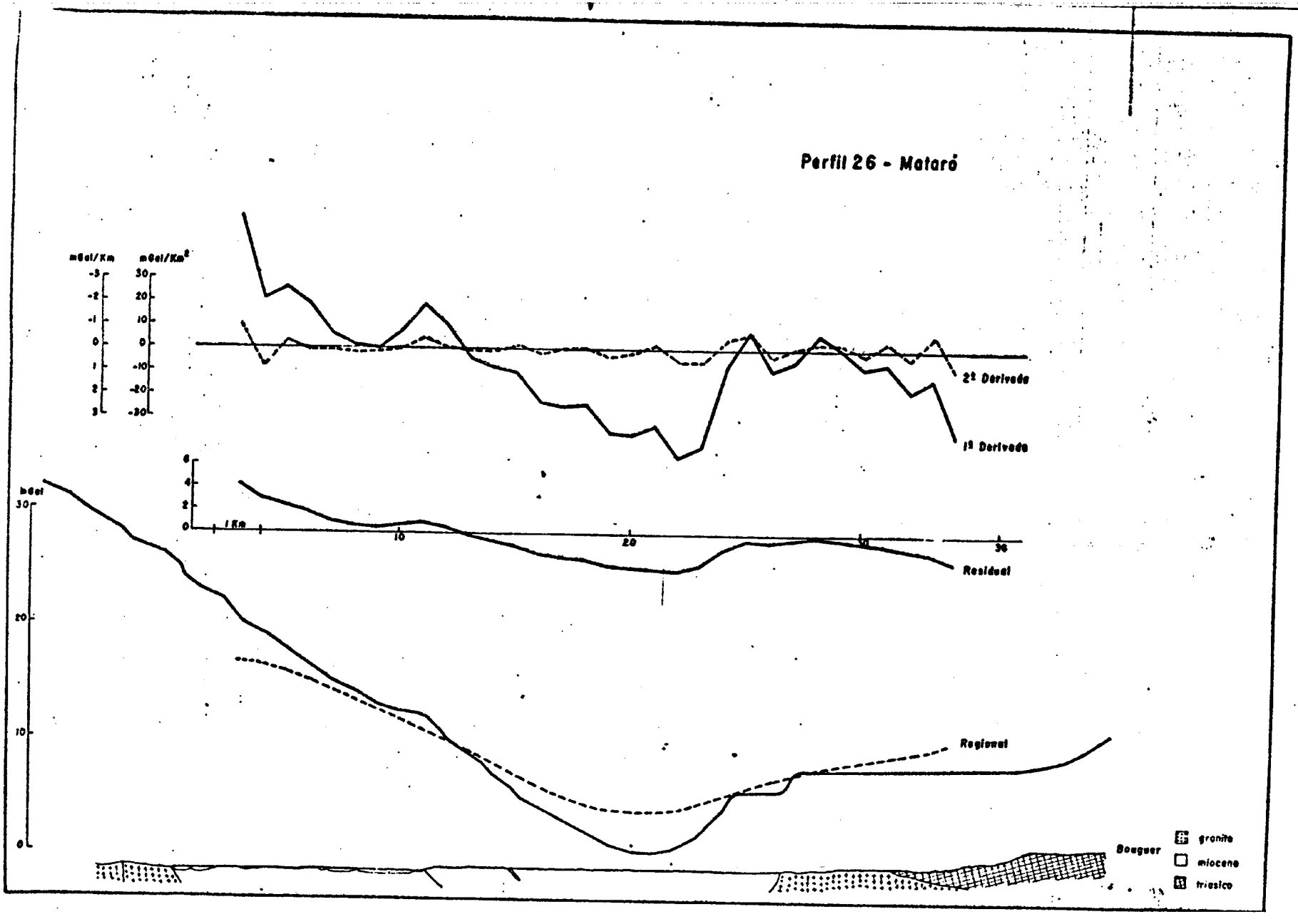

Perfil II - Mataró
mGal/Km
mGal/Km²
-2
-1
0
1
2
3
4
20
10
0
-10
-20
-30
-40
2ª Derivada
1ª Derivada
mGal
30
20
10
0
4
2
0
10
20
30
Residual
Regional
Bouguer
granito
cambrico
mioceno
triasico

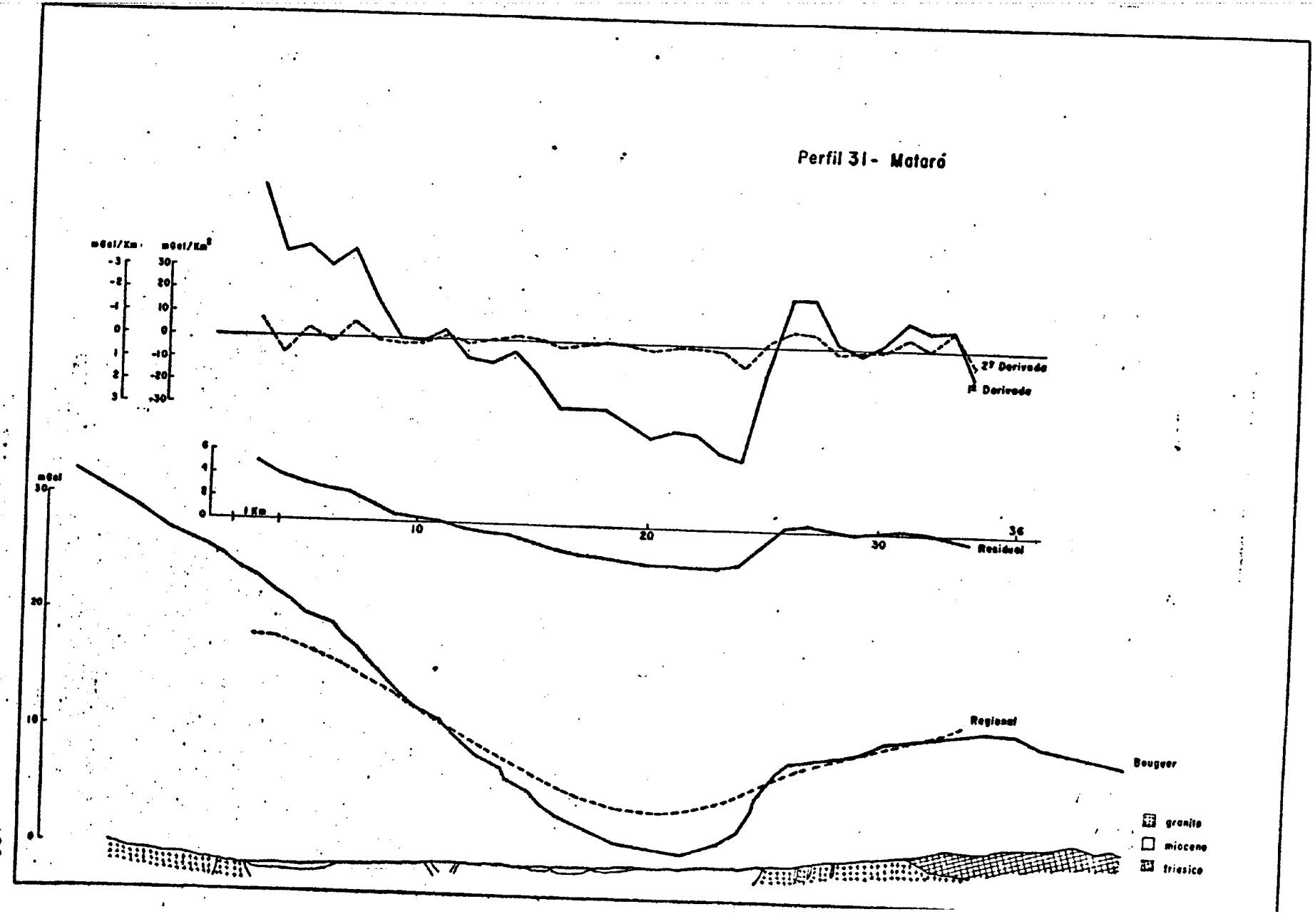
Perfil 15 - Mataró

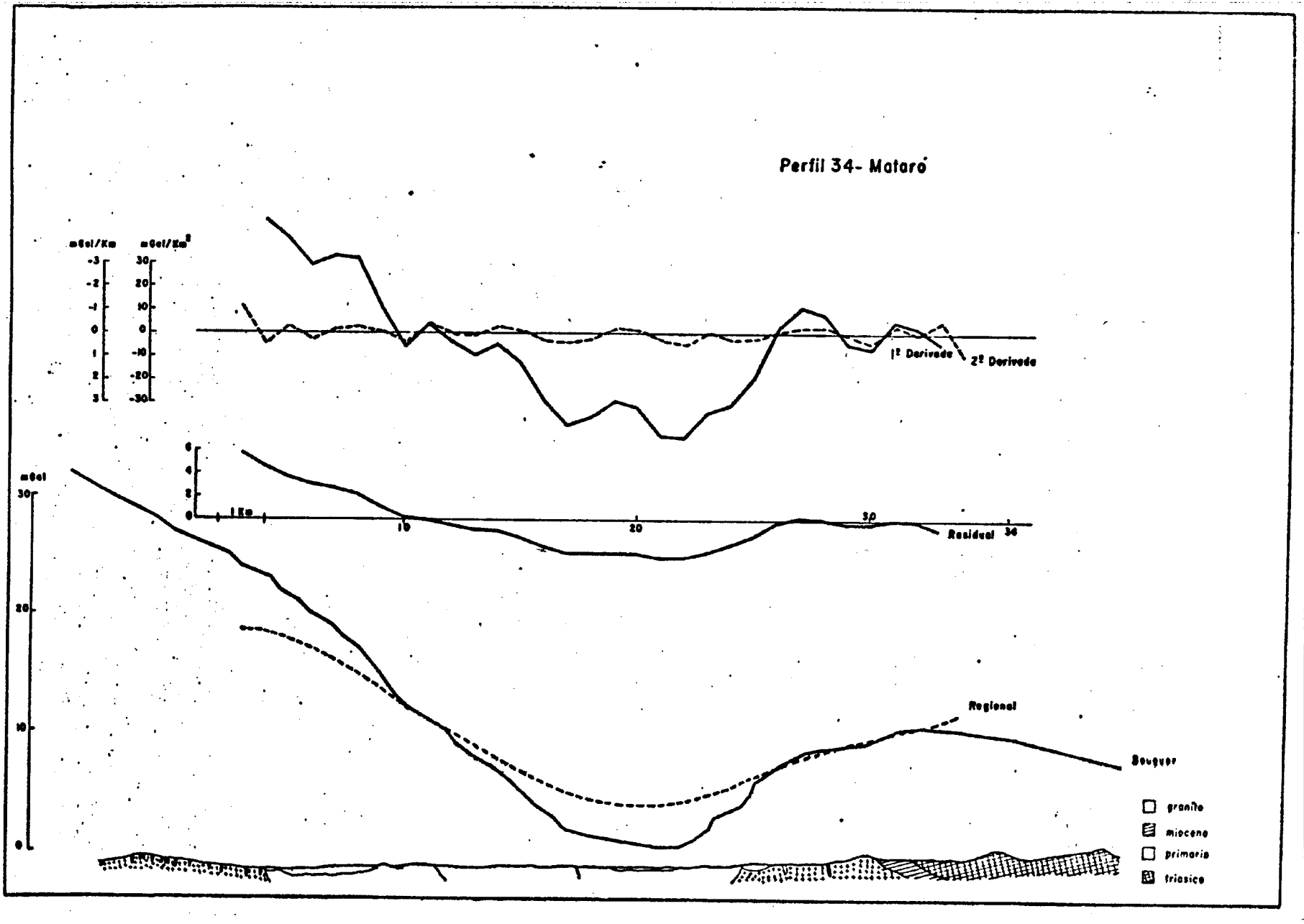



Perfil 17 - Mataro
mGal/Km
mGal/Km²
-2
-1
0
1
2
3
4
20
10
0
-10
-20
-30
-40
2º Derivada
1º Derivad
mGal
30
20
10
0
Km
0
10
20
30
36
Bouguer

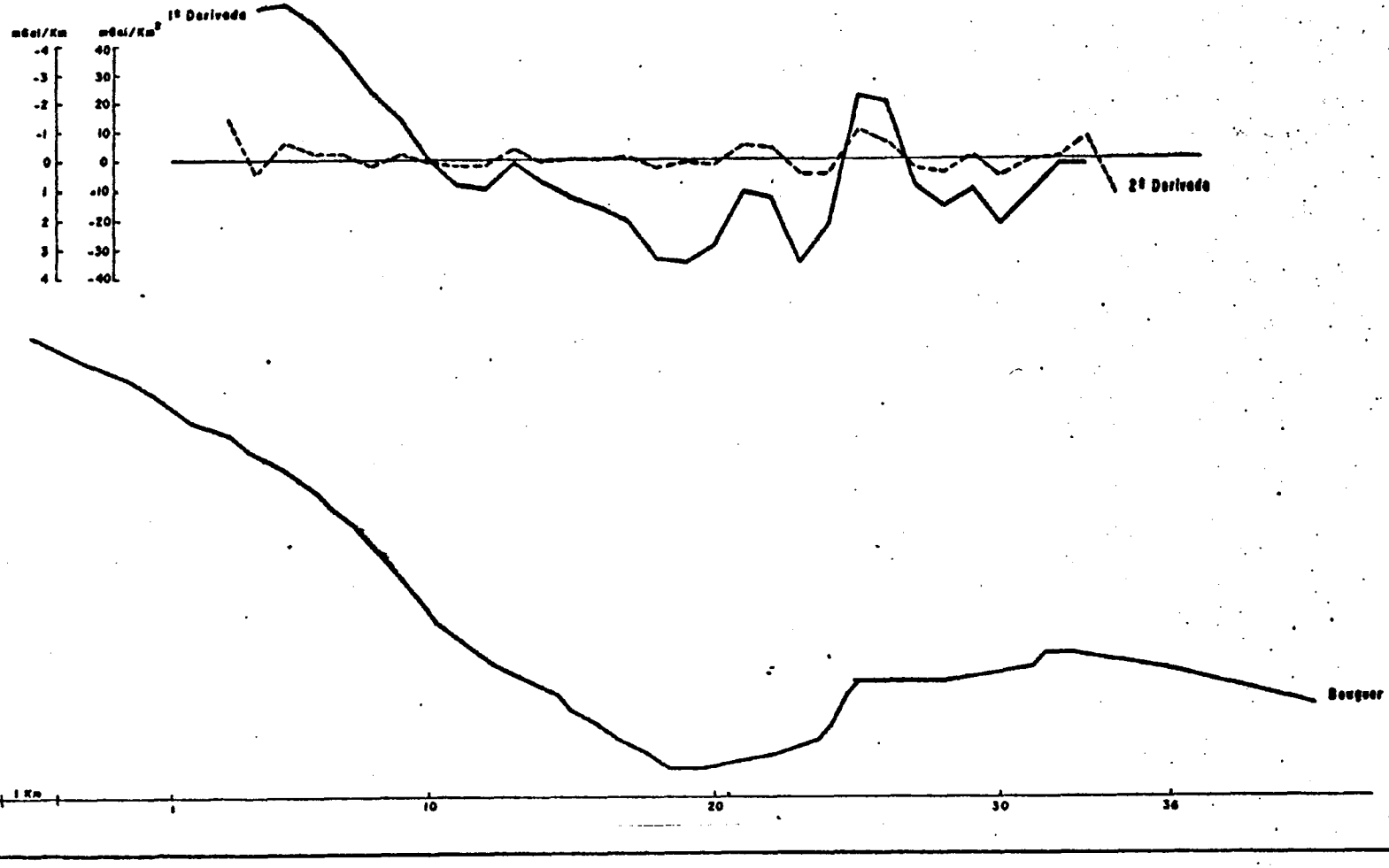

Perfil 23 - Mataró
mGal/Km
mGal/Km²
2ª Derivada
1ª Derivada
mGal
1 Km
Residual
Regional
Bouguer
granito
mioceno
triasico

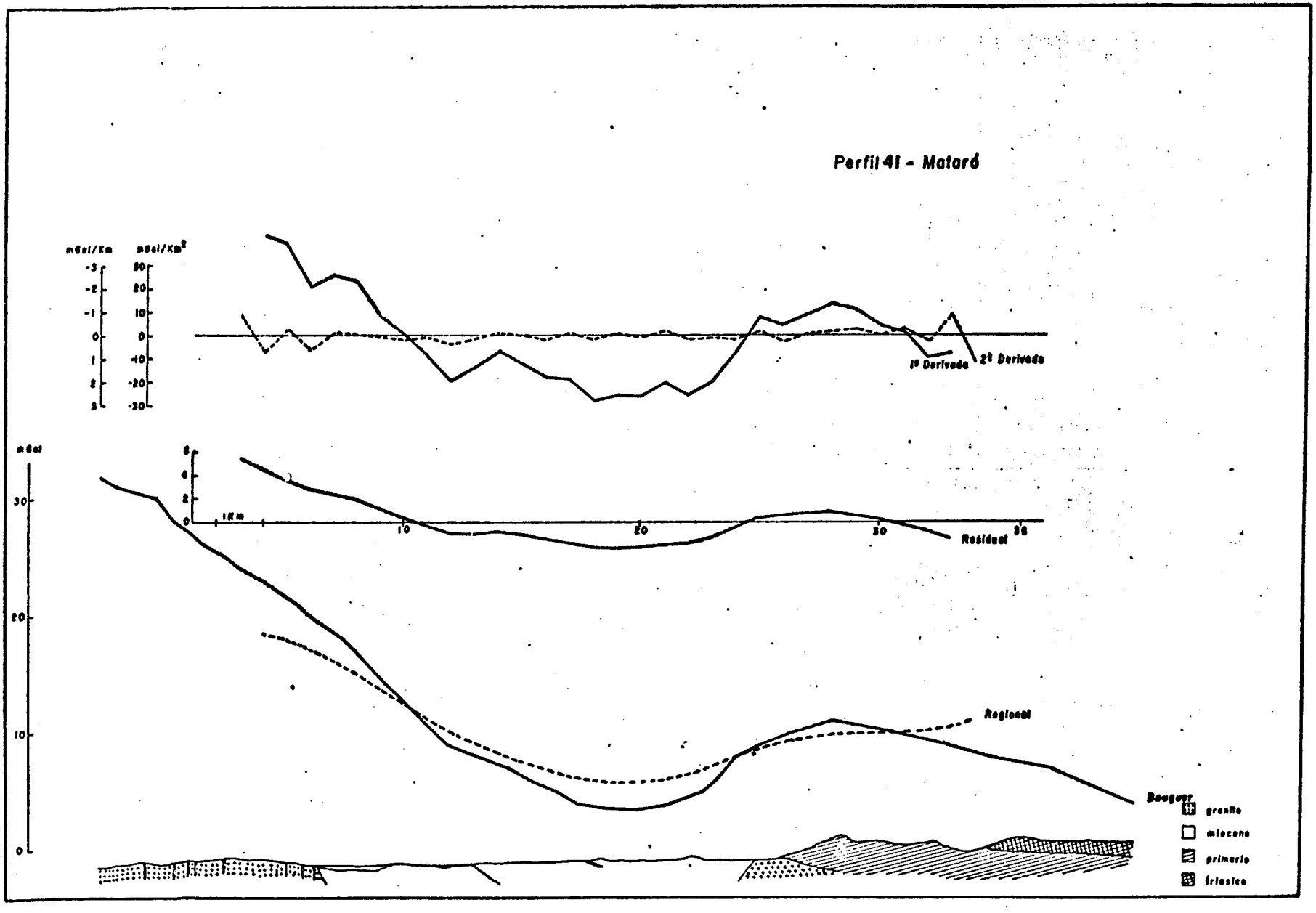

Perfil 26 - Mataró
mGal/Km
mGal/Km²
-3
-2
-1
0
1
2
3
30
20
10
0
-10
-20
-30
2ª Derivada
1ª Derivada
6
4
2
0
1 Km
10
20
30
Residual
mGal
30
20
10
0
Regional
Bouguer
granito
mioceno
triasico

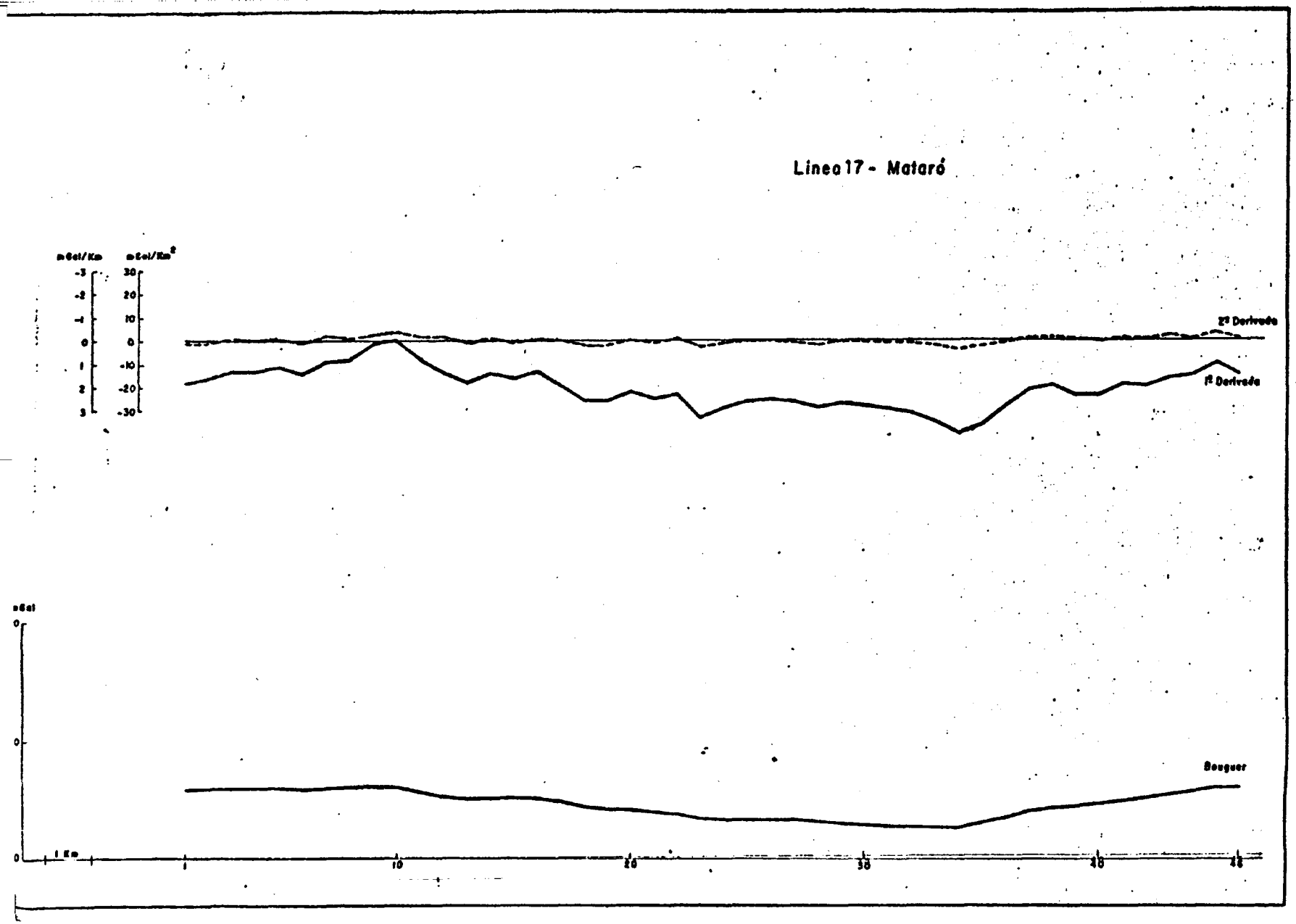

Perfil 31 - Mataró
mGal/Km
mGal/Km²
-3
-2
-1
0
1
2
3
30
20
10
0
-10
-20
-30
2ª Derivada
1ª Derivada
mGal
6
4
2
0
1 Km
10
20
30
36
Residual
30
20
10
0
Regional
Bouguer
granito
miocene
triasico

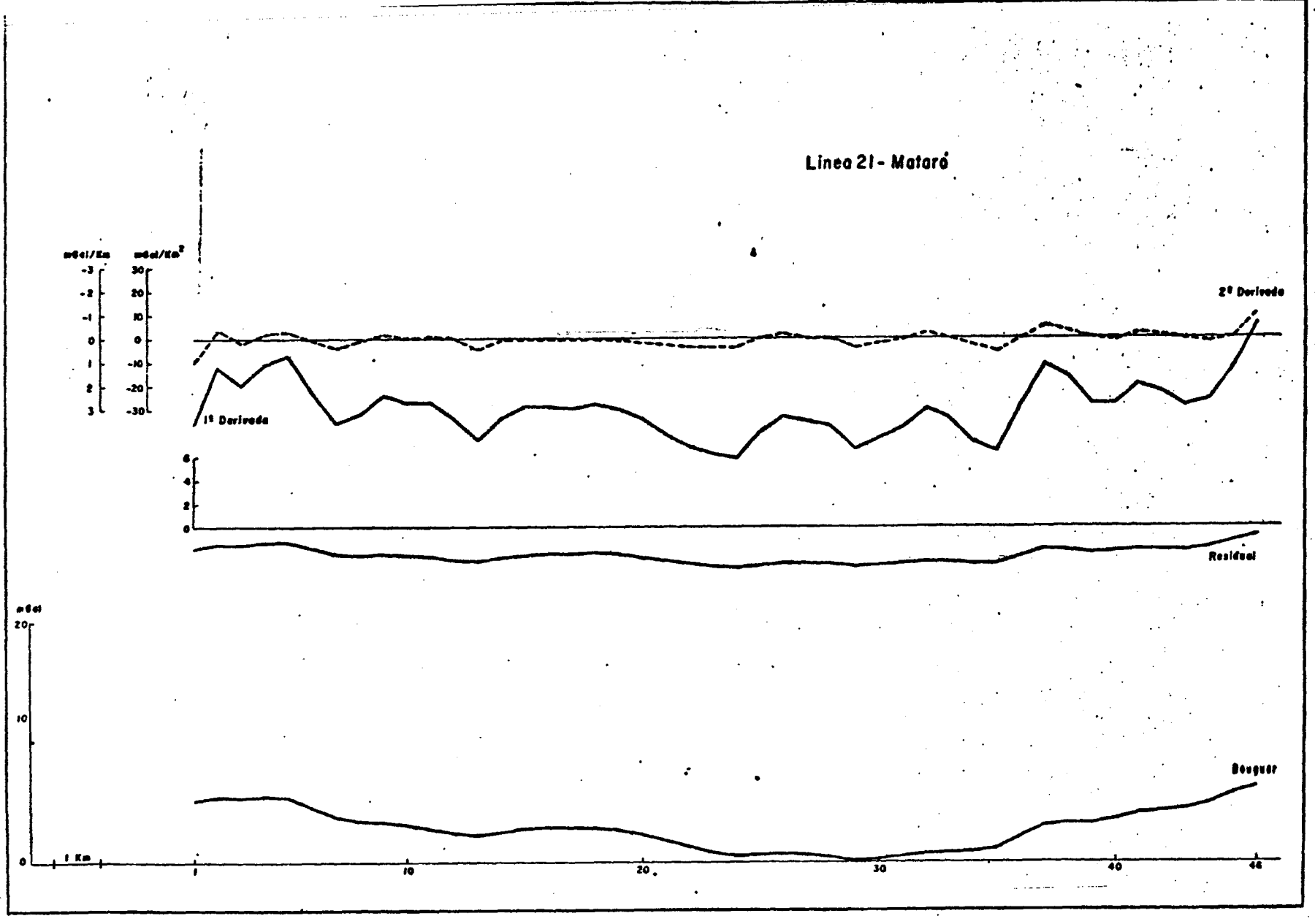

Perfil 34- Mataró
mGal/Km
mGal/Km²
-3
-2
-1
0
1
2
3
30
20
10
0
-10
-20
-30
1ª Derivada
2ª Derivada
mGal
6
4
2
0
1 Km
10
20
30
Residual
34
30
20
10
0
Regional
Bouguer
granito
mioceno
primario
triasico

Perfil 37 - Mataró




Perfil 41 - Mataró
mGal/Km
mGal/Km²
1ª Derivada
2ª Derivada
mGal
1 Km
10
20
30
Residual
Regional
Bouguer
granito
mioceno
primario
triasico


Linea 17 - Mataró
mGal/Km
mGal/Km²
-3
-2
-1
0
1
2
3
30
20
10
0
-10
-20
-30
2ª Derivada
1ª Derivada
mGal
0
0
Bouguer
1 Km
1
10
20
30
40
45


Linea 21 - Mataró
mGal/Km
mGal/Km²
-3
-2
-1
0
1
2
3
30
20
10
0
-10
-20
-30
2ª Derivada
1ª Derivada
6
4
2
0
Residual
mGal
20
10
0
Bouguer
1 Km
1
10
20
30
40
46

entre ambos bordes.

La primera derivada permite definir en la mayoría de los casos de qué lado queda la parte más hundida o menos densa.

La segunda derivada resuelve mejor los casos en que se trata de más de una estructura responsable de la misma anomalía.

La representación en planta de las curvas isovalores de primera y segunda derivada ha permitido establecer mejor el seguimiento perfil a perfil de las distintas anomalías.

5.6.- Plano de interpretación.

Analizados todos los datos de los párrafos precedentes, y teniendo en consideración únicamente las anomalías mejor definidos por todos ellos se ha dibujado un plano de interpretación en el que se señalan las fallas con su buzamiento, en los casos determinables, así como los principales ejes de estructuras o líneas de discontinuidad (trazado a rayas).

Los términos "elevación" y "hundimiento" son relativos. El plano residual permite apreciar mejor cuales son las zonas más o menos elevadas.

Madrid, 7 de noviembre 1977

Fdo.: Juan L.Plata

VºBº
EL JEFE DTO.GEOFISICA