ANEJO Nº 6. ESTRUCTURAS

4. Cálculos

4.2. Viaducto de la Riera de la Femosa

ENVOLVENTES DE ESFUERZOS

```
impr
hipo 981 PESO PROPIO t=0
fija 985 a 999 4
suma
hipo 982 PESO PROPIO t=inf
fija 985 a 999 0.32 4
fija 1000 0.68
suma
fin
```

```
*
* Envolvente de sobrecarga IPF-75 (sin viento)
*
impr
hipo 31 a 42 sobrecarga + fr. + 0.5*fcentr. (ipf-75)
comp 215 a 244 0.50 933 0.50
inco serie 1 101 a 157 367 369
inco serie 2 158 a 214 368 370
inco serie 3 901 a 932
maxi tota
*
* Envolvente de sobrecarga IPF-75 (con viento)
*
hipo 471 sc.min (dcha) + fcentr. + v.trans. + (ipf)
fija 23 451 933 0.50
suma
hipo 472 sc.min (izda) + fcentr. + v.trans. - (ipf)
fija 24 452 933 0.50
suma
hipo 473 sc.max (dcha) + fcentr. + v.trans. + (ipf)
fija 23 453 933 0.50
suma
hipo 474 sc.max (izda) + fcentr. + v.trans. - (ipf)
fija 24 454 933 0.50
suma
hipo 475 sc.max (2 vias) + fcentr. + v.trans. + (ipf)
fija 23 455 933
suma
hipo 476 sc.max (2 vias) + fcentr. + v.trans. - (ipf)
fija 24 455 933
suma
hipo 477 sc.min (dcha) + fcentr. + v.long. + (ipf)
fija 27 451 933 0.50
suma
hipo 478 sc.min (izda) + fcentr. + v.long. - (ipf)
fija 28 452 933 0.50
suma
hipo 479 sc.max (dcha) + fcentr. + v.long. + (ipf)
fija 27 453 363 933 0.50
suma
hipo 480 sc.max (izda) + fcentr. + v.long. - (ipf)
fija 28 454 366 933 0.50
suma
hipo 481 sc.max (2 vias) + fcentr. + v.long. + (ipf)
fija 27 455 363 a 364 933
suma
hipo 482 sc.max (2 vias) + fcentr. + v.long.  (ipf)
fija 28 455 365 a 366 933
suma
```

```
*
* Envolvente de sobrecarga EC-1
*
impr
hipo 581 a 592 max frenado y arranque (sin sob) (ec-1)
comp serie 1 432 434 437 439
comp serie 2 433 435 436 438
maxi tota
hipo 51 a 62 sobrecarga + fr. + 0.5*fcentr. (ec-1)
comp 333 a 362 0.50 933 0.50 581 hast 592
inco serie 1 101 a 187 275 a 303
inco serie 2 188 a 274 304 a 332
inco serie 3 901 a 932
maxi tota
*
* Envolvente de sobrecarga EC-1 (con viento)
*
hipo 491 sc.min (dcha) + fcentr. + v.trans. + (ec-1)
fija 23 461 933 0.50
suma
hipo 492 sc.min (izda) + fcentr. + v.trans.  - (ec-1)
fija 24 462 933 0.50
suma
hipo 493 sc.max (dcha) + fcentr. + v.trans.  + (ec-1)
fija 23 463 933 0.50
suma
hipo 494 sc.max (izda) + fcentr. + v.trans.  - (ec-1)
fija 24 464 933 0.50
suma
hipo 495 sc.max (2 vias) + fcentr. + v.trans. + (ec-1)
fija 23 465 933
suma
hipo 496 sc.max (2 vias) + fcentr. + v.trans. - (ec-1)
fija 24 465 933
suma
hipo 497 sc.min (dcha) + fcentr. + v.long. + (ec-1)
fija 27 461 933 0.50
suma
hipo 498 sc.min (izda) + fcentr. + v.long. - (ec-1)
fija 28 462 933 0.50
suma
hipo 499 sc.max (dcha) + fcentr. + v.long. + (ec-1)
fija 27 463 432 933 0.50
suma
hipo 500 sc.max (izda) + fcentr. + v.long. - (ec-1)
fija 28 464 435 933 0.50
suma
hipo 501 sc.max (2 vias) + fcentr. + v.long. + (ec-1)
fija 27 465 432 437 933
suma
hipo 502 sc.max (2 vias) + fcentr. + v.long. - (ec-1)
fija 28 465 434 439 933
suma
```

```
impr
hipo 83 pret total (t=0)
fija 951 a 965 1.00
suma
*
* PERDIDAS SOBRE ESTRUCTURA COMPLETA
*
hipo 84 pret total (t=inf)
fija 951 a 965 1.00 966 -0.141
suma
*
* PERDIDAS SOBRE ESTRUCTURA PARCIAL
*
* hipo 84 pret total (t=inf)
* fija 951 a 965 0.859
* suma
*
* PRETENSADO*0.2
*
hipo 81 pret total (t=0)*0.2
fija 83 0.2
suma
hipo 82 pret total (t=inf)*0.2
fija 84 0.2
suma
fin
```

```
impr
hipo 1063 carga permanente (Pret*1.0) (t=0)
fija 981 3 83 1.0 30
suma
hipo 1064 carga permanente (Pret*1.0) (t=inf.)
fija 982 3 10 84 1.0 30
suma
hipo 1065 carga permanente (Pret*0.9) (t=0)
fija 981 3 83 0.9 30
suma
hipo 1066 carga permanente (Pret*0.9) (t=inf.)
fija 982 3 10 84 0.9 30
suma
hipo 1067 carga permanente (Pret*1.1) (t=0)
fija 981 3 83 1.1 30
suma
hipo 1068 carga permanente (Pret*1.1) (t=inf.)
fija 982 3 10 84 1.1 30
suma
*
hipo 1069 a 1080 env carga permanente (els)
eleg 1065 1066 1067 1068
maxi tota
*
hipo 1131 a 1142 grupo I (ELS) (ipf-75)
fija 1069 hast 1080
comp 10 7 a 9 11 a 20 31 hast 42
maxi tota
hipo 1151 a 1162 grupo II (ELS) (ipf-75)
fija 1069 hast 1080 0.9
comp 10 0.9 7 a 9 0.9 11 a 20 0.9
inco 21 a 22 0.9 25 a 26 0.9 471 a 482 0.9
maxi tota
hipo 1171 a 1182 envolvente (ELS) (ipf-75)
eleg 1131 hast 1142 1151 hast 1162
maxi tota
*
hipo 1191 a 1202 grupo I (ELS) (ec-1)
fija 1069 hast 1080
comp 10 7 a 9 0.60 11 a 20 0.60 51 hast 62
maxi tota
hipo 1211 a 1222 grupo II (ELS) (ec-1)
fija 1069 hast 1080
comp 10 7 a 9 0.60 11 a 20 0.60
inco 21 a 22 25 a 26 491 a 502
maxi tota
hipo 1231 a 1242 envolvente (ELS) (ec-1)
eleg 1191 hast 1202 1211 hast 1222
maxi tota
*
*
hipo 1251 a 1262 envolvente (ELS) (total)
eleg 1171 hast 1182 1231 hast 1242
maxi tota
*
```

```
*
hipo 1581 a 1592 grupo I (ELS) (ipf-75) (frecuente)
fija 1069 hast 1080
comp 10 7 a 9 11 a 20 31 hast 42 0.60
maxi tota
hipo 1601 a 1612 grupo I (ELS) (ec-1) (frecuente)
fija 1069 hast 1080
comp 10 7 a 9 0.60 11 a 20 0.60 51 hast 62 0.60
maxi tota
*
hipo 1621 a 1632 envolvente G-I (ELS) (total) (frecuente)
eleg 1581 hast 1592 1601 hast 1612
maxi tota

* ENVOLVENTES PARA ROTURA
* NO SE PONDERA PRETENSADO
* MAYORACION CP 0.90/1.35/1.50

hipo 1263 cp (t=0) *0.9
fija 981 0.9 2 0.9 83 30 0.9
suma
hipo 1264 cp (t=inf) *0.9
fija 982 0.9 2 0.9 10 0.9 84 30 0.9
suma
hipo 1265 cp (t=0) *1.35
fija 981 1.35 3 1.35 83 30 1.35
suma
hipo 1266 cp (t=inf) *1.35
fija 982 1.35 3 1.35 10 1.35 84 30 1.35
suma
hipo 1267 cp (t=0) *1.50
fija 981 1.50 3 1.50 83 30 1.50
suma
hipo 1268 cp (t=inf) *1.50
fija 982 1.50 3 1.50 10 1.50 84 30 1.50
suma
*
hipo 1271 a 1282 cp may (ipf-75)
eleg 1063 a 1064 1267 a 1268
maxi tota
hipo 1291 a 1302 grupo I (ELU) (ipf-75)
fija 1271 hast 1282
comp 7 a 9 1.50 11 a 20 1.50 31 hast 42 1.50
maxi tota
hipo 1311 a 1322 grupo II (ELU) (ipf-75)
fija 1271 hast 1282 0.9
comp 7 a 9 1.35 11 a 20 1.35
inco 21 a 22 1.35 25 a 26 1.35 471 a 482 1.35
maxi tota
hipo 1331 a 1342 envolvente (ELU) (ipf-75)
eleg 1291 hast 1302 1311 hast 1322
maxi tota
*
hipo 1351 a 1362 cp may (ec-1)
eleg 1063 a 1064 1265 a 1266
maxi tota
```

```
hipo 1373 a 1384 grupo I (ELU) (ec-1)
fija 1351 hast 1362
comp 7 a 9 0.90 11 a 20 0.90 51 hast 62 1.45
maxi tota
hipo 1391 a 1402 grupo II (ELU) (ec-1)
fija 1351 hast 1362
comp 7 a 9 0.90 11 a 20 0.90
inco 21 a 22 1.50 25 a 26 1.50 491 a 502 1.50
maxi tota
hipo 1411 a 1422 envolvente (ELU) (ec-1)
eleg 1373 hast 1384 1391 hast 1402
maxi tota
*
* ENVOLVENTE TOTAL ipf/ec-1
*
hipo 1431 a 1442 envolvente (ELU) (total)
eleg 1331 hast 1342 1411 hast 1422
maxi tota
```

LEYES DE ESFUERZOS

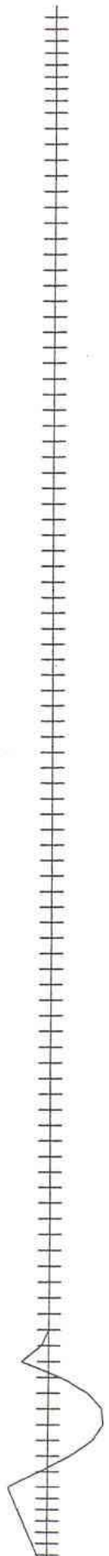
VIADUCTO SOBRE LA RIERA FEMOSA
hipo 985 PESO PROPIO FASE 1

M. Z 2000.0



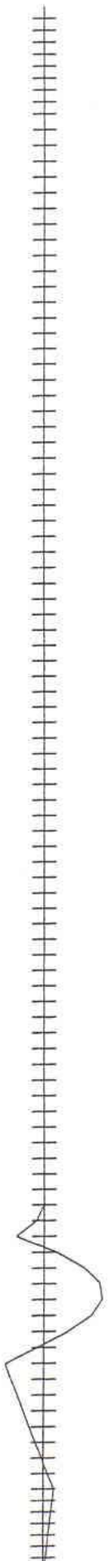
VIADUCTO SOBRE LA RIERA FEMOSA
hipo 986 PESO PROPIO FASE 2

M. Z 2000.0



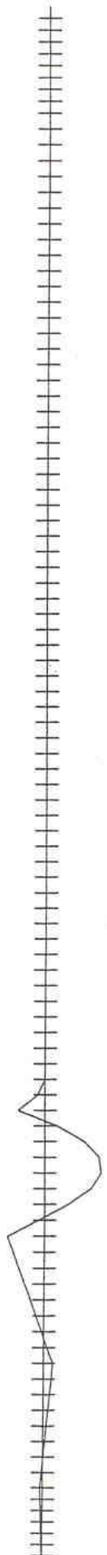
VIADUCTO SOBRE LA RIERA FEMOSA
hipo 987 PESO PROPIO FASE 3

M. Z 2000.0



VIADUCTO SOBRE LA RIERA FEMOSA
hipo 988 PESO PROPIO FASE 4

M. Z 2000.0



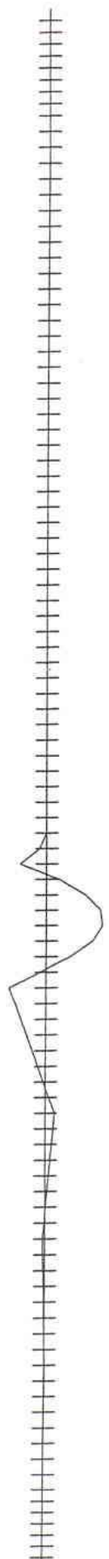
VIADUCTO SOBRE LA RIERA FEMOSA
hipo 989 PESO PROPIO FASE 5

M. Z 2000.0



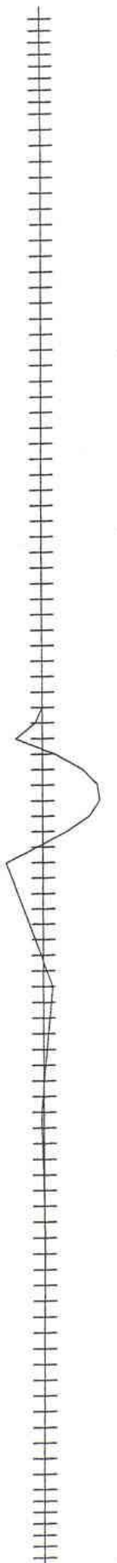
VIADUCTO SOBRE LA RIERA FEMOSA
hipo 990 PESO PROPIO FASE 6

M. Z 2000.0



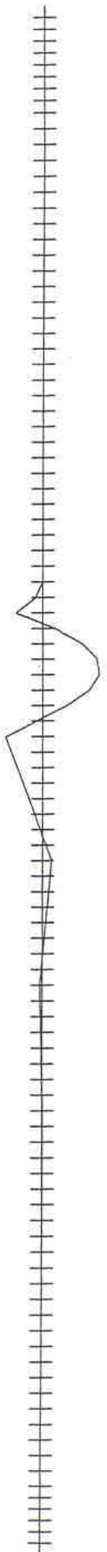
VIADUCTO SOBRE LA RIERA FEMOSA
hipo 991 PESO PROPIO FASE 7

M. Z 2000.0



VIADUCTO SOBRE LA RIERA FEMOSA
hipo 992 PESO PROPIO FASE 8

M. Z 2000.0



VIADUCTO SOBRE LA RIERA FEMOSA
hipo 993 PESO PROPIO FASE 9

M. Z 2000.0

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VIADUCTO SOBRE LA RIERA FEMOSA
hipo 994 PESO PROPIO FASE 10

M. Z 2000.0



VIADUCTO SOBRE LA RIERA FEMOSA
hipo 995 PESO PROPIO FASE 11

M. Z 2000.0



VIADUCTO SOBRE LA RIERA FEMOSA
hipo 996 PESO PROPIO FASE 12

M. Z 2000.0



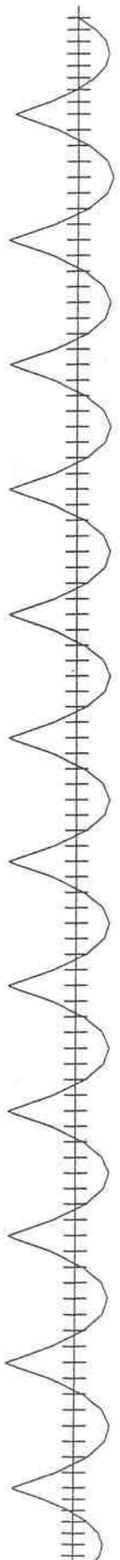
VIADUCTO SOBRE LA RIERA FEMOSA
hipo 997 PESO PROPIO FASE 13

M. Z 2000.0



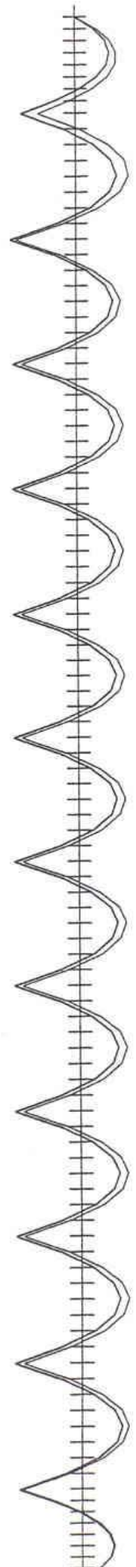
VIADUCTO SOBRE LA RIERA FEMOSA
hipo 1000 PESO PROPIO DE UNA SOLA VEZ

M. Z 2000.0

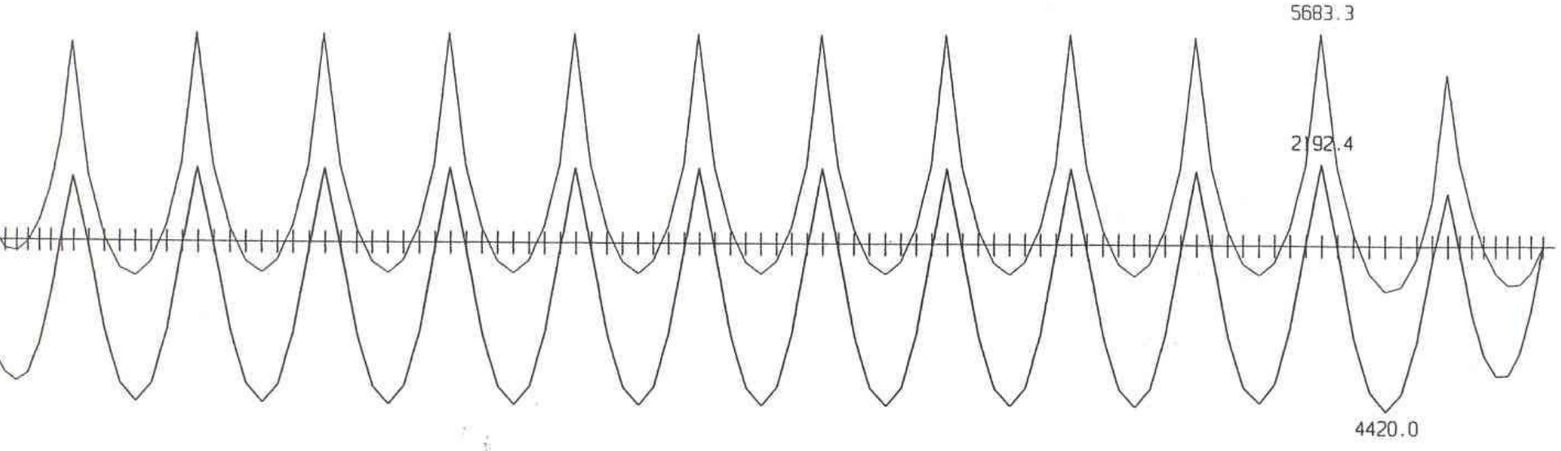


VIADUCTO SOBRE LA RIERA FEMOSA
PESO PROPIO t=0
PESO PROPIO t=inf

M. Z 2000.0
M. Z 2000.0

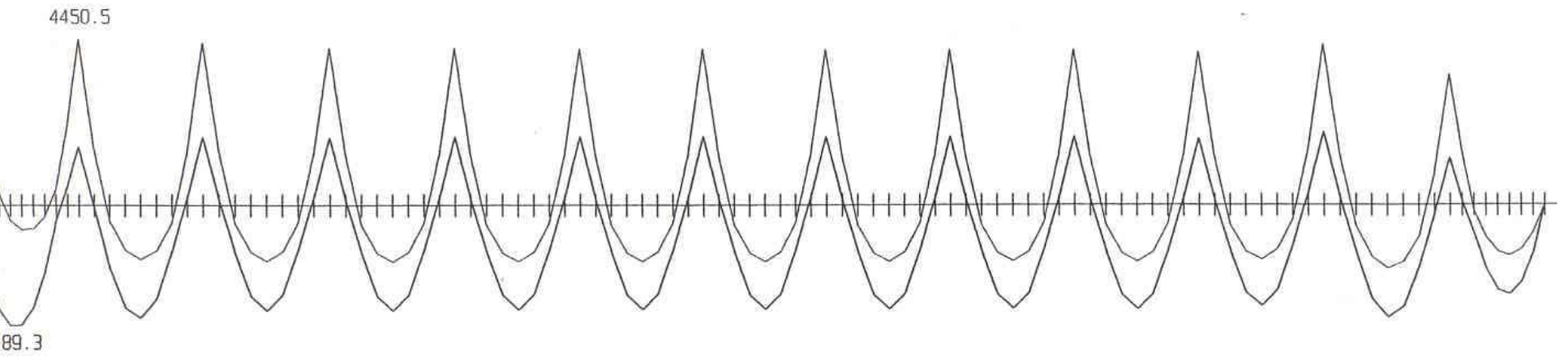


VIADUCTO SOBRE LA RIERA FEMOSA
MOME Z MAX grupo I (ELS) (ipf-75)
MOME Z MIN grupo I (ELS) (ipf-75)



M. Z 2000.0
M. Z 2000.0

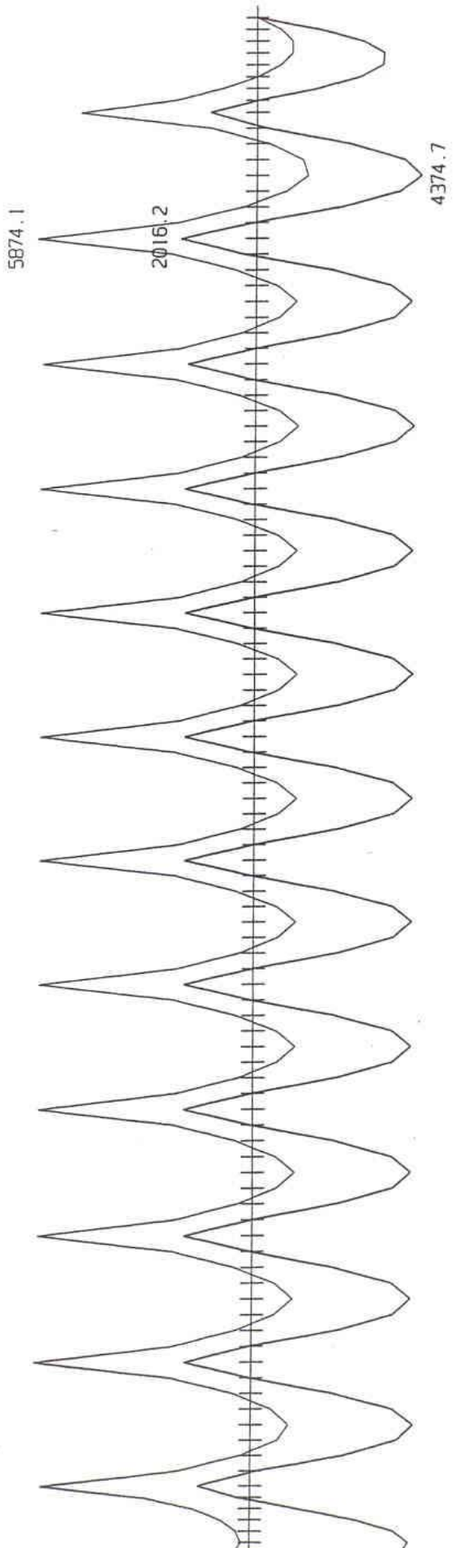
VIADUCTO SOBRE LA RIERA FEMOSA
MOME Z MAX grupo II (ELS) (ipf-75)
MOME Z MIN grupo II (ELS) (ipf-75)



M. Z 2000.0
M. Z 2000.0

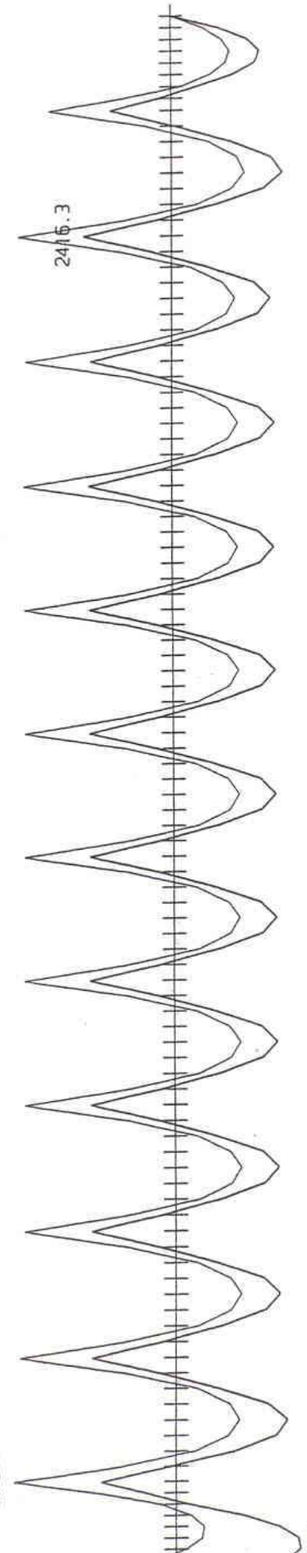
VIADUCTO SOBRE LA RIERA FEMOSA
MOME Z MAX grupo I (ELS) (ec-1)
MOME Z MIN grupo I (ELS) (ec-1)

M. Z 2000.0
M. Z 2000.0

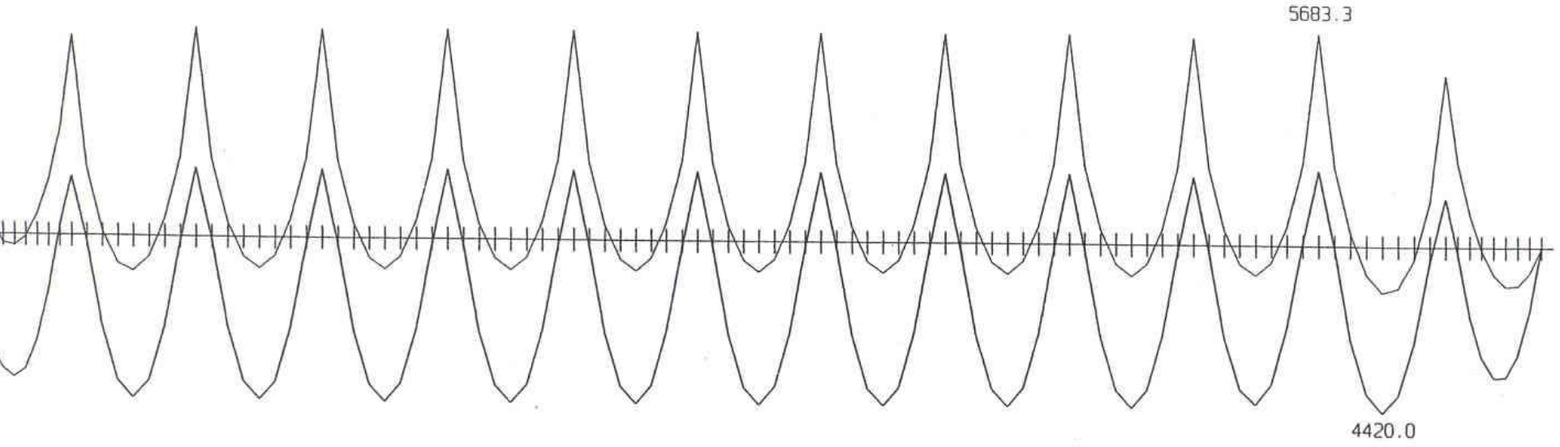


VIADUCTO SOBRE LA RIERA FEMOSA
MOME Z MAX grupo II (ELS) (ec-1)
MOME Z MIN grupo II (ELS) (ec-1)

M. Z 2000.0
M. Z 2000.0

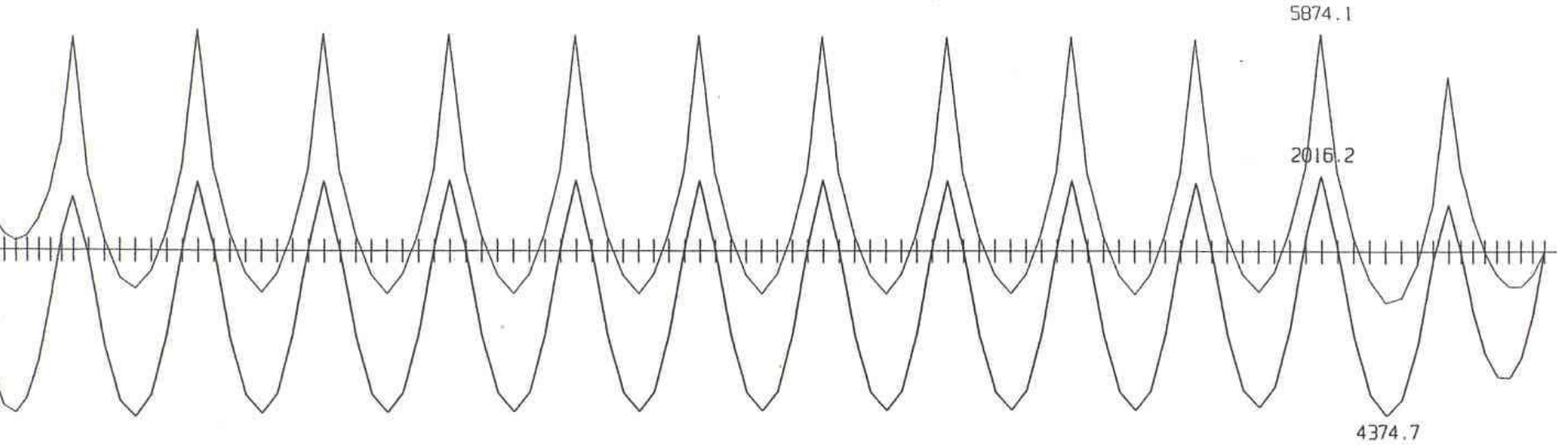


VIADUCTO SOBRE LA RIERA FEMOSA
MOME Z MAX envolvente (ELS) (ipf-75)
MOME Z MIN envolvente (ELS) (ipf-75)



M. Z 2000.0
M. Z 2000.0

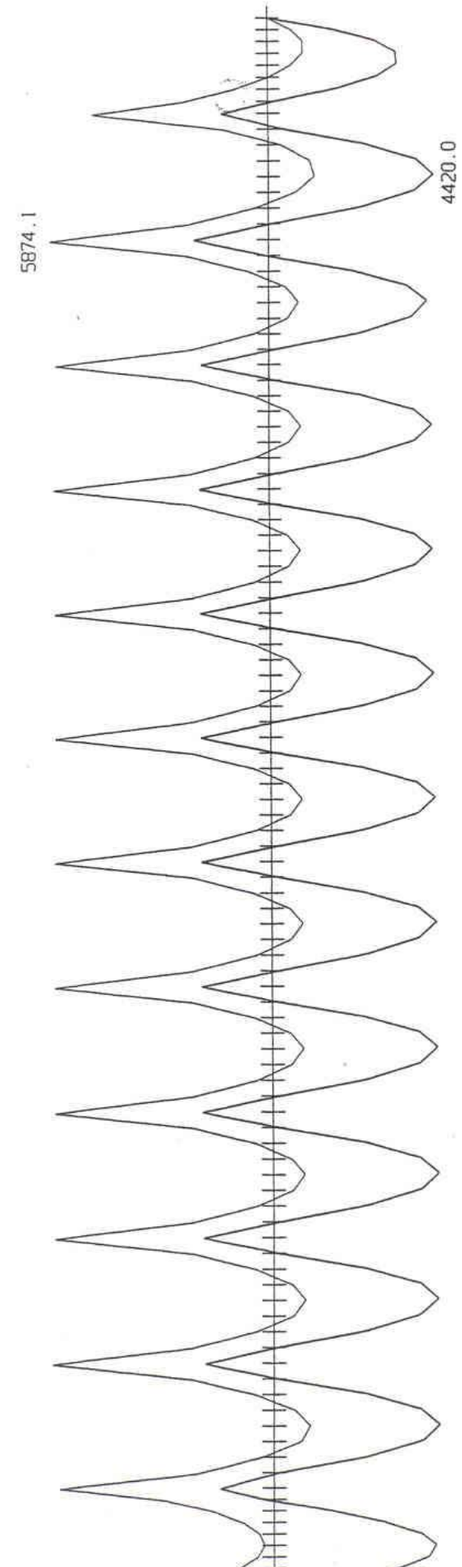
VIADUCTO SOBRE LA RIERA FEMOSA
MOME Z MAX envolvente (ELS) (ec-1)
MOME Z MIN envolvente (ELS) (ec-1)



M. Z 2000.0
M. Z 2000.0

VIADUCTO SOBRE LA RIERA FEMOSA
MOME Z MAX envolvente (ELS) (total)
MOME Z MIN envolvente (ELS) (total)

M. Z 2000.0
M. Z 2000.0



TENSIONES

UCTO SOBRE LA RIERA FEMOSA

TESIS 1063

a permanente (Pret*1.0) (t=0)

ESFUERZOS EN BARRAS

BA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
	1	5054.965	-96.952	0.040	-0.013	-0.739	709.906
	12	-5127.349	53.256	-0.040	0.013	0.622	-1022.913
	12	5127.350	-53.255	0.040	-0.013	-0.622	1022.912
	13	-5198.563	-9.003	-0.040	0.013	0.505	-1047.354
	13	5198.563	9.002	0.040	-0.013	-0.505	1047.354
	14	-5232.599	69.628	-0.040	0.013	0.389	-1153.593
	14	5232.598	-69.627	0.040	-0.013	-0.389	1153.593
	15	-5275.293	102.383	-0.040	0.013	0.272	-1451.009
	15	5275.294	-102.384	0.040	-0.013	-0.272	1451.011
	16	-5374.803	-167.427	-0.040	0.013	0.155	-1530.687
	16	5374.802	167.427	0.040	-0.013	-0.155	1530.688
	17	-5432.795	-444.522	-0.040	0.013	0.038	-541.945
	17	5432.798	444.522	0.040	-0.013	-0.038	541.944
	18	-5452.542	-417.989	-0.040	0.013	-0.079	732.296
	19	5452.542	417.989	0.040	-0.013	0.079	-732.296
	19	-5612.448	540.264	-0.040	0.013	-0.196	1043.907
	19	5468.247	563.296	-0.020	0.011	0.196	-1043.921
	30	-5494.833	308.952	0.020	-0.011	-0.120	490.264
	30	5494.833	-308.952	-0.020	0.011	0.120	-490.264
	31	-5443.076	69.884	0.020	-0.011	-0.044	59.782
	31	5199.652	29.424	-0.020	0.011	0.044	40.575
	32	-5285.310	274.329	0.020	-0.011	0.032	-453.044
	32	5285.309	-274.330	-0.020	0.011	-0.032	453.043
	33	-5406.073	91.201	0.020	-0.011	0.108	-1619.223
	33	5406.073	-91.201	-0.020	0.011	-0.108	1619.223
	34	-5542.496	-281.724	0.020	-0.011	0.184	-1037.791
	34	5542.497	281.724	-0.020	0.011	-0.184	1037.789
	35	-5582.467	-270.522	0.020	-0.011	0.260	-27.243
	35	5582.468	270.522	-0.020	0.011	-0.260	27.241
	36	-5642.511	-296.355	0.020	-0.011	0.336	1090.269
	36	5642.512	296.354	-0.020	0.011	-0.336	-1090.271
	37	-5718.438	705.624	0.020	-0.011	0.412	969.856
	37	5775.834	417.356	0.000	-0.004	-0.413	-969.854
	48	-5611.931	276.948	0.000	0.004	0.414	390.498
	48	5611.931	-276.948	0.000	-0.004	-0.414	-390.497
	49	-5563.076	87.275	0.000	0.004	0.415	-57.798
	49	5234.895	23.783	0.000	-0.004	-0.415	141.808
	50	-5325.128	268.270	0.000	0.004	0.416	-548.162
	50	5325.128	-268.270	0.000	-0.004	-0.416	548.160

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
81.78	81.79	82.15	82.16
35.66	35.67	93.83	93.84
35.66	35.67	93.83	93.84
35.93	35.94	95.49	95.50
35.93	35.94	95.49	95.50
33.96	33.97	99.57	99.57
33.96	33.97	99.57	99.57
27.85	27.86	110.37	110.37
27.85	27.86	110.37	110.37
27.22	27.22	114.27	114.27
27.22	27.22	114.27	114.27
49.81	49.81	80.63	80.63
49.81	49.81	80.63	80.63
78.29	78.29	36.65	36.65
78.29	78.29	36.65	36.65
87.03	87.02	27.66	27.66
87.66	87.66	28.29	28.29
73.41	73.41	45.53	45.53
73.41	73.41	45.53	45.53
63.27	63.27	59.87	59.87
58.27	58.27	60.58	60.58
50.10	50.10	75.87	75.87
50.10	50.10	75.87	75.87
25.61	25.61	117.69	117.70
25.61	25.61	117.69	117.70
40.06	40.06	99.08	99.08
40.06	40.06	99.08	99.08
62.92	62.93	64.48	64.48
62.92	62.93	64.48	64.48
88.39	88.40	26.39	26.39
88.39	88.40	26.39	26.39
86.59	86.59	31.43	31.44
87.24	87.25	32.09	32.09
72.52	72.53	50.32	50.32
72.52	72.53	50.32	50.32
62.02	62.03	65.31	65.32
56.43	56.43	64.49	64.50
48.44	48.45	79.62	79.62
48.44	48.45	79.62	79.62

20	51	-5444.192	87.532	0.000	0.004	0.417	-1688.948	24.49	24.50	120.55	120.55
21	51	5444.191	-87.532	0.000	-0.004	-0.417	1688.948	24.49	24.50	120.55	120.55
21	52	-5582.219	-281.227	0.000	0.004	0.418	-1104.770	39.02	39.03	101.85	101.85
22	52	5582.220	281.227	0.000	-0.004	-0.418	1104.768	39.02	39.03	101.85	101.85
22	53	-5614.883	-269.919	0.000	0.004	0.420	-94.009	61.81	61.82	67.16	67.16
23	53	5614.883	269.920	0.000	-0.004	-0.420	94.007	61.81	61.82	67.16	67.16
23	54	-5677.797	-297.261	0.000	0.004	0.421	1024.489	87.33	87.34	29.07	29.08
24	54	5677.794	297.261	0.000	-0.004	-0.421	-1024.485	87.33	87.34	29.07	29.08
24	55	-5758.514	703.413	0.000	0.004	0.422	913.020	85.78	85.79	33.86	33.86
25	55	5815.713	419.784	0.000	-0.002	-0.422	-913.020	86.43	86.44	34.51	34.51
25	66	-5655.429	273.867	0.000	0.002	0.420	345.761	72.03	72.03	52.37	52.37
26	66	5655.430	-273.867	0.000	-0.002	-0.420	-345.762	72.03	72.03	52.37	52.37
26	67	-5609.162	83.699	0.000	0.002	0.419	-88.553	61.87	61.87	66.91	66.91
27	67	5310.466	28.239	0.000	-0.002	-0.419	160.594	56.87	56.88	66.01	66.01
27	68	-5398.491	269.276	0.000	0.002	0.417	-558.833	49.04	49.05	80.82	80.82
28	68	5398.489	-269.276	0.000	-0.002	-0.417	558.832	49.04	49.05	80.82	80.82
28	69	-5519.071	88.032	0.000	0.002	0.415	-1710.928	24.86	24.87	122.16	122.16
29	69	5519.072	-88.032	0.000	-0.002	-0.415	1710.929	24.86	24.87	122.16	122.16
29	70	-5655.954	-285.304	0.000	0.002	0.414	-1116.150	39.61	39.62	103.09	103.09
30	70	5655.953	285.302	0.000	-0.002	-0.414	1116.151	39.61	39.62	103.09	103.09
30	71	-5697.214	-274.058	0.000	0.002	0.412	-92.330	62.79	62.79	68.04	68.04
31	71	5697.214	274.058	0.000	-0.002	-0.412	92.331	62.79	62.79	68.04	68.04
31	72	-5757.116	-299.913	0.000	0.002	0.411	1038.955	88.56	88.57	29.48	29.48
32	72	5757.118	299.913	0.000	-0.002	-0.411	-1038.955	88.56	88.57	29.48	29.48
32	73	-5832.664	702.081	0.000	0.002	0.409	932.107	87.05	87.06	34.04	34.04
81	181	6234.460	412.508	0.009	-0.003	-0.447	-969.937	92.46	92.47	37.30	37.31
81	192	-6070.314	281.774	-0.009	0.003	0.411	371.736	77.32	77.33	56.19	56.19
82	192	6070.315	-281.774	0.009	-0.003	-0.411	-371.735	77.32	77.33	56.19	56.19
82	193	-6021.326	92.106	-0.009	0.003	0.375	-95.334	66.41	66.41	71.83	71.83
83	193	5697.060	19.019	0.009	-0.003	-0.375	177.755	60.89	60.90	71.00	71.00
83	194	-5787.405	273.532	-0.009	0.003	0.339	-603.162	52.48	52.49	86.79	86.79
84	194	5787.404	-273.533	0.009	-0.003	-0.339	603.166	52.48	52.49	86.79	86.79
84	195	-5906.542	92.639	-0.009	0.003	0.303	-1764.805	28.07	28.08	128.44	128.44
85	195	5906.543	-92.640	0.009	-0.003	-0.303	1764.806	28.07	28.08	128.44	128.44
85	196	-6044.740	-276.774	-0.009	0.003	0.268	-1198.744	42.20	42.21	110.38	110.38
86	196	6044.741	276.775	0.009	-0.003	-0.268	1198.744	42.20	42.21	110.38	110.38
86	197	-6077.449	-263.399	-0.009	0.003	0.232	-205.378	64.61	64.61	76.29	76.29
87	197	6077.449	265.399	0.009	-0.003	-0.232	205.378	64.61	64.61	76.29	76.29
87	198	-6140.443	-292.549	-0.009	0.003	0.196	895.349	89.74	89.74	38.82	38.82
88	198	6140.441	292.550	0.009	-0.003	-0.196	-895.348	89.74	89.74	38.82	38.82
88	199	-6221.237	708.345	-0.009	0.003	0.160	765.167	87.77	87.77	44.26	44.26
89	199	6278.636	447.540	0.014	-0.008	-0.160	-765.172	88.42	88.43	44.91	44.91
89	210	-6118.406	246.286	-0.014	0.008	0.107	305.198	76.40	76.40	59.04	59.04
90	210	6118.410	-246.286	0.014	-0.008	-0.107	-305.199	76.40	76.40	59.04	59.04
90	211	-6072.184	56.257	-0.014	0.008	0.053	-22.568	68.60	68.60	69.89	69.89
91	211	5957.915	49.511	0.014	-0.008	-0.053	157.040	64.32	64.32	73.25	73.25
91	212	-6050.963	249.863	-0.014	0.008	0.000	-475.951	58.31	58.31	85.37	85.37
92	212	6050.960	-249.863	0.014	-0.008	0.000	475.954	58.31	58.31	85.37	85.37
92	213	-6171.392	77.369	-0.014	0.008	-0.053	-1564.915	35.53	35.52	124.52	124.52
93	213	6171.396	-77.369	0.014	-0.008	0.053	1564.917	35.53	35.52	124.52	124.52
93	214	-6324.485	-379.586	-0.014	0.008	-0.107	-841.816	53.31	53.30	101.18	101.18
94	214	6324.481	379.586	0.014	-0.008	0.107	841.817	53.31	53.30	101.18	101.18
94	215	-6349.138	-348.486	-0.014	0.008	-0.160	645.117	86.57	86.56	49.88	49.88
95	215	6349.140	348.487	0.014	-0.008	0.160	-645.118	86.57	86.56	49.88	49.88
95	216	-6376.411	-172.186	-0.014	0.008	-0.213	1669.466	109.60	109.59	14.65	14.65

216	6376.413	172.186	0.010	-0.008	0.213	-1669.466	109.60	109.59	14.65	14.65
217	-6273.429	784.772	-0.010	0.008	-0.267	950.618	92.49	92.49	38.42	38.42
217	6330.432	230.144	-0.011	0.008	0.267	-950.603	93.13	93.12	39.07	39.07
228	-6218.565	340.058	0.011	-0.008	-0.233	454.413	80.85	80.85	55.01	55.01
228	6218.563	-340.058	-0.011	0.008	0.233	-454.413	80.85	80.85	55.01	55.01
229	-6193.999	293.644	0.011	-0.008	-0.200	-438.921	60.76	60.75	85.72	85.72
229	6540.174	-69.660	-0.011	0.008	0.200	651.593	59.98	59.98	97.03	97.03
230	-6551.790	129.204	0.011	-0.008	-0.167	-911.312	54.35	54.35	106.18	106.18
230	6551.788	-129.206	-0.011	0.008	0.167	911.313	54.35	54.35	106.18	106.18
231	-6551.035	349.663	0.011	-0.008	-0.133	-1529.855	40.62	40.62	127.63	127.62
231	6551.037	-349.662	-0.011	0.008	0.133	1529.855	40.62	40.62	127.63	127.62
232	-6476.219	135.521	0.011	-0.008	-0.100	-2463.202	19.07	19.07	159.15	159.15
232	6476.220	-135.522	-0.011	0.008	0.100	2463.199	19.07	19.07	159.15	159.15
233	-6341.321	-197.070	0.011	-0.008	-0.067	-2105.850	25.46	25.46	145.22	145.22
233	6341.320	197.070	-0.011	0.008	0.067	2105.848	25.46	25.46	145.22	145.22
234	-6304.142	-58.820	0.011	-0.008	-0.033	-1676.627	34.56	34.56	129.91	129.91
234	6304.141	58.820	-0.011	0.008	0.033	1676.626	34.56	34.56	129.91	129.91
235	-6258.394	118.651	0.011	-0.008	0.000	-1764.561	32.09	32.09	132.44	132.44

VIADUCTO SOBRE LA RIERA FENOSA

HIPOTESIS 1064

carga permanente (Pret*1.0) (t=inf.)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	4237.141	-53.799	0.068	-0.021	-0.733	460.066	38.01	38.02	64.18	64.18
1	12	-4299.319	30.970	-0.068	0.021	0.535	-663.933	34.20	34.21	71.96	71.96
2	12	4299.320	-30.970	0.068	-0.021	-0.535	663.933	34.20	34.21	71.96	71.96
2	13	-4360.492	-7.803	-0.068	0.021	0.336	-663.123	34.91	34.92	72.63	72.63
3	13	4360.492	7.803	0.068	-0.021	-0.336	663.123	34.91	34.92	72.63	72.63
3	14	-4389.729	74.447	-0.068	0.021	0.137	-775.778	32.75	32.75	76.87	76.87
4	14	4389.729	-74.446	0.068	-0.021	-0.137	775.778	32.75	32.75	76.87	76.87
4	15	-4426.405	117.290	-0.068	0.021	-0.061	-1095.855	26.07	26.07	88.39	88.39
5	15	4426.404	-117.292	0.068	-0.021	0.061	1095.857	26.07	26.07	88.39	88.39
5	16	-4511.882	-99.769	-0.068	0.021	-0.260	-1272.095	23.14	23.13	95.48	95.48
6	16	4511.883	99.770	0.068	-0.021	0.260	1272.096	23.14	23.13	95.48	95.48
6	17	-4561.700	-323.088	-0.068	0.021	-0.459	-573.763	39.19	39.18	71.82	71.82
7	17	4561.705	323.088	0.068	-0.021	0.459	573.762	39.19	39.18	71.82	71.82
7	18	-4578.665	-285.589	-0.068	0.021	-0.658	326.613	59.36	59.35	40.78	40.77
8	18	4578.657	285.589	0.068	-0.021	0.658	-326.613	59.36	59.35	40.78	40.77
8	19	-4716.017	552.256	-0.068	0.021	-0.856	356.888	61.59	61.58	41.29	41.29
9	19	4771.816	559.964	-0.032	0.020	0.856	-356.903	62.23	62.21	41.93	41.92
9	30	-4622.854	208.697	0.032	-0.020	-0.734	138.585	55.69	55.68	47.80	47.80
10	30	4622.855	-208.697	-0.032	0.020	0.734	-138.584	55.69	55.68	47.81	47.80
10	31	-4578.396	23.763	0.032	-0.020	-0.612	-49.411	51.01	51.00	53.82	53.82
11	31	4369.295	61.543	-0.032	0.020	0.612	135.617	46.72	46.71	54.43	54.43
11	32	-4442.875	220.660	0.032	-0.020	-0.490	-393.227	41.84	41.84	64.20	64.20
12	32	4442.875	-220.661	-0.032	0.020	0.490	393.226	41.84	41.84	64.20	64.20
12	33	-4546.612	82.753	0.032	-0.020	-0.368	-1374.482	21.26	21.25	99.42	99.42
13	33	4546.609	-82.753	-0.032	0.020	0.368	1374.481	21.26	21.25	99.42	99.42
13	34	-4663.792	-218.189	0.032	-0.020	-0.246	-929.714	32.46	32.45	85.33	85.33
14	34	4663.801	218.189	-0.032	0.020	0.246	929.713	32.46	32.45	85.33	85.33
14	35	-4698.136	-189.167	0.032	-0.020	-0.124	-191.513	49.22	49.22	60.11	60.11
15	35	4698.130	189.167	-0.032	0.020	0.124	191.512	49.22	49.22	60.11	60.11
15	36	-4749.707	-191.957	0.032	-0.020	-0.002	563.397	66.55	66.55	34.51	34.51
16	36	4749.717	191.956	-0.032	0.020	0.002	-563.397	66.55	66.55	34.51	34.51
16	37	-4819.937	688.143	0.032	-0.020	0.120	179.751	58.78	58.78	48.56	48.56
17	37	4872.327	438.521	-0.003	-0.005	-0.120	-179.759	59.44	59.44	49.21	49.21
17	48	-4731.534	177.286	0.003	0.005	0.133	-45.447	52.84	52.84	55.42	55.42
18	48	4731.543	-177.286	-0.003	-0.005	-0.133	45.448	52.84	52.84	55.42	55.42
18	49	-4689.577	34.782	0.003	0.005	0.145	-233.556	48.19	48.19	61.47	61.47
19	49	4407.663	60.617	-0.003	-0.005	-0.145	305.721	43.38	43.38	60.77	60.77
19	50	-4485.173	211.536	0.003	0.005	0.158	-542.889	39.00	39.00	69.88	69.88
20	50	4485.166	-211.536	-0.003	-0.005	-0.158	542.887	39.00	39.00	69.88	69.88

0	51	-4587.441	75.682	0.003	0.005	0.179	-1487.145	19.22	19.23	103.80	103.80
1	51	4587.451	-75.682	-0.003	-0.005	-0.170	1487.144	19.22	19.23	103.80	103.80
1	52	-4706.017	-221.682	0.003	0.005	0.183	-1024.830	30.83	30.83	89.11	89.11
2	52	4706.010	221.681	-0.003	-0.005	-0.183	1024.828	30.83	30.83	89.11	89.11
2	53	-4734.067	-192.568	0.003	0.005	0.195	-271.258	47.86	47.86	63.29	63.29
3	53	4734.072	192.569	-0.003	-0.005	-0.195	271.255	47.86	47.86	63.29	63.29
3	54	-4788.120	-196.655	0.003	0.005	0.208	499.682	65.57	65.58	37.16	37.16
4	54	4788.126	196.655	-0.003	-0.005	-0.208	-499.683	65.57	65.58	37.16	37.16
4	55	-4857.464	682.325	0.003	0.005	0.220	138.913	58.36	58.36	50.46	50.46
5	55	4814.641	440.275	0.001	-0.002	-0.220	-138.922	59.01	59.01	51.11	51.11
5	66	-4776.957	174.971	-0.001	0.002	0.217	-77.175	52.65	52.65	57.04	57.04
6	66	4776.967	-174.970	0.001	-0.002	-0.217	77.175	52.65	52.65	57.04	57.04
6	67	-4737.222	32.041	-0.001	0.002	0.213	-256.556	48.26	48.27	62.74	62.74
7	67	4680.651	64.114	0.001	-0.002	-0.213	316.840	43.97	43.98	61.97	61.97
7	68	-4556.264	212.731	-0.001	0.002	0.210	-547.919	39.70	39.70	70.86	70.86
8	68	4556.240	-212.731	0.001	-0.002	-0.210	547.919	39.70	39.70	70.86	70.86
8	69	-4659.820	76.443	-0.001	0.002	0.206	-1503.172	19.69	19.69	105.18	105.18
9	69	4659.829	-76.443	0.001	-0.002	-0.206	1503.174	19.69	19.69	105.18	105.18
9	70	-4777.411	-224.853	-0.001	0.002	0.203	-1033.036	31.46	31.46	90.20	90.21
0	70	4777.420	224.851	0.001	-0.002	-0.203	1033.037	31.46	31.46	90.20	90.21
0	71	-4812.863	-195.792	-0.001	0.002	0.199	-269.528	48.79	48.80	64.12	64.12
1	71	4812.871	195.793	0.001	-0.002	-0.199	269.529	48.79	48.80	64.12	64.12
1	72	-4864.326	-198.601	-0.001	0.002	0.195	511.117	66.69	66.70	37.63	37.63
2	72	4864.306	198.602	0.001	-0.002	-0.195	-511.116	66.69	66.70	37.63	37.63
2	73	-4929.200	681.511	-0.001	0.002	0.192	153.030	59.49	59.49	50.79	50.79
1	181	5330.957	436.286	0.008	-0.001	-0.214	-172.077	64.48	64.49	54.70	54.70
1	192	-5189.956	179.502	-0.008	0.001	0.183	-61.843	57.69	57.69	61.21	61.21
2	192	5190.061	-179.502	0.008	-0.001	-0.183	61.844	57.69	57.70	61.21	61.21
2	193	-5147.979	37.003	-0.008	0.001	0.153	-258.603	52.85	52.85	67.56	67.56
3	193	4869.411	58.454	0.008	-0.001	-0.153	329.403	48.11	48.11	66.84	66.84
3	194	-4947.018	214.127	-0.008	0.001	0.122	-575.464	43.54	43.54	76.26	76.26
4	194	4946.991	-214.127	0.008	-0.001	-0.122	575.466	43.53	43.54	76.26	76.26
4	195	-5049.332	78.140	-0.008	0.001	0.091	-1530.159	23.53	23.53	110.54	110.55
5	195	5049.313	-78.141	0.008	-0.001	-0.091	1530.160	23.53	23.53	110.54	110.55
5	196	-5168.024	-219.785	-0.008	0.001	0.061	-1075.933	34.95	34.95	96.14	96.14
6	196	5168.000	219.786	0.008	-0.001	-0.061	1075.932	34.95	34.95	96.14	96.14
6	197	-5196.096	-190.614	-0.008	0.001	0.030	-329.828	51.82	51.82	70.58	70.58
7	197	5196.077	190.614	0.008	-0.001	-0.030	329.827	51.82	51.82	70.58	70.58
7	198	-5250.189	-194.536	-0.008	0.001	-0.001	433.326	69.36	69.36	44.72	44.72
8	198	5250.288	194.536	0.008	-0.001	0.001	-433.325	69.36	69.36	44.72	44.72
8	199	-5319.692	684.632	-0.008	0.001	-0.031	63.957	61.96	61.96	58.32	58.32
9	199	5377.073	455.666	0.018	-0.014	0.031	-63.966	62.61	62.61	58.97	58.97
9	210	-5239.436	159.731	-0.018	0.014	-0.103	-92.727	57.57	57.57	62.84	62.84
0	210	5239.417	-159.731	0.018	-0.014	0.103	92.726	57.57	57.57	62.84	62.84
0	211	-5199.709	16.921	-0.018	0.014	-0.175	-211.334	54.49	54.49	66.51	66.51
1	211	5181.526	73.933	0.018	-0.014	0.175	326.846	50.81	50.81	69.40	69.40
1	212	-5181.455	204.508	-0.018	0.014	-0.246	-522.936	47.37	47.37	77.11	77.11
2	212	5181.433	-204.508	0.018	-0.014	0.246	522.939	47.37	47.37	77.11	77.11
2	213	-5284.884	75.735	-0.018	0.014	-0.318	-1456.710	27.84	27.83	110.68	110.68
3	213	5284.986	-75.736	0.018	-0.014	0.318	1456.713	27.84	27.83	110.68	110.68
3	214	-5416.489	-297.389	-0.018	0.014	-0.390	-909.099	41.48	41.48	93.18	93.18
4	214	5416.466	297.389	0.018	-0.014	0.390	909.099	41.48	41.48	93.18	93.18
4	215	-5437.646	-251.274	-0.018	0.014	-0.461	219.470	66.75	66.75	54.27	54.27
5	215	5437.621	251.274	0.018	-0.014	0.461	-219.471	66.75	66.75	54.27	54.27
5	216	-5461.046	-80.432	-0.018	0.014	-0.533	875.505	81.57	81.56	31.78	31.78
96	216	5461.025	80.432	0.018	-0.014	0.533	-875.505	81.57	81.56	31.78	31.78
96	217	-5372.563	760.995	-0.018	0.014	-0.605	-41.042	60.24	60.23	62.57	62.56
97	217	5429.634	294.720	-0.026	0.017	0.605	41.039	60.89	60.88	63.22	63.21
97	228	-5333.541	209.790	0.026	-0.017	-0.529	-203.853	56.18	56.17	67.77	67.77
98	228	5333.521	-209.790	-0.026	0.017	0.529	203.852	56.18	56.17	67.77	67.77
98	229	-5312.421	185.653	0.026	-0.017	-0.454	-751.321	43.80	43.79	86.52	86.52
99	229	5609.763	6.749	-0.026	0.017	0.454	934.006	43.13	43.12	96.24	96.24
99	230	-5619.741	60.984	0.026	-0.017	-0.378	-987.590	42.05	42.05	98.22	98.21
100	230	5619.714	-60.985	-0.026	0.017	0.378	987.591	42.05	42.05	98.22	98.21
100	231	-5619.068	265.065	0.026	-0.017	-0.302	-1393.637	33.04	33.04	112.29	112.29
101	231	5619.046	-265.064	-0.026	0.017	0.302	1393.637	33.04	33.04	112.29	112.29
101	232	-5554.778	95.824	0.026	-0.017	-0.227	-2113.301	16.35	16.34	136.53	136.53
102	232	5554.761	-95.824	-0.026	0.017	0.227	2113.298	16.35	16.34	136.53	136.53
102	233	-5438.882	-175.166	0.026	-0.017	-0.151	-1767.455	22.70	22.70	123.21	123.21
103	233	5438.986	175.166	-0.026	0.017	0.151	1767.454	22.70	22.70	123.21	123.21
103	234	-5407.050	-41.703	0.026	-0.017	-0.076	-1403.072	30.42	30.42	110.21	110.21
104	234	5407.025	41.702	-0.026	0.017	0.076	1403.072	30.42	30.42	110.21	110.21
104	235	-5367.729	114.230	0.026	-0.017	0.000	-1515.760	27.47	27.47	113.67	113.67

ADUCTO SOBRE LA RIERA FEMOSA

POTESIS 1065

rga permanente (Pret*0.9) (t=0)

ESFUERZOS EN BARRAS

BRA	NUDO	AXIL	CORT Y	CORT Z	TORSOR	MOM. Y	MOM. Z
1	1	4474.948	-61.892	0.041	-0.013	-0.747	532.621
1	12	-4540.094	32.996	-0.041	0.013	0.627	-755.139
2	12	4540.095	-32.995	0.041	-0.013	-0.627	755.138
2	13	-4604.187	-12.607	-0.041	0.013	0.506	-748.587
[illegible]	13	4604.187	12.606	0.041	-0.013	-0.506	748.587
3	14	-4634.818	68.592	-0.041	0.013	0.386	-846.291
4	14	4634.818	-68.591	0.041	-0.013	-0.386	846.291
4	15	-4673.244	108.501	-0.041	0.013	0.266	-1146.693
5	15	4673.245	-108.502	0.041	-0.013	-0.266	1146.696
5	16	-4762.802	-123.897	-0.041	0.013	0.145	-1281.770
6	16	4762.802	123.898	0.041	-0.013	-0.145	1281.771
6	17	-4814.996	-362.853	-0.041	0.013	0.025	-485.907
7	17	4814.999	362.853	0.041	-0.013	-0.025	485.907
7	18	-4832.768	-328.543	-0.041	0.013	-0.095	536.265
8	18	4832.767	328.543	0.041	-0.013	0.095	-536.266
8	19	-4976.683	544.315	-0.041	0.013	-0.216	661.433
9	19	5032.482	564.303	-0.020	0.011	0.216	-661.445
9	30	-4876.409	234.479	0.020	-0.011	-0.138	358.677
10	30	4876.410	-234.479	-0.020	0.011	0.138	-358.677
10	31	-4829.828	33.803	0.020	-0.011	-0.061	113.232
11	31	4610.747	55.574	-0.020	0.011	0.061	-22.911
[illegible]	32	-4687.838	232.896	0.020	-0.011	0.017	-266.668
[illegible]	32	4687.837	-232.896	-0.020	0.011	-0.017	266.667
12	33	-4796.526	81.839	0.020	-0.011	0.094	-1288.634
13	33	4796.525	-81.839	-0.020	0.011	-0.094	1288.634
13	34	-4919.306	-240.034	0.020	-0.011	0.172	-791.067
14	34	4919.307	240.034	-0.020	0.011	-0.172	791.065
14	35	-4955.280	-216.194	0.020	-0.011	0.249	39.388
15	35	4955.281	216.194	-0.020	0.011	-0.249	-39.390
15	36	-5009.320	-225.684	0.020	-0.011	0.327	912.796
16	36	5009.321	225.684	-0.020	0.011	-0.327	-912.797
16	37	-5077.654	689.855	0.020	-0.011	0.404	618.754
17	37	5135.051	432.032	0.000	-0.004	-0.404	-618.751
17	48	-4987.538	206.601	0.000	0.004	0.405	289.269
18	48	4987.538	-206.601	0.000	-0.004	-0.405	-289.268
18	49	-4943.568	50.380	0.000	0.004	0.407	24.206
19	49	4648.205	49.572	0.000	-0.004	-0.407	51.403
19	50	-4729.416	228.368	0.000	0.004	0.408	-339.063
20	50	4729.416	-228.368	0.000	-0.004	-0.408	339.062

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
39.11	39.12	69.40	69.41
34.91	34.93	77.86	77.87
34.91	34.93	77.86	77.87
35.79	35.80	78.36	78.37
35.79	35.80	78.36	78.37
33.97	33.98	82.10	82.11
33.97	33.98	82.10	82.11
27.75	27.75	92.96	92.96
27.75	27.75	92.96	92.96
25.77	25.78	98.67	98.67
25.77	25.78	98.67	98.67
44.02	44.02	71.65	71.65
44.02	44.02	71.65	71.65
66.89	66.89	36.40	36.40
66.89	66.89	36.40	36.40
71.31	71.30	33.69	33.69
71.94	71.94	34.33	34.33
63.45	63.45	43.05	43.05
63.45	63.45	43.05	43.05
57.48	57.48	51.04	51.04
52.98	52.98	51.68	51.68
47.44	47.44	62.60	62.60
47.44	47.44	62.60	62.60
26.01	26.01	99.29	99.29
26.01	26.01	99.29	99.29
38.44	38.44	83.43	83.43
38.44	38.44	83.43	83.43
57.26	57.27	55.03	55.03
57.26	57.27	55.03	55.03
77.25	77.26	25.34	25.34
77.25	77.26	25.34	25.34
71.51	71.51	36.32	36.32
72.16	72.17	36.97	36.98
63.17	63.18	46.72	46.73
63.17	63.18	46.72	46.73
56.79	56.80	55.42	55.42
51.76	51.76	54.68	54.68
46.30	46.31	65.58	65.59
46.30	46.31	65.58	65.59

20	51	-4836.572	79.462	0.000	0.004	0.409	-1341.762	25.28	25.29	101.59	101.59
21	51	4836.572	-79.462	0.000	-0.004	-0.409	1341.762	25.28	25.29	101.59	101.59
21	52	-4960.797	-238.662	0.000	0.004	0.410	-845.309	37.70	37.71	85.78	85.78
22	52	4960.798	238.661	0.000	-0.004	-0.410	845.307	37.70	37.71	85.78	85.78
22	53	-4990.194	-214.726	0.000	0.004	0.411	-18.247	56.38	56.39	57.42	57.42
23	53	4990.194	214.727	0.000	-0.004	-0.411	18.245	56.38	56.39	57.42	57.42
23	54	-5046.817	-225.574	0.000	0.004	0.413	852.457	76.34	76.35	27.86	27.86
24	54	5046.815	225.575	0.000	-0.004	-0.413	-852.459	76.34	76.35	27.86	27.86
24	55	-5119.462	688.792	0.000	0.004	0.414	562.884	70.74	70.75	38.73	38.74
25	55	5176.662	434.412	0.000	-0.001	-0.414	-562.883	71.39	71.40	39.38	39.39
25	66	-5032.406	203.633	0.000	0.001	0.412	245.043	62.70	62.71	48.77	48.77
26	66	5032.407	-203.632	0.000	-0.001	-0.412	-245.043	62.70	62.71	48.77	48.77
26	67	-4990.765	46.967	0.000	0.001	0.411	-6.681	56.65	56.65	57.03	57.03
27	67	4721.939	53.777	0.000	-0.001	-0.411	71.518	52.15	52.16	56.22	56.22
27	68	-4801.162	229.078	0.000	0.001	0.409	-351.120	46.85	46.86	66.82	66.82
28	68	4801.160	-229.078	0.000	-0.001	-0.409	351.119	46.85	46.86	66.82	66.82
28	69	-4909.685	79.718	0.000	0.001	0.408	-1363.241	25.64	25.64	103.16	103.17
29	69	4909.685	-79.717	0.000	-0.001	-0.408	1363.243	25.64	25.64	103.16	103.17
29	70	-5032.878	-242.526	0.000	0.001	0.406	-856.494	38.28	38.28	86.99	86.99
30	70	5032.877	242.524	0.000	-0.001	-0.406	856.495	38.28	38.28	86.99	86.99
30	71	-5070.012	-218.645	0.000	0.001	0.404	-16.924	57.32	57.33	58.28	58.29
31	71	5070.012	218.645	0.000	-0.001	-0.404	16.925	57.32	57.33	58.28	58.29
31	72	-5123.928	-228.156	0.000	0.001	0.403	866.049	77.52	77.52	28.27	28.27
32	72	5123.926	228.156	0.000	-0.001	-0.403	-866.048	77.52	77.52	28.27	28.27
32	73	-5191.917	687.397	0.000	0.001	0.401	581.385	71.98	71.98	38.92	38.92
81	181	5593.714	427.234	0.009	-0.003	-0.440	-618.871	77.38	77.39	42.19	42.19
81	192	-5445.983	211.379	-0.009	0.003	0.405	270.741	67.98	67.99	52.58	52.59
82	192	5445.983	-211.379	0.009	-0.003	-0.405	-270.740	67.98	67.99	52.58	52.59
82	193	-5401.893	55.164	-0.009	0.003	0.369	-12.905	61.19	61.19	61.92	61.92
83	193	5110.054	44.869	0.009	-0.003	-0.369	87.089	56.22	56.23	61.17	61.18
83	194	-5191.364	233.539	-0.009	0.003	0.333	-393.579	50.35	50.35	72.73	72.73
84	194	5191.363	-233.539	0.009	-0.003	-0.333	393.583	50.35	50.35	72.73	72.73
84	195	-5298.588	84.494	-0.009	0.003	0.298	-1416.735	28.88	28.88	109.45	109.45
85	195	5298.589	-84.495	0.009	-0.003	-0.298	1416.736	28.88	28.88	109.45	109.45
85	196	-5422.965	-234.219	-0.009	0.003	0.262	-938.275	40.90	40.91	94.26	94.27
86	196	5422.966	234.219	0.009	-0.003	-0.262	938.275	40.90	40.91	94.26	94.27
86	197	-5452.404	-210.222	-0.009	0.003	0.227	-128.555	59.20	59.20	66.51	66.51
87	197	5452.403	210.222	0.009	-0.003	-0.227	128.555	59.20	59.20	66.51	66.51
87	198	-5509.098	-220.898	-0.009	0.003	0.191	724.473	78.76	78.77	37.56	37.56
88	198	5509.097	220.899	0.009	-0.003	-0.191	-724.472	78.76	78.77	37.56	37.56
88	199	-5581.813	693.666	-0.009	0.003	0.155	416.367	72.76	72.76	49.08	49.08
89	199	5639.212	461.645	0.014	-0.009	-0.155	-416.370	73.41	73.41	49.73	49.73
89	210	-5495.005	176.557	-0.014	0.009	0.100	203.816	67.06	67.06	55.46	55.47
90	210	5495.008	-176.557	0.014	-0.009	-0.100	-203.816	67.06	67.06	55.46	55.47
90	211	-5453.405	20.016	-0.014	0.009	0.045	56.714	63.32	63.32	60.09	60.09
91	211	5350.563	75.174	0.014	-0.009	-0.045	64.311	59.47	59.47	63.12	63.12
91	212	-5434.307	209.354	-0.014	0.009	-0.010	-263.789	55.99	55.99	71.00	71.00
92	212	5434.304	-209.354	0.014	-0.009	0.010	263.792	55.99	55.99	71.00	71.00
92	213	-5542.692	67.868	-0.014	0.009	-0.065	-1210.363	36.23	36.23	105.07	105.07
93	213	5542.696	-67.868	0.014	-0.009	0.065	1210.365	36.23	36.23	105.07	105.07
93	214	-5680.476	-329.632	-0.014	0.009	-0.120	-579.397	51.80	51.79	84.75	84.75
94	214	5680.473	329.632	0.014	-0.009	0.120	579.398	51.80	51.79	84.75	84.75
94	215	-5702.664	-287.884	-0.014	0.009	-0.175	685.703	80.11	80.11	41.11	41.11
95	215	5702.666	287.884	0.014	-0.009	0.175	-685.704	80.11	80.11	41.11	41.11
95	216	-5727.209	-115.454	-0.014	0.009	-0.230	1481.162	98.03	98.03	13.80	13.80

96	216	5727.211	115.454	0.014	-0.009	0.230	-1481.162	98.03	98.03	13.80	13.80
96	217	-5634.526	759.566	-0.014	0.009	-0.285	654.427	78.68	78.68	41.42	41.42
97	217	5691.528	259.014	-0.012	0.008	0.285	-654.411	79.29	79.28	42.07	42.07
97	228	-5590.849	264.598	0.012	-0.008	-0.250	344.931	71.28	71.27	51.66	51.66
98	228	5590.847	-264.598	-0.012	0.008	0.250	-344.932	71.28	71.27	51.66	51.66
98	229	-5568.739	233.983	0.012	-0.008	-0.214	-352.835	55.55	55.55	75.62	75.61
99	229	5880.297	-32.397	-0.012	0.008	0.214	544.240	54.95	54.95	85.80	85.80
99	230	-5890.750	97.749	0.012	-0.008	-0.178	-707.490	51.35	51.35	91.58	91.58
00	230	5890.749	-97.751	-0.012	0.008	0.178	707.491	51.35	51.35	91.58	91.58
00	231	-5890.071	306.593	0.012	-0.008	-0.143	-1225.054	39.86	39.86	109.53	109.53
01	231	5890.073	-306.592	-0.012	0.008	0.143	1225.054	39.86	39.86	109.53	109.53
01	232	-5822.737	124.295	0.012	-0.008	-0.107	-2056.580	20.65	20.65	137.61	137.61
02	232	5822.738	-124.296	-0.012	0.008	0.107	2056.577	20.65	20.65	137.61	137.61
02	233	-5701.329	-164.607	0.012	-0.008	-0.071	-1757.115	25.91	25.91	125.84	125.84
03	233	5701.328	164.607	-0.012	0.008	0.071	1757.113	25.91	25.91	125.84	125.84
03	234	-5667.867	-29.752	0.012	-0.008	-0.036	-1423.605	32.93	32.93	113.89	113.89
04	234	5667.867	29.751	-0.012	0.008	0.036	1423.604	32.93	32.93	113.89	113.89
04	235	-5626.694	142.485	0.012	-0.008	0.000	-1588.098	28.81	28.81	119.13	119.13

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1066

Carga permanente (Pret*0.9) (t=inf.)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	3738.906	-23.422	0.069	-0.022	-0.740	307.777	35.72	35.73	53.22	53.23
1	12	-3794.867	13.306	-0.069	0.022	0.538	-433.148	33.58	33.59	58.21	58.22
2	12	3794.869	-13.306	0.069	-0.022	-0.538	433.148	33.58	33.59	58.21	58.22
2	13	-3849.923	-11.160	-0.069	0.022	0.337	-404.948	34.83	34.84	57.86	57.86
3	13	3849.923	11.160	0.069	-0.022	-0.337	404.948	34.83	34.84	57.86	57.86
3	14	-3876.236	73.296	-0.069	0.022	0.135	-509.504	32.81	32.81	61.79	61.79
4	14	3876.237	-73.295	0.069	-0.022	-0.135	509.505	32.81	32.81	61.79	61.79
4	15	-3909.245	122.284	-0.069	0.022	-0.066	-831.380	26.05	26.05	73.33	73.33
5	15	3909.244	-122.286	0.069	-0.022	0.066	831.381	26.05	26.05	73.33	73.33
5	16	-3986.174	-62.639	-0.069	0.022	-0.268	-1054.440	21.98	21.98	81.94	81.94
6	16	3986.175	62.640	0.069	-0.022	0.268	1054.441	21.98	21.98	81.94	81.94
6	17	-4031.010	-253.196	-0.069	0.022	-0.469	-521.025	34.32	34.31	63.95	63.95
7	17	4031.014	253.195	0.069	-0.022	0.469	521.024	34.32	34.31	63.95	63.95
7	18	-4046.279	-209.016	-0.069	0.022	-0.671	163.392	49.68	49.67	40.38	40.37
8	18	4046.271	209.016	0.069	-0.022	0.671	-163.592	49.68	49.67	40.38	40.37
8	19	-4189.895	555.475	-0.069	0.022	-0.872	34.479	48.23	48.21	46.26	46.26
9	19	4225.694	560.788	-0.032	0.020	0.872	-34.492	48.86	48.85	46.90	46.89
9	30	-4091.628	144.766	0.032	-0.020	-0.749	31.529	47.27	47.26	45.47	45.47
10	30	4091.630	-144.766	-0.032	0.020	0.749	-31.528	47.27	47.26	45.47	45.47
10	31	-4051.616	-7.190	0.032	-0.020	-0.626	2.322	46.17	46.16	46.93	46.93
11	31	3863.426	83.965	-0.032	0.020	0.626	75.263	42.30	42.29	46.58	46.58
11	32	-3929.647	185.110	0.032	-0.020	-0.503	-227.470	39.68	39.67	52.61	52.61
12	32	3929.647	-185.110	-0.032	0.020	0.503	227.468	39.68	39.67	52.61	52.61
12	33	-4023.011	74.752	0.032	-0.020	-0.381	-1085.005	21.72	21.72	83.42	83.42
13	33	4023.003	-74.752	-0.032	0.020	0.381	1085.004	21.72	21.72	83.42	83.42
13	34	-4128.472	-182.337	0.032	-0.020	-0.258	-712.436	31.19	31.18	71.70	71.70
14	34	4128.481	182.337	-0.032	0.020	0.258	712.435	31.19	31.18	71.70	71.70
14	35	-4159.382	-142.458	0.032	-0.020	-0.135	-129.092	44.47	44.47	51.81	51.81
15	35	4159.376	142.457	-0.032	0.020	0.135	129.092	44.47	44.47	51.81	51.81
15	36	-4205.796	-131.210	0.032	-0.020	-0.012	415.972	57.09	57.09	33.43	33.43
16	36	4205.806	131.209	-0.032	0.020	0.012	-415.973	57.09	57.09	33.43	33.43
16	37	-4264.503	674.639	0.032	-0.020	0.111	-116.979	45.94	45.94	52.59	52.59
17	37	4321.894	451.181	-0.003	-0.005	-0.111	116.973	46.59	46.59	53.24	53.24
17	48	-4195.180	116.805	0.003	0.005	0.123	-127.333	44.92	44.92	52.16	52.16
18	48	4195.189	-116.805	-0.003	-0.005	-0.123	127.333	44.92	44.92	52.16	52.16
18	49	-4157.420	3.037	0.003	0.005	0.136	-157.839	43.81	43.81	52.79	52.79
19	49	3903.697	82.823	-0.003	-0.005	-0.136	222.787	39.48	39.49	52.15	52.15
19	50	-3973.456	177.207	0.003	0.005	0.149	-357.793	37.28	37.29	57.63	57.63
20	50	3973.448	-177.207	-0.003	-0.005	-0.149	357.792	37.28	37.29	57.63	57.63

20	51	-4065.496	68.697	0.003	0.005	0.162	-1183.227	20.02	20.03	87.31	87.31
21	51	4065.505	-68.697	-0.003	-0.005	-0.162	1183.226	20.02	20.03	87.31	87.31
21	52	-4172.215	-185.171	0.003	0.005	0.174	-796.063	29.82	29.83	75.10	75.10
22	52	4172.208	185.171	-0.003	-0.005	-0.174	796.062	29.82	29.83	75.10	75.10
22	53	-4197.459	-145.210	0.003	0.005	0.187	-200.084	43.33	43.33	54.71	54.71
23	53	4197.469	145.210	-0.003	-0.005	-0.187	200.082	43.33	43.33	54.71	54.71
23	54	-4246.108	-135.129	0.003	0.005	0.200	358.210	56.27	56.27	35.90	35.90
24	54	4246.115	135.129	-0.003	-0.005	-0.200	-358.211	56.27	56.27	35.90	35.90
24	55	-4308.519	669.712	0.003	0.005	0.212	-155.350	45.59	45.59	54.42	54.42
25	55	4365.696	452.827	0.001	-0.002	-0.212	155.342	46.24	46.24	55.07	55.07
25	66	-4241.780	114.653	-0.001	0.002	0.209	-157.242	44.78	44.79	53.73	53.73
26	66	4241.790	-114.653	0.001	-0.002	-0.209	157.242	44.78	44.79	53.73	53.73
26	67	-4206.020	0.503	-0.001	0.002	0.205	-177.833	43.92	43.92	54.03	54.04
27	67	3975.106	86.037	0.001	-0.002	-0.205	233.528	40.06	40.06	53.34	53.34
27	68	-4043.159	178.215	-0.001	0.002	0.202	-363.153	37.96	37.96	58.61	58.61
28	68	4043.135	-178.215	0.001	-0.002	-0.202	363.153	37.96	37.96	58.61	58.61
28	69	-4136.356	69.315	-0.001	0.002	0.198	-1198.223	20.50	20.50	88.64	88.64
29	69	4136.366	-69.315	0.001	-0.002	-0.198	1198.224	20.50	20.50	88.64	88.64
29	70	-4242.189	-188.092	-0.001	0.002	0.195	-803.759	30.45	30.45	76.16	76.16
30	70	4242.198	188.091	0.001	-0.002	-0.195	803.760	30.45	30.45	76.16	76.16
30	71	-4274.097	-148.179	-0.001	0.002	0.191	-198.576	44.24	44.24	55.53	55.53
31	71	4274.104	148.179	0.001	-0.002	-0.191	198.577	44.24	44.24	55.53	55.53
31	72	-4320.415	-136.948	-0.001	0.002	0.188	368.714	57.34	57.35	36.38	36.38
32	72	4320.395	136.949	0.001	-0.002	-0.188	-368.714	57.34	57.35	36.38	36.38
32	73	-4378.799	668.912	-0.001	0.002	0.184	-142.170	46.68	46.68	54.76	54.77
81	181	4780.556	448.886	0.008	-0.001	-0.207	123.013	51.67	51.68	58.67	58.67
81	192	-4653.655	119.083	-0.008	0.001	0.177	-142.314	49.80	49.81	57.90	57.90
82	192	4653.760	-119.083	0.008	-0.001	-0.177	142.315	49.80	49.81	57.90	57.90
82	193	-4615.886	5.320	-0.008	0.001	0.146	-181.706	48.50	48.50	58.83	58.83
83	193	4365.173	80.592	0.008	-0.001	-0.146	245.426	44.23	44.24	58.19	58.19
83	194	-4435.019	179.823	-0.008	0.001	0.116	-389.539	41.83	41.83	63.99	63.99
84	194	4434.993	-179.823	0.008	-0.001	-0.116	389.536	41.83	41.83	63.98	63.99
84	195	-4527.099	71.193	-0.008	0.001	0.085	-1225.462	24.34	24.34	94.03	94.03
85	195	4527.080	-71.194	0.008	-0.001	-0.085	1225.463	24.34	24.34	94.03	94.03
85	196	-4633.920	-183.181	-0.008	0.001	0.054	-846.677	33.96	33.96	82.11	82.11
86	196	4633.896	183.181	0.008	-0.001	-0.054	846.677	33.96	33.96	82.11	82.11
86	197	-4659.183	-143.167	-0.008	0.001	0.024	-258.517	47.29	47.29	61.99	61.99
87	197	4659.163	143.168	0.008	-0.001	-0.024	258.516	47.29	47.29	61.99	61.99
87	198	-4707.864	-132.939	-0.008	0.001	-0.007	291.671	60.05	60.05	43.46	43.46
88	198	4707.963	132.939	0.008	-0.001	0.007	-291.670	60.05	60.05	43.46	43.46
88	199	-4770.427	672.072	-0.008	0.001	-0.037	-230.731	49.17	49.17	62.29	62.29
89	199	4827.808	467.979	0.019	-0.014	0.037	230.720	49.83	49.83	62.95	62.95
89	210	-4703.934	99.636	-0.019	0.014	-0.110	-174.115	49.67	49.67	59.57	59.57
90	210	4703.915	-99.636	0.019	-0.014	0.110	174.114	49.67	49.67	59.57	59.57
90	211	-4668.178	-14.407	-0.019	0.014	-0.183	-136.768	50.09	50.09	57.87	57.87
91	211	4579.812	96.175	0.019	-0.014	0.183	240.729	46.78	46.78	60.47	60.47
91	212	-4651.747	169.514	-0.019	0.014	-0.256	-333.462	45.55	45.54	64.51	64.51
92	212	4651.725	-169.513	0.019	-0.014	0.256	333.465	45.55	45.54	64.51	64.51
92	213	-4744.831	67.377	-0.019	0.014	-0.328	-1144.160	28.62	28.62	93.69	93.69
93	213	4744.933	-67.377	0.019	-0.014	0.328	1144.163	28.63	28.62	93.69	93.69
93	214	-4863.286	-254.676	-0.019	0.014	-0.401	-674.927	40.38	40.37	78.76	78.76
94	214	4863.263	254.676	0.019	-0.014	0.401	674.929	40.38	40.37	78.76	78.76
94	215	-4882.325	-199.413	-0.019	0.014	-0.474	263.851	61.42	61.41	46.41	46.41
95	215	4882.300	199.414	0.019	-0.014	0.474	-263.852	61.42	61.41	46.41	46.41
95	216	-4903.383	-31.897	-0.019	0.014	-0.547	724.033	71.87	71.86	30.69	30.68
96	216	4903.362	31.896	0.019	-0.014	0.547	-724.033	71.87	71.86	30.69	30.68
96	217	-4823.745	739.147	-0.019	0.014	-0.620	-284.425	48.59	48.58	64.77	64.76
97	217	4880.316	319.049	-0.026	0.017	0.620	284.423	49.24	49.23	65.41	65.41
97	228	-4794.333	145.440	0.026	-0.017	-0.542	-288.233	48.17	48.16	64.56	64.56
98	228	4794.313	-145.440	-0.026	0.017	0.542	288.232	48.17	48.16	64.56	64.56
98	229	-4775.322	139.873	0.026	-0.017	-0.465	-669.089	39.51	39.50	77.56	77.55
99	229	5042.928	38.299	-0.026	0.017	0.465	833.506	38.91	38.90	86.31	86.30
99	230	-5051.908	34.434	0.026	-0.017	-0.387	-805.604	39.63	39.62	85.44	85.44
100	230	5051.882	-34.436	-0.026	0.017	0.387	805.605	39.63	39.62	85.44	85.44
100	231	-5051.300	228.538	0.026	-0.017	-0.310	-1126.290	32.51	32.50	96.56	96.56
101	231	5051.279	-228.537	-0.026	0.017	0.310	1126.290	32.51	32.50	96.56	96.56
101	232	-4993.438	86.651	0.026	-0.017	-0.232	-1759.871	17.80	17.79	117.88	117.88
102	232	4993.420	-86.651	-0.026	0.017	0.232	1759.868	17.80	17.79	117.88	117.88
102	233	-4889.129	-146.810	0.026	-0.017	-0.155	-1465.131	23.15	23.14	106.47	106.47
103	233	4889.233	146.810	-0.026	0.017	0.155	1465.129	23.15	23.15	106.47	106.47
103	234	-4860.490	-16.263	0.026	-0.017	-0.077	-1184.346	29.05	29.05	96.40	96.40
104	234	4860.466	16.262	-0.026	0.017	0.077	1184.346	29.05	29.05	96.40	96.40
104	235	-4825.099	135.173	0.026	-0.017	0.000	-1364.179	24.66	24.66	102.24	102.24

ADUCTO SOBRE LA RIERA FEMOSA

POTESIS 1067

rga permanente (Pret*1.1) (t=0)

ESFUERZOS EN BARRAS

BRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	5634.981	-132.011	0.039	-0.013	-0.732	887.191
1	12	-5714.604	73.515	-0.039	0.013	0.618	-1290.687
2	12	5714.605	-73.514	0.039	-0.013	-0.618	1290.686
2	13	-5792.939	-5.400	-0.039	0.013	0.505	-1346.121
3	13	5792.940	5.399	0.039	-0.013	-0.505	1346.121
3	14	-5830.379	70.665	-0.039	0.013	0.391	-1460.895
4	14	5830.377	-70.663	0.039	-0.013	-0.391	1460.895
4	15	-5877.343	96.264	-0.039	0.013	0.277	-1755.324
5	15	5877.344	-96.266	0.039	-0.013	-0.277	1755.327
5	16	-5986.803	-210.956	-0.039	0.013	0.164	-1779.604
6	16	5986.803	210.957	0.039	-0.013	-0.164	1779.605
6	17	-6050.595	-526.191	-0.039	0.013	0.050	-597.982
7	17	6050.598	526.192	0.039	-0.013	-0.050	597.982
7	18	-6072.317	-507.435	-0.039	0.013	-0.063	928.327
8	18	6072.316	507.435	0.039	-0.013	0.063	-928.327
8	19	-6248.213	536.213	-0.039	0.013	-0.177	1426.382
9	19	6304.011	562.288	-0.019	0.011	0.177	-1426.397
9	30	-6113.256	383.426	0.019	-0.011	-0.102	621.851
10	30	6113.257	-383.426	-0.019	0.011	0.102	-621.851
10	31	-6056.324	105.965	0.019	-0.011	-0.027	6.331
11	31	5788.558	3.274	-0.019	0.011	0.027	104.061
11	32	-5882.780	315.763	0.019	-0.011	0.047	-639.421
12	32	5882.780	-315.764	-0.019	0.011	-0.047	639.420
12	33	-6015.621	100.563	0.019	-0.011	0.122	-1949.812
13	33	6015.620	-100.562	-0.019	0.011	-0.122	1949.812
13	34	-6165.686	-323.413	0.019	-0.011	0.197	-1284.515
14	34	6165.687	323.414	-0.019	0.011	-0.197	1284.513
14	35	-6209.654	-324.851	0.019	-0.011	0.271	-93.875
15	35	6209.655	324.851	-0.019	0.011	-0.271	93.873
15	36	-6275.703	-367.026	0.019	-0.011	0.346	1267.743
16	36	6275.704	367.025	-0.019	0.011	-0.346	-1267.744
16	37	-6359.221	721.392	0.019	-0.011	0.421	1320.957
17	37	6416.618	402.680	0.000	-0.004	-0.421	-1320.957
17	48	-6236.325	347.296	0.000	0.004	0.422	491.727
18	48	6236.325	-347.296	0.000	-0.004	-0.422	-491.726
18	49	-6192.584	124.169	0.000	0.004	0.423	-139.802
19	49	5821.585	-2.005	0.000	-0.004	-0.423	232.213
19	50	-5920.841	308.173	0.000	0.004	0.424	-757.260
20	50	5920.841	-308.173	0.000	-0.004	-0.424	757.258

TENSIONES

BRA	NUDO	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	44.45	44.46	94.90	94.91
1	12	36.40	36.41	109.81	109.81
2	12	36.40	36.41	109.81	109.81
2	13	36.07	36.08	112.62	112.63
3	13	36.07	36.08	112.62	112.63
3	14	33.95	33.95	117.03	117.03
4	14	33.95	33.95	117.03	117.03
4	15	27.95	27.96	127.78	127.78
5	15	27.95	27.96	127.78	127.78
5	16	28.66	28.66	129.87	129.87
6	16	28.66	28.66	129.87	129.87
6	17	55.60	55.60	89.60	89.60
7	17	55.60	55.60	89.60	89.60
7	18	89.70	89.69	36.90	36.90
8	18	89.70	89.69	36.90	36.90
8	19	102.74	102.74	21.63	21.63
9	19	103.38	103.38	22.26	22.26
9	30	83.36	83.36	48.00	48.00
10	30	83.36	83.36	48.00	48.00
10	31	69.06	69.06	68.70	68.70
11	31	63.57	63.57	69.49	69.49
11	32	52.77	52.77	89.13	89.13
12	32	52.77	52.77	89.13	89.13
12	33	25.21	25.22	136.10	136.10
13	33	25.21	25.22	136.10	136.10
13	34	41.68	41.68	114.73	114.73
14	34	41.68	41.68	114.73	114.73
14	35	68.58	68.59	73.92	73.93
15	35	68.58	68.59	73.92	73.93
15	36	99.53	99.54	27.44	27.44
16	36	99.53	99.54	27.44	27.44
16	37	101.66	101.67	26.55	26.55
17	37	102.32	102.33	27.20	27.20
17	48	81.87	81.88	53.91	53.92
18	48	81.87	81.88	53.91	53.92
18	49	67.26	67.26	75.21	75.21
19	49	61.10	61.11	74.31	74.31
19	50	50.58	50.59	93.65	93.65
20	50	50.58	50.59	93.65	93.65

20	51	-6051.812	95.601	0.000	0.004	0.425	-2036.135	23.71	23.72	139.50	139.51
21	51	6051.811	-95.601	0.000	-0.004	-0.425	2036.134	23.71	23.72	139.50	139.51
21	52	-6203.642	-323.793	0.000	0.004	0.426	-1364.231	40.34	40.35	117.92	117.93
22	52	6203.643	323.792	0.000	-0.004	-0.426	1364.229	40.34	40.35	117.92	117.93
22	53	-6239.571	-325.113	0.000	0.004	0.428	-169.770	67.24	67.25	76.90	76.90
23	53	6239.571	325.114	0.000	-0.004	-0.428	169.768	67.24	67.25	76.90	76.90
23	54	-6308.777	-368.948	0.000	0.004	0.429	1196.511	98.33	98.34	30.29	30.29
24	54	6308.774	368.948	0.000	-0.004	-0.429	-1196.512	98.33	98.34	30.29	30.29
24	55	-6397.565	718.035	0.000	0.004	0.430	1263.155	100.82	100.83	28.99	28.99
25	55	6454.765	405.155	0.000	-0.002	-0.430	-1263.156	101.47	101.48	29.64	29.64
25	66	-6278.452	344.101	0.000	0.002	0.428	446.479	81.35	81.36	55.96	55.96
26	66	6278.454	-344.101	0.000	-0.002	-0.428	-446.480	81.35	81.36	55.96	55.96
26	67	-6227.558	120.431	0.000	0.002	0.427	-170.425	67.09	67.10	76.78	76.79
27	67	5898.993	2.701	0.000	-0.002	-0.427	249.671	61.59	61.60	75.79	75.80
27	68	-5995.320	309.474	0.000	0.002	0.425	-766.546	51.23	51.24	94.83	94.83
28	68	5995.318	-309.474	0.000	-0.002	-0.425	766.545	51.23	51.24	94.83	94.83
28	69	-6128.459	96.347	0.000	0.002	0.423	-2058.614	24.08	24.09	141.16	141.16
29	69	6128.459	-96.346	0.000	-0.002	-0.423	2058.616	24.08	24.09	141.16	141.16
29	70	-6279.030	-328.082	0.000	0.002	0.422	-1375.807	40.94	40.95	119.18	119.19
30	70	6279.029	328.080	0.000	-0.002	-0.422	1375.808	40.94	40.95	119.18	119.19
30	71	-6324.416	-329.471	0.000	0.002	0.420	-167.736	68.25	68.26	77.79	77.79
31	71	6324.416	329.471	0.000	-0.002	-0.420	167.738	68.25	68.26	77.79	77.79
31	72	-6390.308	-371.670	0.000	0.002	0.418	1211.862	99.60	99.61	30.68	30.69
32	72	6390.310	371.670	0.000	-0.002	-0.418	-1211.861	99.60	99.61	30.68	30.69
32	73	-6473.410	716.764	0.000	0.002	0.417	1282.829	102.12	102.13	29.17	29.17
81	181	6875.206	397.783	0.009	-0.003	-0.453	-1321.004	107.54	107.55	32.42	32.42
81	192	-6694.646	352.169	-0.009	0.003	0.417	472.731	86.67	86.68	59.79	59.79
82	192	6694.647	-352.169	0.009	-0.003	-0.417	-472.730	86.67	86.68	59.79	59.79
82	193	-6640.759	129.049	-0.009	0.003	0.381	-177.763	71.63	71.64	81.74	81.74
83	193	6284.066	-6.811	0.009	-0.003	-0.381	268.427	65.56	65.57	80.83	80.83
83	194	-6383.446	313.525	-0.009	0.003	0.345	-812.745	54.62	54.62	100.84	100.84
84	194	6383.444	-313.526	0.009	-0.003	-0.345	812.749	54.62	54.62	100.84	100.84
84	195	-6514.497	100.784	-0.009	0.003	0.309	-2112.874	27.27	27.28	147.43	147.43
85	195	6514.498	-100.785	0.009	-0.003	-0.309	2112.875	27.27	27.28	147.43	147.43
85	196	-6666.514	-319.329	-0.009	0.003	0.273	-1459.213	43.50	43.51	126.49	126.49
86	196	6666.515	319.330	0.009	-0.003	-0.273	1459.213	43.50	43.51	126.49	126.49
86	197	-6702.495	-320.576	-0.009	0.003	0.237	-282.200	70.02	70.02	86.07	86.07
87	197	6702.494	320.575	0.009	-0.003	-0.237	282.201	70.02	70.02	86.07	86.07
87	198	-6771.788	-364.200	-0.009	0.003	0.201	1066.225	100.71	100.72	40.08	40.08
88	198	6771.785	364.200	0.009	-0.003	-0.201	-1066.224	100.71	100.72	40.08	40.08
88	199	-6860.661	723.025	-0.009	0.003	0.165	1113.967	102.78	102.79	39.43	39.43
89	199	6918.060	433.434	0.013	-0.008	-0.165	-1113.973	103.44	103.44	40.09	40.09
89	210	-6741.807	316.015	-0.013	0.008	0.113	406.580	85.74	85.74	62.62	62.62
90	210	6741.811	-316.015	0.013	-0.008	-0.113	-406.581	85.74	85.74	62.62	62.62
90	211	-6690.963	92.497	-0.013	0.008	0.062	-101.850	73.89	73.89	79.68	79.68
91	211	6565.267	23.847	0.013	-0.008	-0.062	249.769	69.18	69.18	83.38	83.38
91	212	-6667.619	290.372	-0.013	0.008	0.010	-688.114	60.62	60.62	99.75	99.75
92	212	6667.616	-290.372	0.013	-0.008	-0.010	688.117	60.62	60.62	99.75	99.75
92	213	-6800.092	86.870	-0.013	0.008	-0.042	-1919.467	34.82	34.82	143.97	143.97
93	213	6800.096	-86.870	0.013	-0.008	0.042	1919.469	34.82	34.82	143.98	143.97
93	214	-6968.494	-429.540	-0.013	0.008	-0.093	-1104.235	54.81	54.81	117.61	117.61
94	214	6958.489	429.540	0.013	-0.008	0.093	1104.235	54.81	54.81	117.61	117.61
94	215	-6995.612	-409.089	-0.013	0.008	-0.145	604.531	93.02	93.02	58.64	58.64
95	215	6995.614	409.089	0.013	-0.008	0.145	-604.531	93.02	93.02	58.64	58.64
95	216	-7025.612	-228.917	-0.013	0.008	-0.197	1857.770	121.16	121.16	15.51	15.51

96	216	7025.614	228.918	0.013	-0.008	0.197	-1857.770	121.16	121.16	15.51	15.51
96	217	-6912.332	809.977	-0.013	0.008	-0.248	1246.808	106.32	106.32	35.41	35.41
97	217	6969.335	201.274	-0.011	0.007	0.248	-1246.794	106.97	106.76	36.06	36.06
97	228	-6846.282	415.518	0.011	-0.007	-0.217	563.895	90.42	90.42	58.35	58.35
98	228	6846.279	-415.518	-0.011	0.007	0.217	-563.895	90.42	90.42	58.35	58.35
98	229	-6819.259	353.306	0.011	-0.007	-0.186	-525.007	65.96	65.96	95.82	95.82
99	229	7200.052	-106.924	-0.011	0.007	0.186	758.946	65.11	65.11	108.27	108.27
99	230	-7212.829	160.658	0.011	-0.007	-0.155	-1115.139	57.35	57.35	120.77	120.77
00	230	7212.827	-160.660	-0.011	0.007	0.155	1115.135	57.35	57.35	120.77	120.77
00	231	-7211.999	392.734	0.011	-0.007	-0.124	-1834.657	41.39	41.38	145.72	145.72
01	231	7212.000	-392.732	-0.011	0.007	0.124	1834.656	41.39	41.38	145.72	145.72
01	232	-7129.701	146.747	0.011	-0.007	-0.093	-2869.829	17.49	17.49	180.69	180.69
02	232	7129.702	-146.748	-0.011	0.007	0.093	2869.821	17.49	17.49	180.69	180.69
02	233	-6981.313	-229.533	0.011	-0.007	-0.062	-2454.585	25.01	25.01	164.60	164.60
03	233	6981.313	229.534	-0.011	0.007	0.062	2454.583	25.01	25.01	164.60	164.60
03	234	-6940.416	-87.889	0.011	-0.007	-0.031	-1929.648	36.19	36.19	145.93	145.92
04	234	6940.416	87.888	-0.011	0.007	0.031	1929.647	36.19	36.19	145.93	145.92
04	235	-6890.094	94.818	0.011	-0.007	0.000	-1941.023	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1068

carga permanente (Pret*1.1) (t=inf.)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	4735.375	-84.176	0.067	-0.021	-0.727	612.359	40.30	40.32	75.13	75.14
1	12	-4803.771	48.634	-0.067	0.021	0.531	-894.718	34.82	34.83	85.71	85.71
2	12	4803.772	-48.634	0.067	-0.021	-0.531	894.718	34.82	34.83	85.71	85.71
2	13	-4871.061	-4.447	-0.067	0.021	0.335	-921.298	35.00	35.00	87.39	87.40
3	13	4871.062	4.447	0.067	-0.021	-0.335	921.299	35.00	35.00	87.39	87.40
3	14	-4903.222	75.598	-0.067	0.021	0.139	-1042.052	32.69	32.69	91.95	91.95
4	14	4903.223	-75.598	0.067	-0.021	-0.139	1042.052	32.69	32.69	91.95	91.95
4	15	-4943.566	112.295	-0.067	0.021	-0.057	-1360.330	26.09	26.09	103.45	103.45
5	15	4943.565	-112.297	0.067	-0.021	0.057	1360.332	26.09	26.09	103.45	103.45
5	16	-5037.590	-136.900	-0.067	0.021	-0.253	-1489.750	24.29	24.29	109.01	109.01
6	16	5037.592	136.901	0.067	-0.021	0.253	1489.750	24.29	24.29	109.01	109.01
6	17	-5092.390	-392.981	-0.067	0.021	-0.449	-626.501	44.06	44.05	79.69	79.69
7	17	5092.395	392.981	0.067	-0.021	0.449	626.500	44.06	44.05	79.69	79.69
7	18	-5111.051	-362.162	-0.067	0.021	-0.645	489.634	69.03	69.02	41.18	41.18
8	18	5111.043	362.162	0.067	-0.021	0.645	-489.634	69.03	69.02	41.18	41.18
8	19	-5262.139	549.038	-0.067	0.021	-0.841	679.297	74.96	74.94	36.32	36.32
9	19	5317.938	559.139	-0.031	0.020	0.841	-679.313	75.59	75.58	36.96	36.95
9	30	-5154.079	272.629	0.031	-0.020	-0.720	245.640	64.11	64.10	50.14	50.13
10	30	5154.081	-272.629	-0.031	0.020	0.720	-245.640	64.11	64.10	50.14	50.13
10	31	-5105.176	54.715	0.031	-0.020	-0.598	-101.143	55.86	55.85	61.61	61.61
11	31	4875.165	39.121	-0.031	0.020	0.598	195.970	51.14	51.13	62.28	62.28
11	32	-4956.103	256.211	0.031	-0.020	-0.477	-558.985	44.01	44.00	75.80	75.79
12	32	4956.103	-256.211	-0.031	0.020	0.477	558.983	44.01	44.00	75.80	75.79
12	33	-5020.213	90.754	0.031	-0.020	-0.356	-1663.959	20.80	20.79	115.43	115.42
13	33	5020.206	-90.754	-0.031	0.020	0.356	1663.958	20.80	20.79	115.43	115.42
13	34	-5199.112	-254.041	0.031	-0.020	-0.234	-1146.992	33.73	33.73	98.96	98.96
14	34	5199.121	254.042	-0.031	0.020	0.234	1146.992	33.73	33.73	98.96	98.96
14	35	-5236.889	-235.876	0.031	-0.020	-0.113	-253.933	53.97	53.97	68.41	68.41
15	35	5236.883	235.876	-0.031	0.020	0.113	253.932	53.97	53.97	68.41	68.41
15	36	-5293.618	-252.704	0.031	-0.020	0.008	710.822	76.01	76.01	35.59	35.59
16	36	5293.628	252.703	-0.031	0.020	-0.008	-710.822	76.01	76.01	35.59	35.59
16	37	-5365.370	701.647	0.031	-0.020	0.130	476.481	71.63	71.63	44.53	44.53
17	37	5422.760	425.862	-0.003	-0.005	-0.130	-476.490	72.28	72.28	45.18	45.18
17	48	-5267.888	237.768	0.003	0.005	0.142	36.438	60.76	60.76	58.69	58.69
18	48	5267.897	-237.768	-0.003	-0.005	-0.142	-36.437	60.76	60.76	58.69	58.69
18	49	-5221.734	66.527	0.003	0.005	0.154	-309.273	52.56	52.57	70.15	70.15
19	49	4911.629	38.412	-0.003	-0.005	-0.154	388.654	47.28	47.28	69.38	69.38
19	50	-4996.891	245.865	0.003	0.005	0.167	-727.984	40.72	40.72	82.12	82.12
20	50	4996.883	-245.865	-0.003	-0.005	-0.167	727.983	40.72	40.72	82.12	82.12

20	51	-5109.386	82.667	0.003	0.005	0.179	-1791.063	18.42	18.42	120.28	120.28
1	51	5109.396	-82.666	-0.003	-0.005	-0.179	1791.062	18.42	18.42	120.28	120.28
21	52	-5239.818	-258.193	0.003	0.005	0.191	-1253.597	31.83	31.83	103.12	103.12
22	52	5239.812	258.192	-0.003	-0.005	-0.191	1253.594	31.83	31.83	103.12	103.12
22	53	-5270.674	-239.927	0.003	0.005	0.204	-342.432	52.39	52.39	71.86	71.86
23	53	5270.684	239.927	-0.003	-0.005	-0.204	342.429	52.39	52.39	71.86	71.86
23	54	-5330.132	-258.181	0.003	0.005	0.216	641.154	74.88	74.88	38.42	38.42
24	54	5330.138	258.181	-0.003	-0.005	-0.216	-641.155	74.88	74.88	38.42	38.42
24	55	-5406.410	694.938	0.003	0.005	0.228	433.175	71.13	71.14	46.50	46.50
25	55	5463.586	427.724	0.001	-0.002	-0.228	-433.186	71.78	71.79	47.15	47.15
25	66	-5312.134	235.288	-0.001	0.002	0.225	2.893	60.52	60.52	60.35	60.35
26	66	5312.144	-235.288	0.001	-0.002	-0.225	-2.893	60.52	60.52	60.35	60.35
26	67	-5268.425	63.580	-0.001	0.002	0.221	-331.279	52.61	52.61	71.45	71.45
27	67	4986.195	42.191	0.001	-0.002	-0.221	399.351	47.89	47.89	70.60	70.60
27	68	-5069.370	247.247	-0.001	0.002	0.218	-732.686	41.44	41.44	83.11	83.11
28	68	5069.346	-247.247	0.001	-0.002	-0.218	732.686	41.44	41.44	83.11	83.11
28	69	-5183.284	83.571	-0.001	0.002	0.214	-1808.122	18.88	18.89	121.71	121.71
29	69	5183.292	-83.571	0.001	-0.002	-0.214	1808.123	18.88	18.89	121.71	121.71
9	70	-5312.632	-261.613	-0.001	0.002	0.210	-1262.313	32.46	32.47	104.25	104.25
0	70	5312.643	261.611	0.001	-0.002	-0.210	1262.315	32.46	32.47	104.25	104.25
30	71	-5351.629	-243.405	-0.001	0.002	0.207	-340.480	53.35	53.35	72.71	72.72
31	71	5351.637	243.406	0.001	-0.002	-0.207	340.482	53.35	53.35	72.71	72.72
31	72	-5408.238	-260.255	-0.001	0.002	0.203	653.519	76.04	76.04	38.88	38.88
32	72	5408.218	260.255	0.001	-0.002	-0.203	-653.519	76.04	76.04	38.88	38.88
32	73	-5479.601	694.110	-0.001	0.002	0.200	448.230	72.30	72.30	46.81	46.81
81	181	5881.357	423.686	0.008	-0.001	-0.220	-467.167	77.29	77.30	50.73	50.73
81	192	-5726.256	239.922	-0.008	0.001	0.190	18.629	65.58	65.58	64.52	64.52
82	192	5726.362	-239.922	0.008	-0.001	-0.190	-18.628	65.58	65.58	64.52	64.52
82	193	-5680.072	68.687	-0.008	0.001	0.159	-335.500	57.20	57.20	76.28	76.28
83	193	5373.649	36.316	0.008	-0.001	-0.159	413.380	51.98	51.99	75.49	75.50
83	194	-5459.017	248.432	-0.008	0.001	0.128	-761.393	45.24	45.24	88.54	88.54
84	194	5458.990	-248.432	0.008	-0.001	-0.128	761.396	45.24	45.24	88.54	88.54
84	195	-5571.564	85.087	-0.008	0.001	0.097	-1834.856	22.71	22.71	127.06	127.06
85	195	5571.546	-85.088	0.008	-0.001	-0.097	1834.857	22.71	22.71	127.06	127.06
85	196	-5702.128	-256.390	-0.008	0.001	0.067	-1305.189	35.94	35.95	110.17	110.17
86	196	5702.104	256.391	0.008	-0.001	-0.067	1305.188	35.94	35.95	110.17	110.17
86	197	-5733.010	-238.061	-0.008	0.001	0.036	-401.138	56.35	56.35	79.16	79.16
87	197	5732.991	238.061	0.008	-0.001	-0.036	401.138	56.35	56.35	79.16	79.16
87	198	-5792.514	-256.134	-0.008	0.001	0.005	574.980	78.67	78.67	45.98	45.98
88	198	5792.613	256.134	0.008	-0.001	-0.005	-574.980	78.67	78.68	45.98	45.98
88	199	-5868.957	697.193	-0.008	0.001	-0.026	358.637	74.75	74.75	54.35	54.35
89	199	5926.339	443.352	0.018	-0.013	0.026	-358.651	75.40	75.40	55.00	55.00
89	210	-5774.938	219.825	-0.018	0.013	-0.096	-11.338	65.47	65.47	66.12	66.11
90	210	5774.918	-219.825	0.018	-0.013	0.096	11.337	65.47	65.47	66.11	66.11
90	211	-5731.240	48.248	-0.018	0.013	-0.167	-285.900	58.88	58.88	75.14	75.14
91	211	5623.241	51.691	0.018	-0.013	0.167	412.963	54.84	54.83	78.32	78.32
91	212	-5711.163	239.502	-0.018	0.013	-0.237	-712.410	49.20	49.19	89.71	89.71
92	212	5711.141	-239.502	0.018	-0.013	0.237	712.413	49.20	49.19	89.71	89.71
92	213	-5824.937	84.094	-0.018	0.013	-0.308	-1769.260	27.05	27.05	127.67	127.67
93	213	5825.039	-84.094	0.018	-0.013	0.308	1769.264	27.05	27.05	127.67	127.67
93	214	-5969.692	-340.102	-0.018	0.013	-0.378	-1143.270	42.56	42.58	107.60	107.60
94	214	5969.670	340.102	0.018	-0.013	0.378	1143.271	42.58	42.58	107.60	107.60
94	215	-5992.968	-303.135	-0.018	0.013	-0.449	175.089	72.09	72.08	62.13	62.13
95	215	5992.942	303.135	0.018	-0.013	0.449	-175.090	72.09	72.08	62.13	62.13
95	216	-6018.710	-128.967	-0.018	0.013	-0.519	1026.977	91.28	91.27	32.87	32.87
96	216	6018.689	128.967	0.018	-0.013	0.519	-1026.977	91.28	91.27	32.87	32.87
96	217	-5921.380	782.843	-0.018	0.013	-0.590	202.340	71.88	71.87	60.37	60.37
97	217	5978.451	270.391	-0.025	0.016	0.590	-202.345	72.53	72.52	61.02	61.02
97	228	-5872.749	274.141	0.025	-0.016	-0.516	-119.472	64.19	64.18	70.98	70.98
98	228	5872.729	-274.140	-0.025	0.016	0.516	119.471	64.19	64.18	70.98	70.98
98	229	-5849.520	236.432	0.025	-0.016	-0.442	-833.552	48.09	48.08	95.49	95.48
99	229	6176.598	-24.790	-0.025	0.016	0.442	1034.506	47.35	47.34	106.18	106.18
99	230	-6187.573	87.533	0.025	-0.016	-0.369	-1169.576	44.48	44.47	110.99	110.99
100	230	6187.547	-87.535	-0.025	0.016	0.369	1169.577	44.48	44.47	110.99	110.99
100	231	-6186.835	301.593	0.025	-0.016	-0.295	-1660.984	33.57	33.57	128.03	128.03
101	231	6186.814	-301.591	-0.025	0.016	0.295	1660.984	33.57	33.57	128.03	128.03
101	232	-6116.119	104.997	0.025	-0.016	-0.221	-2466.732	14.90	14.89	155.18	155.17
102	232	6116.102	-104.997	-0.025	0.016	0.221	2466.728	14.90	14.89	155.18	155.17
102	233	-5988.635	-203.522	0.025	-0.016	-0.147	-2069.780	22.25	22.25	139.95	139.95
103	233	5988.740	203.522	-0.025	0.016	0.147	2069.778	22.25	22.25	139.96	139.96
103	234	-5953.609	-67.142	0.025	-0.016	-0.074	-1621.798	31.79	31.78	124.02	124.02
104	234	5953.584	67.142	-0.025	0.016	0.074	1621.798	31.79	31.78	124.02	124.01
104	235	-5910.358	93.287	0.025	-0.016	0.000	-1667.340	30.28	30.28	125.10	125.10

ADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1591

HI I MAX grupo I (ELS) (ipf=75) (frecuente)

ESFUERZOS EN BARRAS

BRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	6002.946	22.646	0.061	-0.019	-0.943	1411.936
1	12	-6002.569	-22.533	-0.066	0.021	0.786	-1472.807
2	12	6002.570	22.534	0.066	-0.021	-0.786	1472.806
2	13	-5792.939	38.573	-0.081	0.026	0.589	-1580.263
3	13	5792.940	-38.574	0.081	-0.026	-0.589	1580.264
3	14	-5830.379	118.762	-0.081	0.026	0.352	-1830.265
4	14	5830.377	-118.760	0.081	-0.026	-0.352	1830.266
4	15	-5877.343	148.486	-0.081	0.026	0.115	-2272.037
5	15	5877.344	-148.487	0.081	-0.026	-0.115	2272.040
5	16	-5986.803	-154.610	-0.081	0.026	-0.122	-2455.775
6	16	5986.803	154.611	0.081	-0.026	0.122	2455.776
6	17	-5092.390	-332.511	-0.109	0.035	-0.858	-1474.245
7	17	5092.395	332.511	0.109	-0.035	0.858	1474.244
7	18	-4046.279	-144.422	-0.111	0.036	-1.203	-867.839
8	18	4046.271	144.422	0.111	-0.036	1.203	867.839
8	19	-4169.895	825.732	-0.088	0.090	-1.332	-1613.143
9	19	4225.694	862.838	-0.061	0.034	1.332	1613.122
9	30	-4091.628	-67.890	0.073	-0.045	-1.505	-611.621
10	30	4091.630	67.890	-0.073	0.045	1.505	611.621
10	31	-5105.176	49.770	0.034	-0.022	-0.683	-569.768
1	31	4875.165	49.066	-0.034	0.022	0.683	664.594
	32	-5882.780	311.259	0.022	-0.013	-0.027	-1080.052
	32	5882.780	-311.260	-0.022	0.013	0.027	1080.051
12	33	-6015.621	120.060	0.011	-0.007	0.071	-2431.067
13	33	6015.620	-120.059	-0.011	0.007	-0.071	2431.066
13	34	-6165.686	-298.476	0.011	-0.007	0.113	-1851.861
14	34	6165.687	298.476	-0.011	0.007	-0.113	1851.859
14	35	-5236.889	-195.964	0.019	-0.013	-0.247	-965.073
15	35	5236.883	195.963	-0.019	0.013	0.247	965.073
15	36	-4205.796	79.514	0.006	-0.007	-0.640	-476.839
16	36	4205.806	-79.515	-0.006	0.007	0.640	476.838
16	37	-4264.503	978.953	0.005	-0.006	-0.696	-1985.340
17	37	4321.894	762.167	-0.044	0.017	0.696	1985.332
17	48	-4195.180	-100.161	0.042	-0.016	-0.452	-992.148
18	48	4195.189	100.161	-0.042	0.016	0.452	992.148
18	49	-5221.734	43.577	0.010	0.004	0.093	-997.880
19	49	4911.629	61.362	-0.010	-0.004	-0.093	1077.260
19	50	-5920.841	290.663	0.007	0.003	0.389	-1367.478
20	50	5920.841	-290.664	-0.007	-0.003	-0.389	1367.476

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
36.99	37.01	117.29	117.30
36.55	36.56	120.31	120.32
36.55	36.56	120.31	120.32
30.87	30.88	120.74	120.75
30.87	30.88	120.74	120.75
25.76	25.76	129.84	129.85
25.76	25.76	129.84	129.85
16.49	16.50	145.70	145.70
16.49	16.50	145.70	145.70
13.67	13.66	153.32	153.32
13.67	13.66	153.32	153.32
25.26	25.25	109.10	109.09
25.26	25.25	109.10	109.09
26.81	26.79	76.16	76.15
26.81	26.79	76.16	76.15
11.69	11.67	103.42	103.41
12.32	12.30	104.05	104.05
33.01	32.99	67.79	67.78
33.01	32.99	67.79	67.78
45.47	45.46	77.87	77.86
40.75	40.74	78.54	78.53
42.99	42.99	104.42	104.42
42.99	42.99	104.42	104.42
14.54	14.54	152.79	152.79
14.54	14.54	152.79	152.79
29.09	29.10	134.41	134.41
29.09	29.10	134.41	134.41
38.20	38.19	93.08	93.08
38.20	38.19	93.08	93.08
37.29	37.28	64.41	64.40
37.29	37.28	64.41	64.40
4.51	4.49	117.41	117.40
5.16	5.15	118.06	118.05
25.74	25.73	82.16	82.16
25.74	25.73	82.16	82.16
37.29	37.29	94.04	94.04
32.00	32.00	93.27	93.27
37.05	37.06	114.82	114.82
37.05	37.06	114.82	114.82

20	51	-6051.812	103.775	-0.004	0.009	0.412	-2621.123	10.73	10.74	159.80	159.80
21	51	6051.811	-103.775	0.004	-0.009	-0.412	2621.123	10.73	10.74	159.80	159.80
21	52	-6203.642	-301.215	-0.007	0.011	0.391	-1994.084	26.37	26.38	139.77	139.78
22	52	6203.643	301.215	0.007	-0.011	-0.391	1994.082	26.37	26.38	139.77	139.78
22	53	-5270.674	-211.909	-0.004	0.012	0.139	-1070.313	36.24	36.25	97.11	97.11
23	53	5270.684	211.909	0.004	-0.012	-0.139	1070.310	36.24	36.25	97.11	97.11
23	54	-4246.108	80.843	-0.032	0.027	-0.368	-547.405	36.18	36.18	67.31	67.31
24	54	4246.115	-80.842	0.032	-0.027	0.368	547.404	36.19	36.18	67.31	67.31
24	55	-4308.519	979.523	-0.034	0.028	-0.571	-2058.412	3.38	3.37	120.44	120.44
25	55	4365.696	765.212	-0.038	0.022	0.571	2058.404	4.04	4.03	121.09	121.09
25	66	-4241.780	-103.789	0.036	-0.021	-0.351	-1052.955	24.92	24.92	84.80	84.80
26	66	4241.790	103.790	-0.036	0.021	0.351	1052.955	24.92	24.92	84.80	84.80
26	67	-5268.425	38.974	0.005	-0.001	0.161	-1047.788	36.72	36.72	96.30	96.31
27	67	4986.195	66.797	-0.005	0.001	-0.161	1115.860	32.00	32.00	95.45	95.46
27	68	-5995.820	290.308	0.006	-0.001	0.389	-1398.249	37.22	37.23	116.74	116.74
28	68	5995.818	-290.309	-0.006	0.001	-0.389	1398.248	37.22	37.23	116.74	116.74
28	69	-6128.459	102.929	-0.005	0.004	0.408	-2658.013	10.79	10.80	161.95	161.95
29	69	6128.459	-102.928	0.005	-0.004	-0.408	2658.015	10.79	10.80	161.95	161.95
29	70	-6279.030	-307.170	-0.008	0.006	0.384	-2014.267	26.78	26.79	141.33	141.33
30	70	6279.029	307.167	0.008	-0.006	-0.384	2014.268	26.78	26.79	141.33	141.33
30	71	-5351.629	-217.052	-0.008	0.007	0.141	-1070.517	37.16	37.16	98.04	98.04
31	71	5351.637	217.053	0.008	-0.007	-0.141	1070.519	37.16	37.16	98.04	98.04
31	72	-4320.415	81.731	-0.039	0.026	0.359	-543.145	37.12	37.12	68.01	68.01
32	72	4320.395	-81.730	0.039	-0.026	-0.359	543.144	37.12	37.12	68.01	68.01
32	73	-4378.799	981.445	-0.040	0.027	-0.584	-2052.018	4.10	4.09	121.37	121.36
81	181	4780.556	758.648	-0.022	0.024	0.453	2023.416	9.53	9.52	124.60	124.60
81	192	-4653.655	-96.769	0.021	-0.022	-0.306	-1045.909	29.77	29.76	89.24	89.24
82	192	4653.760	96.769	-0.021	0.022	0.306	1045.910	29.77	29.76	89.25	89.24
82	193	-5680.072	40.732	-0.002	-0.006	0.103	-1062.784	41.07	41.07	101.51	101.51
83	193	5373.649	64.271	0.002	0.006	-0.103	1140.664	35.85	35.86	100.72	100.72
83	194	-6383.446	291.011	-0.004	-0.003	0.310	-1442.244	40.66	40.66	122.68	122.68
84	194	6383.444	-291.011	0.004	0.004	-0.310	1442.249	40.66	40.66	122.68	122.68
84	195	-6514.497	92.656	-0.006	-0.001	0.289	-2697.767	14.30	14.31	167.72	167.72
85	195	6514.498	-92.657	0.006	0.001	-0.289	2697.768	14.30	14.31	167.72	167.73
85	196	-6666.514	-301.821	-0.016	0.005	0.234	-2069.526	29.97	29.97	147.66	147.66
86	196	6666.515	301.822	0.016	-0.005	-0.234	2069.526	29.97	29.97	147.66	147.66
86	197	-5733.010	-215.112	-0.014	0.003	-0.027	-1089.835	41.07	41.07	103.05	103.05
87	197	5732.991	215.112	0.014	-0.003	0.027	1089.834	41.07	41.07	103.05	103.05
87	198	-4707.864	83.890	-0.040	0.024	-0.495	-571.612	40.90	40.90	73.41	73.41
88	198	4707.963	-83.890	0.040	-0.024	0.495	571.612	40.91	40.90	73.41	73.41
88	199	-4770.427	982.836	-0.041	0.025	-0.717	-2096.734	7.79	7.78	127.03	127.02
89	199	4827.808	772.265	-0.002	0.003	0.717	2096.724	8.45	8.43	127.68	127.68
89	210	-4703.934	-110.991	0.001	-0.002	-0.649	-1065.164	29.91	29.90	90.49	90.48
90	210	4703.914	110.991	-0.001	0.002	0.649	1065.163	29.91	29.90	90.49	90.48
90	211	-5731.240	8.451	-0.009	0.006	-0.280	-996.622	43.12	43.12	99.80	99.80
91	211	5623.241	91.489	0.009	-0.006	0.280	1123.685	39.08	39.07	102.98	102.97
91	212	-5711.163	214.665	-0.011	0.008	-0.311	-1279.804	36.61	36.61	109.39	109.39
92	212	5711.141	-214.664	0.011	-0.008	0.311	1279.807	36.61	36.61	109.39	109.39
92	213	-6800.092	67.473	-0.006	0.003	-0.089	-2401.156	24.13	24.13	160.68	160.68
93	213	6800.096	-67.473	0.006	-0.003	0.089	2401.158	24.13	24.13	160.69	160.68
93	214	-5969.692	-335.523	-0.020	0.015	-0.436	-1584.702	32.79	32.79	122.91	122.91
94	214	5969.670	335.523	0.020	-0.015	0.435	1584.703	32.79	32.79	122.91	122.91
94	215	-5992.968	-293.115	-0.020	0.015	-0.514	-294.626	61.67	61.66	78.42	78.42
95	215	5992.942	293.116	0.020	-0.015	0.514	294.625	61.67	61.66	78.42	78.42
95	216	-4903.383	180.682	-0.051	0.038	-1.148	81.600	57.62	57.60	52.98	52.97

96	216	4903.362	-180.682	0.051	-0.038	1.148	-81.600	57.62	57.60	52.98	52.97
96	217	-4823.745	1048.481	-0.049	0.036	-1.380	-1922.373	12.27	12.25	121.59	121.58
97	217	4880.816	559.783	-0.059	0.043	1.380	1922.382	12.92	12.90	122.24	122.23
97	228	-4794.333	80.928	0.050	-0.035	-1.023	-1317.964	25.34	25.32	100.29	100.28
98	228	4794.313	-80.928	-0.050	0.035	1.023	1317.964	25.34	25.32	100.29	100.28
98	229	-5849.520	176.044	0.048	-0.034	-0.854	-1679.837	29.32	29.31	124.85	124.84
99	229	6176.598	35.598	-0.048	0.034	0.854	1880.792	28.59	28.57	135.54	135.53
99	230	-6187.573	31.270	0.048	-0.034	-0.712	-1844.530	29.51	29.50	134.41	134.40
00	230	6187.547	-31.272	-0.048	0.034	0.712	1844.531	29.51	29.50	134.41	134.40
00	231	-7211.999	340.595	0.034	-0.025	-0.399	-2350.395	29.95	29.94	163.61	163.61
01	231	7212.000	-340.593	-0.034	0.025	0.399	2350.395	29.95	29.94	163.61	163.61
01	232	-7129.701	98.732	0.034	-0.025	-0.299	-3238.461	9.32	9.31	193.48	193.48
02	232	7129.702	-98.733	-0.034	0.025	0.299	3238.458	9.32	9.31	193.48	193.48
02	233	-6981.313	-273.424	0.034	-0.025	-0.200	-2688.236	19.83	19.83	172.71	172.71
03	233	6981.313	273.424	-0.034	0.025	0.199	2688.233	19.83	19.83	172.71	172.71
03	234	-6940.416	-127.655	0.034	-0.025	-0.100	-2040.427	33.73	33.73	149.77	149.77
04	234	6940.416	127.655	-0.034	0.025	0.100	2040.426	33.73	33.73	149.77	149.77
04	235	-6890.094	76.592	0.031	-0.022	0.000	-1941.055	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1592

NOME Z MIN grupo I (ELS) (ipf-75) (frecuente)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	3370.942	83.293	0.101	-0.032	-1.033	-216.999	43.17	43.18	30.83	30.84
1	12	-3426.902	-68.095	-0.095	0.029	0.722	393.534	47.72	47.73	25.35	25.35
2	12	3426.904	68.096	0.095	-0.029	-0.722	-393.535	47.72	47.73	25.35	25.35
2	13	-3481.958	-49.803	-0.095	0.029	0.442	598.050	52.89	52.89	18.88	18.88
3	13	3481.958	49.803	0.095	-0.029	-0.442	-598.050	52.89	52.89	18.88	18.88
3	14	-3876.236	14.792	-0.064	0.019	0.175	680.350	59.20	59.20	20.51	20.51
4	14	3876.237	-14.792	0.064	-0.019	-0.175	-680.350	59.20	59.20	20.51	20.51
4	15	-3909.245	114.788	-0.064	0.019	-0.012	455.412	54.59	54.59	28.69	28.69
5	15	3909.244	-114.789	0.064	-0.019	0.012	-455.411	54.59	54.59	28.69	28.69
5	16	-3986.174	-19.129	-0.064	0.019	-0.199	179.458	49.35	49.34	39.14	39.14
6	16	3986.175	19.130	0.064	-0.019	0.199	-179.458	49.35	49.34	39.14	39.14
6	17	-4814.996	-268.336	-0.036	0.010	0.107	545.264	66.89	66.89	35.88	35.88
7	17	4814.999	268.337	0.036	-0.010	-0.107	-545.264	66.89	66.89	35.88	35.88
7	18	-6072.317	-392.041	-0.028	0.007	0.149	1632.838	105.32	105.32	12.46	12.46
8	18	6072.316	392.041	0.028	-0.007	-0.149	-1632.838	105.32	105.32	12.46	12.46
8	19	-6298.213	510.894	-0.068	-0.038	-0.556	2021.384	115.98	115.93	0.99	0.98
9	19	6304.011	544.134	-0.025	0.018	0.556	-2021.401	116.58	116.57	1.62	1.62
9	30	-6113.256	270.998	-0.009	0.004	-0.076	1200.236	96.19	96.19	27.94	27.93
10	30	6113.257	-270.998	0.009	-0.004	0.076	-1200.236	96.19	96.19	27.94	27.93
10	31	-4829.828	-99.082	0.031	-0.019	-0.413	1201.405	81.62	81.61	13.29	13.29
11	31	4610.747	188.459	-0.031	0.019	0.413	-1111.085	77.12	77.11	13.93	13.93
11	32	-3929.647	119.510	0.043	-0.028	-0.812	1245.269	72.35	72.33	1.53	1.52
12	32	3929.647	-119.511	-0.043	0.028	0.812	-1245.270	72.35	72.33	1.53	1.52
12	33	-4023.011	67.256	0.047	-0.030	-0.645	540.253	57.77	57.76	27.04	27.04
13	33	4023.003	-67.256	-0.047	0.030	0.645	-540.254	57.77	57.76	27.04	27.04
13	34	-4128.472	-122.547	0.047	-0.030	-0.464	811.504	64.99	64.98	18.83	18.83
14	34	4128.481	122.547	-0.047	0.030	0.464	-811.504	64.99	64.98	18.83	18.83
14	35	-4955.280	-98.653	0.038	-0.023	0.117	1237.899	83.85	83.85	13.45	13.45
15	35	4955.281	98.653	-0.038	0.023	-0.117	-1237.901	83.85	83.85	13.45	13.45
15	36	-6275.703	-238.534	0.058	-0.034	0.543	1931.508	114.25	114.26	4.41	4.42
16	36	6275.704	238.534	-0.058	0.034	-0.543	-1931.509	114.25	114.26	4.41	4.42
16	37	-6359.221	708.885	0.023	-0.013	0.514	1843.985	113.26	113.27	8.40	8.40
12	37	6416.618	387.447	0.006	-0.008	-0.514	-1843.984	113.92	113.93	9.05	9.06
17	48	-6236.325	230.414	-0.035	0.025	0.650	1109.356	95.57	95.58	32.49	32.49
18	48	6236.325	-230.414	0.034	-0.025	-0.650	-1109.355	95.57	95.58	32.49	32.49
18	49	-4943.568	-79.445	0.002	0.003	0.311	1163.930	82.07	82.08	15.88	15.88
19	49	4648.205	179.398	-0.002	-0.003	-0.311	-1088.321	77.03	77.04	15.14	15.15
19	50	-4729.416	165.828	0.002	0.003	0.317	1173.369	79.84	79.85	13.12	13.12
20	50	4729.416	-165.828	-0.002	-0.003	-0.317	-1173.371	79.84	79.85	13.12	13.12

20	51	-4065.496	64.537	0.009	0.002	0.080	472.371	56.74	56.74	29.88	29.88
21	51	4065.505	-64.537	-0.009	-0.002	-0.080	-472.372	56.74	56.74	29.88	29.88
21	52	-4172.215	-131.009	0.011	0.000	0.114	747.940	64.07	64.07	21.54	21.54
22	52	4172.208	131.009	-0.011	0.000	-0.114	-747.941	64.07	64.07	21.54	21.54
22	53	-4990.194	-93.278	0.009	-0.001	0.380	1185.513	83.08	83.09	15.66	15.67
23	53	4990.194	93.279	-0.009	0.001	-0.380	-1185.514	83.08	83.09	15.66	15.67
23	54	-6308.777	-254.466	0.040	-0.017	0.744	1894.420	113.81	113.82	6.08	6.08
24	54	6308.774	254.468	-0.040	0.017	-0.744	-1894.422	113.81	113.82	6.09	6.09
24	55	-6397.565	701.379	0.008	-0.001	0.546	1812.346	112.90	113.01	9.93	9.99
25	55	6454.765	388.868	0.007	-0.007	-0.546	-1812.349	113.65	113.66	10.59	10.59
25	66	-6278.452	230.808	-0.038	0.026	0.745	1139.143	96.71	96.72	31.93	31.94
26	66	6278.454	-230.808	0.038	-0.026	-0.745	-1139.143	96.71	96.72	31.93	31.94
26	67	-4990.765	-79.163	-0.003	0.004	0.401	1195.555	83.31	83.32	15.32	15.32
27	67	4721.939	179.908	0.003	-0.004	-0.401	-1130.718	78.81	78.82	14.51	14.51
27	68	-4801.162	170.233	-0.003	0.004	0.388	1209.507	81.46	81.47	12.68	12.68
28	68	4801.160	-170.233	0.003	-0.004	-0.388	-1209.507	81.46	81.47	12.68	12.68
28	69	-4136.356	68.871	-0.001	0.002	0.171	491.402	57.97	57.97	30.03	30.03
29	69	4136.366	-68.871	0.001	-0.002	-0.171	-491.402	57.97	57.97	30.03	30.03
29	70	-4242.189	-130.140	0.002	0.000	0.172	760.236	65.14	65.14	21.90	21.91
30	70	4242.198	130.139	-0.002	0.000	-0.172	-760.234	65.14	65.14	21.90	21.91
30	71	-5070.012	-93.408	0.003	0.000	0.393	1192.143	84.14	84.14	16.34	16.34
31	71	5070.012	93.408	-0.003	0.000	-0.393	-1192.141	84.14	84.14	16.34	16.34
31	72	-6390.308	-257.785	0.037	-0.021	0.716	1911.045	115.10	115.12	6.43	6.43
32	72	6390.310	257.785	-0.037	0.021	-0.716	-1911.044	115.10	115.12	6.43	6.43
32	73	-6473.410	700.845	0.006	-0.003	0.527	1827.209	114.19	114.20	10.28	10.29
81	181	6875.206	381.183	0.015	-0.009	-0.544	-1869.156	119.69	119.70	13.40	13.40
81	192	-6694.646	237.545	-0.042	0.027	0.669	1168.978	102.11	102.12	35.63	35.64
82	192	6694.647	-237.545	0.042	-0.027	-0.669	-1168.977	102.11	102.12	35.63	35.64
82	193	-5401.393	-66.359	-0.015	0.008	0.334	1190.474	87.88	87.88	20.18	20.18
83	193	5110.054	166.367	0.015	-0.008	-0.334	-1116.295	82.91	82.92	19.43	19.43
83	194	-4435.019	125.590	-0.014	0.006	0.058	1154.362	76.07	76.08	10.43	10.43
84	194	4434.993	-125.590	0.014	-0.006	-0.058	-1154.359	76.07	76.08	10.43	10.43
84	195	-4527.099	75.300	-0.011	0.004	0.011	430.319	61.06	61.06	36.59	36.59
85	195	4527.080	-75.301	0.011	-0.004	-0.011	-430.319	61.06	61.06	36.59	36.59
85	196	-4633.920	-120.665	-0.009	0.002	-0.027	666.207	67.51	67.51	29.63	29.63
86	196	4633.896	120.666	0.009	-0.002	0.027	-666.209	67.51	67.51	29.62	29.62
86	197	-5452.404	-80.421	-0.010	0.004	0.141	1011.716	84.49	84.49	26.95	26.95
87	197	5452.403	80.421	0.010	-0.004	-0.141	-1011.715	84.49	84.49	26.95	26.95
87	198	-6771.788	-247.205	0.019	-0.019	0.367	1683.251	114.40	114.40	18.67	18.67
88	198	6771.785	247.206	-0.019	0.019	-0.367	-1683.250	114.40	114.40	18.67	18.67
88	199	-6860.661	707.837	-0.004	-0.001	0.239	1636.551	114.37	114.38	21.30	21.31
89	199	6918.060	420.945	0.016	-0.011	-0.239	-1636.558	115.03	115.03	21.96	21.96
89	210	-6741.807	187.462	-0.044	0.031	0.263	1069.348	100.44	100.44	39.63	39.63
90	210	6741.811	-187.461	0.044	-0.031	-0.263	-1069.350	100.44	100.44	39.63	39.63
90	211	-5453.405	-97.593	-0.029	0.020	-0.083	1255.108	89.90	89.90	18.52	18.52
91	211	5250.563	192.784	0.029	-0.019	0.083	-1134.089	86.05	86.04	21.55	21.55
91	212	-5434.307	149.511	-0.026	0.017	-0.197	1260.322	89.80	89.80	18.12	18.12
92	212	5434.304	-149.510	0.026	-0.017	0.198	-1260.320	89.80	89.80	18.12	18.12
92	213	-4744.831	74.819	-0.031	0.023	-0.562	481.479	64.68	64.67	37.30	37.29
93	213	4744.933	-74.820	0.031	-0.023	0.562	-481.476	64.68	64.67	37.30	37.30
93	214	-5680.476	-264.071	-0.023	0.015	-0.391	893.875	84.47	84.47	33.64	33.64
94	214	5680.473	264.071	0.023	-0.015	0.391	-893.875	84.47	84.47	33.64	33.64
94	215	-5702.664	-155.037	-0.023	0.015	-0.482	1774.560	104.26	104.25	3.34	3.34
95	215	5702.666	155.037	0.023	-0.015	0.482	-1774.561	104.26	104.25	3.34	3.34
95	216	-7025.612	-116.377	0.009	-0.009	-0.232	2435.387	133.97	133.97	-4.53	-4.53
96	216	7025.614	116.377	-0.008	0.009	0.232	-2435.387	133.97	133.97	-4.53	-4.53
96	217	-6912.332	791.073	-0.006	0.002	-0.113	1940.991	119.50	119.50	14.60	14.60
97	217	6969.335	175.930	-0.005	0.002	0.113	-1840.976	120.13	120.14	15.45	15.45
97	228	-6846.282	300.009	0.002	0.002	-0.058	1266.036	105.99	105.99	33.99	33.99
98	228	6846.279	-300.009	-0.002	-0.002	0.058	-1266.037	105.99	105.99	33.99	33.99
98	229	-5568.739	139.355	0.008	-0.003	-0.146	676.364	78.36	78.37	39.91	39.91
99	229	5880.297	62.231	-0.008	0.004	0.146	-486.958	77.68	77.68	50.10	50.10
99	230	-5890.750	54.128	0.003	-0.004	-0.121	524.761	78.68	78.68	48.84	48.83
100	230	5890.749	-54.130	-0.008	0.004	0.121	-524.761	78.68	78.66	48.84	48.83
100	231	-5051.300	235.923	0.022	-0.012	-0.264	159.182	61.02	61.01	51.96	51.96
101	231	5051.279	-235.922	-0.022	0.012	0.264	-159.182	61.02	61.01	51.96	51.96
101	232	-4993.438	145.043	0.022	-0.012	-0.198	-571.010	44.16	44.16	76.64	76.64
102	232	4993.420	-145.043	-0.022	0.012	0.198	571.006	44.16	44.16	76.64	76.64
102	233	-4889.129	-37.411	0.022	-0.012	-0.132	-522.713	44.05	44.05	73.77	73.77
103	233	4889.233	37.411	-0.022	0.012	0.132	522.711	44.05	44.05	73.78	73.77
103	234	-4860.490	144.143	0.022	-0.012	-0.066	-638.203	41.16	41.16	77.45	77.45
104	234	4860.466	-144.143	-0.022	0.012	0.066	638.203	41.16	41.16	77.45	77.45
104	235	-4825.099	323.540	0.026	-0.015	0.000	-1364.136	24.66	24.66	102.23	102.23

ADUCTO SOBRE LA RIERA FEMOSA

POTESIS 1611

ME I MAX grupo I (ELS) (ec-1) (frecuente)

		ESFUERZOS EN BARRAS						TENSIONES			
ARA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	5971.201	-143.486	0.068	-0.020	-0.962	1366.696	37.63	37.65	115.36	115.37
1	12	-6050.823	95.982	-0.072	0.021	0.778	-1836.182	28.13	28.14	132.56	132.56
2	12	6050.825	-95.982	0.072	-0.021	-0.778	1836.182	28.13	28.14	132.56	132.56
2	13	-6129.159	17.069	-0.067	0.019	0.603	-1957.616	26.33	26.34	137.66	137.66
3	13	6129.159	-17.069	0.072	-0.021	-0.568	1957.617	26.33	26.34	137.66	137.66
3	14	-6166.598	93.132	-0.067	0.019	0.407	-2138.389	22.75	22.75	144.36	144.36
4	14	6166.597	-93.131	0.072	-0.021	-0.398	2138.389	22.75	22.75	144.36	144.36
4	15	-6213.562	118.732	-0.067	0.019	0.212	-2498.817	15.29	15.29	157.40	157.40
5	15	6213.563	-118.734	0.067	-0.019	-0.212	2498.820	15.29	15.29	157.40	157.40
5	16	-6323.022	-188.488	-0.067	0.019	0.016	-2589.095	14.54	14.54	161.78	161.78
6	16	6323.022	188.489	0.067	-0.019	-0.016	2589.096	14.54	14.54	161.78	161.78
6	17	-5428.609	-370.513	-0.100	0.030	-0.772	-1501.991	28.47	28.46	113.89	113.88
7	17	5428.614	370.513	0.100	-0.030	0.772	1501.990	28.47	28.46	113.89	113.88
7	18	-3710.060	-136.721	-0.114	0.035	-1.270	-843.550	23.52	23.50	71.49	71.48
8	18	3710.052	136.720	0.114	-0.035	1.270	843.550	23.52	23.50	71.49	71.48
8	19	-3833.676	816.989	-0.081	0.085	-1.172	-1736.634	5.12	5.10	103.88	103.87
9	19	3889.475	833.453	-0.045	0.030	1.172	1736.616	5.76	5.74	104.51	104.50
9	30	-3755.409	-118.880	0.060	-0.043	-1.490	-688.410	27.48	27.46	66.62	66.61
10	30	3755.411	118.880	-0.061	0.031	1.608	688.410	27.48	27.46	66.62	66.61
10	31	-4768.957	22.198	0.060	-0.042	-0.867	-656.758	39.71	39.70	77.06	77.05
11	31	4538.946	71.638	-0.060	0.042	0.867	751.584	34.99	34.98	77.73	77.73
11	32	-5546.562	283.247	0.048	-0.033	-0.111	-1069.039	39.41	39.41	100.21	100.21
12	32	5546.561	-283.248	-0.049	0.021	0.221	1069.038	39.41	39.41	100.21	100.21
12	33	-5679.402	134.056	-0.002	-0.008	0.164	-2378.091	11.89	11.89	147.13	147.13
13	33	5679.401	-134.056	0.001	-0.004	-0.058	2378.091	11.89	11.89	147.13	147.13
13	34	-5829.467	-289.920	-0.002	-0.008	0.158	-1842.581	25.47	25.48	130.26	130.26
14	34	5829.468	289.920	0.002	0.008	-0.158	1842.579	25.47	25.48	130.26	130.26
14	35	-4900.670	-196.662	0.009	-0.003	-0.341	-963.757	34.40	34.39	89.21	89.20
15	35	4900.665	196.662	-0.008	0.016	0.243	963.757	34.40	34.39	89.21	89.20
15	36	-4542.015	-80.411	-0.001	0.002	-0.364	-474.282	41.17	41.17	68.14	68.14
16	36	4542.024	80.410	0.002	0.010	0.271	474.282	41.17	41.17	68.14	68.14
16	37	-4600.723	956.977	0.006	-0.015	-0.576	-2090.340	6.00	5.99	124.87	124.87
17	37	4658.113	732.043	0.008	0.002	0.576	2090.334	6.65	6.64	125.53	125.52
17	48	-4531.399	-148.755	-0.008	-0.002	-0.596	-1018.890	28.98	28.97	86.92	86.91
18	48	4531.408	148.755	-0.067	0.013	0.396	1018.891	28.97	28.97	86.92	86.91
18	49	-5557.953	24.776	0.066	-0.012	0.192	-1020.725	40.61	40.62	98.66	98.66
19	49	5247.848	80.163	-0.066	0.012	-0.192	1100.106	35.32	35.33	97.89	97.89
19	50	-6257.060	266.422	0.063	-0.013	0.703	-1306.929	42.22	42.23	116.54	116.55
20	50	6257.060	-266.422	-0.063	0.013	-0.703	1306.927	42.22	42.23	116.54	116.55

20	51	-6388.030	130.849	0.016	0.009	0.947	-2448.241	18.39	18.41	157.63	157.63
21	51	6388.029	-130.849	-0.016	-0.009	-0.947	2448.241	18.39	18.41	157.63	157.63
21	52	-6539.860	-283.167	0.014	0.010	1.006	-1914.513	31.96	31.97	140.84	140.84
22	52	6539.861	283.166	-0.014	-0.010	-1.006	1914.511	31.96	31.97	140.84	140.84
22	53	-5606.893	-199.301	0.017	0.011	0.838	-1050.139	40.51	40.53	100.24	100.24
23	53	5606.903	199.302	-0.017	-0.011	-0.838	1050.136	40.51	40.53	100.24	100.24
23	54	-3909.889	130.702	0.015	0.013	0.585	-525.255	32.84	32.85	62.72	62.72
24	54	3909.896	-130.702	-0.015	-0.013	-0.585	525.254	32.84	32.85	62.72	62.72
24	55	-3972.300	951.021	0.015	0.013	0.633	-2122.224	-1.87	-1.86	118.82	118.83
25	55	4029.476	733.428	-0.095	0.151	-0.632	2122.216	-1.22	-1.21	119.48	119.48
25	66	-3905.561	-150.651	0.095	-0.151	1.014	-1043.421	21.30	21.31	80.64	80.65
26	66	3905.571	150.651	-0.096	0.151	-1.014	1043.421	21.30	21.31	80.64	80.65
26	67	-4932.205	21.932	0.094	-0.150	1.706	-1040.980	33.03	33.06	92.24	92.25
27	67	4649.976	83.839	-0.094	0.150	-1.706	1109.052	28.31	28.34	91.39	91.40
27	68	-5659.600	267.826	0.095	-0.151	2.280	-1314.862	35.23	35.27	110.01	110.03
28	68	5659.599	-267.826	-0.095	0.151	-2.280	1314.861	35.23	35.27	110.01	110.03
28	69	-5792.239	132.227	0.050	-0.128	2.650	-2464.744	11.23	11.28	151.41	151.43
29	69	5792.239	-132.226	-0.050	0.128	-2.650	2464.746	11.23	11.28	151.41	151.43
29	70	-5942.810	-286.868	0.048	-0.127	2.840	-1922.782	24.96	25.01	134.32	134.34
30	70	5942.809	286.866	-0.048	0.127	-2.840	1922.783	24.96	25.01	134.32	134.34
30	71	-5015.410	-202.191	0.048	-0.127	2.813	-1047.161	33.83	33.88	93.39	93.41
31	71	5015.417	202.192	-0.048	0.127	-2.813	1047.162	33.83	33.88	93.39	93.41
31	72	-4656.634	128.316	0.047	-0.126	2.682	-513.143	41.59	41.64	70.79	70.80
32	72	4656.614	-128.315	-0.047	0.126	-2.682	513.143	41.59	41.64	70.79	70.80
32	73	-4715.019	949.659	0.047	-0.126	2.854	-2105.262	6.94	6.99	126.68	126.70
81	181	4677.955	727.035	-3.392	0.000	0.579	2081.154	7.08	7.07	125.43	125.43
81	192	-4653.655	-145.625	0.013	-0.012	-0.349	-1022.137	30.29	30.29	88.42	88.42
82	192	4653.760	145.625	-0.013	0.012	0.349	1022.138	30.29	30.29	88.42	88.42
82	193	-5773.372	25.176	-3.367	-0.024	-0.174	-1041.161	42.61	42.61	101.82	101.82
83	193	5466.950	79.827	3.367	0.024	0.174	1119.042	37.40	37.40	101.04	101.04
83	194	-6472.097	270.014	-3.368	-0.022	-0.075	-1356.972	43.56	43.56	120.73	120.73
84	194	6472.095	-270.015	3.368	0.022	0.075	1356.976	43.56	43.56	120.73	120.73
84	195	-6598.498	62.641	-3.369	-0.021	-0.202	-2514.924	19.32	19.31	162.34	162.34
85	195	6598.499	-62.641	3.369	0.021	0.202	2514.925	19.32	19.31	162.34	162.34
85	196	-6758.958	-280.898	-2.852	0.005	-0.369	-1994.363	32.69	32.68	146.11	146.10
86	196	6758.958	280.899	2.852	-0.005	0.369	1994.363	32.69	32.68	146.11	146.10
86	197	-5820.036	-199.629	-2.851	0.003	-0.826	-1093.560	41.99	41.97	104.17	104.17
87	197	5820.017	199.630	2.851	-0.003	0.826	1093.560	41.99	41.97	104.17	104.17
87	198	-4789.473	129.234	-2.851	0.003	-1.370	-575.188	41.76	41.74	74.46	74.46
88	198	4789.572	-129.234	2.851	-0.003	1.370	575.188	41.76	41.74	74.47	74.46
88	199	-4846.618	949.733	-2.851	0.003	-1.633	-2175.315	6.92	6.90	130.62	130.61
89	199	4903.999	747.980	2.927	-0.137	1.633	2175.304	7.58	7.55	131.28	131.27
89	210	-4764.685	51.361	3.506	-0.162	1.443	-1053.140	30.85	30.88	90.75	90.76
90	210	4764.665	-51.361	-3.506	0.162	-1.443	1053.140	30.85	30.88	90.75	90.76
90	211	-5675.140	6.664	3.505	-0.162	2.124	-989.265	42.63	42.66	98.90	98.91
91	211	5567.141	93.276	-3.505	0.162	-2.124	1116.328	38.58	38.62	102.08	102.09
91	212	-5651.223	203.935	2.926	-0.134	2.271	-1247.674	36.62	36.66	107.59	107.60
92	212	5651.201	-203.935	-2.926	0.134	-2.271	1247.677	36.62	36.66	107.59	107.60
92	213	-6745.569	51.303	2.931	-0.139	3.081	-2308.554	25.54	25.59	156.84	156.86
93	213	6745.573	-51.303	-2.931	0.139	-3.081	2308.556	25.54	25.59	156.84	156.86
93	214	-5920.587	-311.207	2.890	-0.109	3.186	-1497.672	34.13	34.19	119.32	119.34
94	214	5920.565	311.207	-2.890	0.109	-3.186	1497.672	34.13	34.19	119.32	119.34
94	215	-5949.280	-274.240	2.890	-0.109	3.588	-282.927	61.40	61.46	77.51	77.53
95	215	5949.254	274.240	-2.890	0.109	-3.588	282.926	61.40	61.46	77.51	77.53
95	216	-4865.112	230.104	2.883	-0.106	3.544	82.593	57.17	57.23	52.49	52.51

96	216	3865.091	-230.104	-2.883	0.106	-3.544	-82.593	57.17	57.23	52.49	52.51
96	217	-4790.892	1010.353	2.883	-0.106	3.922	-1963.033	10.95	11.02	122.61	122.63
97	217	4847.964	568.228	-2.619	0.594	-3.922	1963.038	11.60	11.67	123.26	123.28
97	228	-4765.587	100.266	2.609	-0.586	3.632	-1261.482	26.22	26.29	97.98	98.01
98	228	4765.567	-100.266	-2.609	0.586	-3.632	1261.481	26.22	26.29	97.98	98.01
98	229	-5829.880	191.257	2.608	-0.585	3.135	-1667.769	29.27	29.33	124.13	124.16
99	229	6151.959	20.385	-2.608	0.585	-3.135	1868.722	28.54	28.59	134.83	134.85
99	230	-6167.041	42.359	2.608	-0.585	2.612	-1864.760	28.80	28.85	134.86	134.88
00	230	6167.015	-42.361	-2.608	0.585	-2.612	1864.761	28.80	28.85	134.86	134.88
00	231	-7195.573	347.560	2.593	-0.576	2.261	-2390.808	28.84	28.88	164.82	164.83
01	231	7195.574	-347.558	-2.593	0.576	-2.260	2390.809	28.84	28.88	164.82	164.83
01	232	-7117.382	101.573	2.593	-0.576	1.695	-3286.944	8.08	8.11	195.02	195.03
02	232	7117.383	-101.573	-2.593	0.576	-1.695	3286.940	8.08	8.11	195.02	195.03
02	233	-6973.101	-274.708	2.593	-0.576	1.130	-2732.672	18.74	18.76	174.15	174.16
03	233	6973.100	274.708	-2.593	0.576	-1.130	2732.669	18.74	18.76	174.15	174.16
03	234	-6936.892	-133.368	3.099	-0.685	0.695	-2068.701	33.06	33.07	150.71	150.71
04	234	6936.891	133.368	-3.099	0.685	-0.695	2068.700	33.06	33.07	150.71	150.71
04	235	-6890.094	58.466	0.030	-0.019	0.000	-1941.050	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1612

NOMI Z MIN grupo I (ELS) (ec-1) (frecuente)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	3402.688	156.855	0.090	-0.031	-0.814	-171.746	42.52	42.54	32.76	32.77
1	12	-3458.648	-121.183	-0.086	0.030	0.542	523.978	50.98	50.99	21.18	21.19
2	12	3458.650	121.184	0.086	-0.030	-0.542	-523.978	50.98	50.99	21.18	21.19
2	13	-3513.704	-89.073	-0.091	0.032	0.254	864.145	59.15	59.16	10.01	10.01
3	13	3513.704	89.073	0.086	-0.030	-0.289	-864.145	59.15	59.16	10.01	10.01
3	14	-3540.017	51.959	-0.091	0.032	-0.014	905.363	60.37	60.37	8.88	8.88
4	14	3540.018	-51.958	0.086	-0.030	-0.035	-905.362	60.37	60.37	8.88	8.88
4	15	-3573.026	157.524	-0.091	0.032	-0.282	563.068	53.15	53.15	21.13	21.13
5	15	3573.024	-157.525	0.091	-0.032	0.282	-563.066	53.15	53.15	21.13	21.13
5	16	-3649.955	29.177	-0.091	0.032	-0.550	153.396	44.95	44.94	36.22	36.22
6	16	3649.956	-29.176	0.091	-0.032	0.550	-153.396	44.95	44.94	36.22	36.22
6	17	-4478.776	-214.461	-0.059	0.021	-0.230	369.125	59.16	59.16	38.17	38.16
7	17	4478.779	214.462	0.059	-0.021	0.230	-369.125	59.16	59.16	38.17	38.16
7	18	-6408.536	-552.575	-0.006	-0.002	0.523	1491.217	106.00	106.01	21.20	21.20
8	18	6408.535	552.575	0.006	0.002	-0.523	-1491.217	106.00	106.01	21.20	21.20
8	19	-6584.433	485.595	-0.049	-0.047	-0.157	2136.460	122.32	122.32	0.82	0.82
9	19	6640.230	509.857	0.000	0.000	0.157	-2136.474	122.95	122.95	1.45	1.45
9	30	-6449.475	435.857	-0.015	0.013	0.337	1128.754	98.43	98.44	34.24	34.24
10	30	6449.476	-435.857	0.016	-0.001	-0.455	-1128.754	98.43	98.44	34.24	34.24
10	31	-5166.047	-197.428	0.019	-0.004	-0.459	1152.188	84.35	84.39	18.82	18.82
11	31	4946.966	196.805	-0.018	0.004	0.459	-1061.868	79.85	79.85	19.46	19.46
11	32	-4265.866	118.511	0.030	-0.013	-0.907	1214.157	75.48	75.47	6.43	6.43
12	32	4265.866	-118.512	-0.029	0.025	0.797	-1214.159	75.48	75.47	6.43	6.43
12	33	-4359.229	77.277	0.032	-0.014	-0.790	487.304	60.42	60.41	32.71	32.70
13	33	4359.222	-77.277	-0.031	0.027	0.684	-487.305	60.42	60.41	32.71	32.70
13	34	-4464.691	-105.179	0.032	-0.014	-0.664	705.489	66.46	66.45	26.34	26.33
14	34	4464.700	105.180	-0.032	0.014	0.665	-705.490	66.46	66.45	26.34	26.33
14	35	-5291.499	-70.125	0.022	-0.019	-0.047	1035.700	83.19	83.19	24.29	24.29
15	35	5291.500	70.125	-0.023	0.007	0.145	-1035.703	83.19	83.19	24.29	24.29
15	36	-5939.484	-382.439	0.039	-0.030	0.761	1760.402	106.63	106.64	6.52	6.53
16	36	5939.485	382.439	-0.040	0.018	-0.667	-1760.403	106.63	106.64	6.52	6.53
16	37	-6023.002	699.777	0.040	-0.018	0.835	1895.941	110.59	110.60	2.77	2.78
17	37	6080.399	355.726	-0.010	-0.013	-0.835	-1895.935	111.24	111.25	3.42	3.43
17	48	-5900.106	357.856	0.022	0.010	0.853	922.737	87.60	87.62	35.13	35.14
18	48	5900.106	-357.856	0.052	-0.021	-0.653	-922.736	87.61	87.62	35.13	35.14
18	49	-4607.350	-93.273	-0.039	0.011	-0.134	1022.079	75.10	75.10	16.98	16.98
19	49	4311.986	193.225	0.039	-0.011	0.134	-946.471	70.07	70.06	16.29	16.29
19	50	-4393.197	159.347	-0.039	0.011	-0.285	1070.867	73.75	73.74	12.85	12.85
20	50	4393.197	-159.347	0.039	-0.011	0.285	-1070.869	73.75	73.74	12.85	12.85

20	51	-3729.277	68.965	-0.034	0.011	-0.681	368.273	30.61	30.60	29.67	29.66
21	51	3729.286	-68.965	0.034	-0.011	0.681	-368.274	30.61	30.60	29.67	29.66
21	52	-3835.996	-115.649	-0.032	0.009	-0.811	611.386	57.22	57.21	22.45	22.44
22	52	3835.989	115.648	0.032	-0.009	0.811	-611.389	57.22	57.21	22.45	22.44
22	53	-4653.976	-70.570	-0.035	0.008	-0.712	975.203	74.60	74.59	19.14	19.13
23	53	4653.976	70.572	0.035	-0.008	0.712	-975.206	74.60	74.59	19.14	19.13
23	54	-6644.996	-383.584	-0.019	-0.003	-0.189	1687.112	113.04	113.04	17.10	17.10
24	54	6644.993	383.584	0.019	0.003	0.189	-1687.113	113.04	113.04	17.10	17.10
24	55	-6733.784	697.127	-0.019	-0.003	-0.250	1833.516	117.30	117.30	13.03	13.03
25	55	6790.985	358.392	0.099	-0.157	0.250	-1833.512	117.95	117.95	13.68	13.68
25	66	-6614.672	357.553	-0.089	0.155	-0.601	937.661	96.08	96.07	42.75	42.75
26	66	6614.673	-357.553	0.089	-0.155	0.601	-937.661	96.08	96.07	42.75	42.75
26	67	-5326.985	-96.664	-0.074	0.143	-1.560	991.622	82.63	82.60	26.23	26.22
27	67	5058.159	197.409	0.074	-0.143	1.560	-926.784	78.13	78.11	25.42	25.41
27	68	-5137.381	160.079	-0.074	0.143	-1.846	1059.155	81.97	81.94	21.73	21.72
28	68	5137.380	-160.079	0.074	-0.143	1.846	-1059.155	81.97	81.94	21.73	21.72
28	69	-4472.576	69.618	-0.073	0.143	-2.339	353.627	58.76	58.72	38.64	38.62
29	69	4472.585	-69.618	0.073	-0.143	2.339	-353.626	58.76	58.72	38.64	38.63
29	70	-4578.409	-118.490	-0.071	0.142	-2.617	604.125	65.53	65.48	31.16	31.14
30	70	4578.418	118.489	0.071	-0.142	2.617	-604.129	65.53	65.48	31.16	31.14
30	71	-5406.232	-74.412	-0.070	0.141	-2.678	976.654	83.21	83.16	27.65	27.64
31	71	5406.232	74.411	0.070	-0.141	2.678	-976.653	83.21	83.16	27.65	27.64
31	72	-6054.088	-385.053	-0.056	0.130	-2.307	1699.278	106.61	106.57	9.96	9.94
32	72	6054.090	385.053	0.056	-0.130	2.307	-1699.277	106.61	106.57	9.96	9.94
32	73	-6137.190	697.105	-0.056	0.130	-2.514	1845.174	110.79	110.75	5.84	5.83
81	181	6977.807	379.897	3.402	-0.004	-0.984	-1882.990	121.16	121.18	14.09	14.09
81	192	-6494.646	365.632	-0.023	0.016	0.716	959.515	97.46	97.48	42.90	42.90
82	192	6494.647	-365.632	0.023	-0.016	-0.716	-959.514	97.46	97.48	42.90	42.90
82	193	-5308.592	-86.126	3.368	0.018	0.256	978.854	82.12	82.13	26.46	26.46
83	193	5016.753	186.139	-3.368	-0.017	-0.256	-904.674	77.16	77.16	25.71	25.71
83	194	-4346.368	113.165	3.369	0.016	0.163	1012.295	71.91	71.92	14.35	14.35
84	194	4346.342	-113.165	-3.370	-0.016	-0.163	-1012.292	71.91	71.92	14.35	14.35
84	195	-4443.099	73.800	3.371	0.014	0.296	316.495	57.58	57.59	39.58	39.59
85	195	4443.080	-73.801	-3.371	-0.014	-0.296	-316.494	57.58	57.59	39.58	39.59
85	196	-4541.477	-110.962	2.815	0.011	0.324	549.777	63.87	63.88	32.61	32.61
86	196	4541.453	110.962	-2.815	-0.011	-0.324	-549.778	63.87	63.88	32.61	32.61
86	197	-5365.378	-63.371	2.814	0.013	0.641	851.804	79.95	79.96	31.51	31.51
87	197	5365.377	63.371	-2.814	-0.013	-0.640	-851.804	79.95	79.96	31.51	31.51
87	198	-6690.179	-371.083	2.823	0.004	1.255	1466.127	108.64	108.67	25.27	25.28
88	198	6690.177	371.083	-2.823	-0.004	-1.255	-1466.126	108.64	108.67	25.27	25.28
88	199	-6784.469	679.406	2.835	-0.001	1.498	1660.574	114.03	114.05	19.60	19.61
89	199	6841.868	414.014	-2.899	0.115	-1.498	-1660.586	114.68	114.71	20.25	20.26
89	210	-6681.057	328.927	-3.527	0.180	-1.405	887.744	95.73	95.71	45.24	45.23
90	210	6681.061	-328.927	3.527	-0.180	1.405	-887.745	95.73	95.71	45.24	45.23
90	211	-5509.506	-123.687	-3.522	0.172	-2.722	1047.053	85.95	85.90	26.39	26.37
91	211	5406.664	218.877	3.522	-0.172	2.723	-926.028	82.09	82.04	29.41	29.40
91	212	-5494.247	134.266	-2.943	0.145	-2.933	1131.838	87.66	87.60	23.27	23.25
92	212	5494.244	-134.266	2.943	-0.145	2.933	-1131.835	87.66	87.60	23.27	23.25
92	213	-4799.353	66.922	-2.947	0.150	-3.804	389.478	63.29	63.23	41.12	41.10
93	213	4799.456	-66.922	2.947	-0.150	3.804	-389.474	63.29	63.23	41.12	41.10
93	214	-5729.582	-260.955	-2.941	0.143	-4.143	807.153	83.14	83.07	37.22	37.19
94	214	5729.578	260.955	2.941	-0.143	4.143	-807.152	83.14	83.07	37.22	37.19
94	215	-5746.352	-144.574	-2.941	0.143	-4.744	1653.175	102.10	102.02	8.06	8.03
95	215	5746.354	144.574	2.941	-0.143	4.744	-1653.175	102.10	102.02	8.06	8.03
95	216	-7063.883	-279.121	-2.913	0.126	-4.623	2274.038	130.87	130.79	1.52	1.49
96	216	7063.884	279.121	2.913	-0.126	4.623	-2274.037	130.87	130.79	1.52	1.49
96	217	-6945.185	759.773	-2.913	0.126	-5.115	1849.263	120.10	120.01	14.90	14.87
97	217	7082.188	177.794	2.568	-0.564	5.116	-1849.254	120.75	120.66	15.55	15.52
97	228	-6875.027	433.519	-2.568	0.564	-4.484	1092.531	102.51	102.43	40.36	40.33
98	228	6875.025	-433.519	2.568	-0.564	4.484	-1092.531	102.51	102.43	40.36	40.33
98	229	-5593.378	150.342	-2.547	0.546	-4.201	470.753	74.13	74.06	47.34	47.31
99	229	5904.936	51.248	2.547	-0.546	4.201	-279.348	73.43	73.36	57.52	57.50
99	230	-5911.283	30.287	-2.542	0.540	-3.584	349.541	75.06	74.99	55.16	55.14
100	230	5911.261	-30.289	2.542	-0.540	3.584	-349.540	75.06	74.99	55.16	55.14
100	231	-5067.726	215.830	-2.529	0.532	-3.022	39.682	58.58	58.53	56.31	56.29
101	231	5067.705	-215.829	2.529	-0.532	3.022	-39.682	58.58	58.53	56.31	56.29
101	232	-5005.757	130.520	-2.529	0.532	-2.266	-646.000	42.66	42.62	79.38	79.37
102	232	5005.739	-130.520	2.529	-0.532	2.266	645.997	42.66	42.62	79.38	79.37
102	233	-4897.342	-46.365	-2.529	0.532	-1.511	-569.554	43.11	43.09	75.50	75.49
103	233	4897.446	46.365	2.529	-0.532	1.511	569.553	43.12	43.09	75.50	75.49
103	234	-4864.015	141.064	-3.035	0.641	-0.885	-673.256	40.43	40.41	78.71	78.71
104	234	4863.991	-141.064	3.035	-0.641	0.885	673.256	40.43	40.41	78.71	78.71
104	235	-4825.099	296.197	0.035	-0.025	0.000	-1364.191	24.66	24.66	102.23	102.23

ADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1631

ME Z MAX envolvente G-I (ELS) (total) (frecuente)

ESFUERZOS EN BARRAS

BRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	6002.946	22.646	0.061	-0.019	-0.943	1411.936
1	12	-6050.823	95.982	-0.072	0.021	0.778	-1836.182
2	12	6050.825	-95.982	0.072	-0.021	-0.778	1836.182
2	13	-6129.159	17.068	-0.067	0.019	0.603	-1957.616
3	13	6129.159	-17.069	0.072	-0.021	-0.568	1957.617
3	14	-6166.598	93.132	-0.067	0.019	0.807	-2138.389
4	14	6166.597	-93.131	0.072	-0.021	-0.358	2138.389
4	15	-6213.562	118.732	-0.067	0.019	0.212	-2498.817
5	15	6213.563	-118.734	0.067	-0.019	-0.212	2498.820
5	16	-6323.022	-188.488	-0.067	0.019	0.016	-2589.095
6	16	6323.022	188.489	0.067	-0.019	-0.016	2589.096
6	17	-5428.609	-370.513	-0.100	0.030	-0.772	-1501.991
7	17	5428.614	370.513	0.100	-0.030	0.772	1501.990
7	18	-4046.279	-144.822	-0.111	0.036	-1.203	-867.839
8	18	4046.271	144.822	0.111	-0.036	1.203	867.839
8	19	-3833.676	816.989	-0.081	0.085	-1.172	-1736.634
9	19	3889.475	833.453	-0.045	0.030	1.172	1736.616
9	30	-3755.409	-118.880	0.060	-0.043	-1.490	-688.410
10	30	3755.411	118.880	-0.061	0.031	1.608	688.410
10	31	-4768.957	22.198	0.060	-0.042	-0.867	-656.758
11	31	4538.946	71.638	-0.060	0.042	0.867	751.584
11	32	-5882.780	311.259	0.022	-0.013	-0.027	-1080.052
12	32	5882.780	-311.260	-0.022	0.013	0.027	1080.051
12	33	-6015.621	120.060	0.011	-0.007	0.071	-2431.067
13	33	6015.620	-120.059	-0.011	0.007	-0.071	2431.066
13	34	-6165.686	-298.476	0.011	-0.007	0.113	-1851.861
14	34	6165.687	298.476	-0.011	0.007	-0.113	1851.859
14	35	-5236.889	-195.964	0.019	-0.013	-0.247	-965.073
15	35	5236.883	195.963	-0.019	0.013	0.247	965.073
15	36	-4205.796	79.514	0.006	-0.007	-0.640	-476.839
16	36	4205.806	-79.515	-0.006	0.007	0.640	476.838
16	37	-4600.723	956.977	0.006	-0.015	-0.576	-2090.340
17	37	4658.113	732.043	-0.008	0.002	0.576	2090.334
17	48	-4531.399	-148.755	-0.008	-0.002	-0.596	-1018.890
18	48	4531.408	148.755	-0.067	0.013	0.396	1018.891
18	49	-5557.953	24.776	0.066	-0.012	0.192	-1020.725
19	49	5247.848	80.163	-0.066	0.012	-0.192	1100.106
19	50	-5920.841	290.663	0.007	0.003	0.389	-1367.478
20	50	5920.841	-290.664	-0.007	-0.003	-0.389	1367.476

TENSIONES

BRA	NUDO	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	36.99	37.01	117.29	117.30
1	12	28.13	28.14	132.56	132.56
2	12	28.13	28.14	132.56	132.56
2	13	26.33	26.34	137.66	137.66
3	13	26.33	26.34	137.66	137.66
3	14	22.75	22.75	144.36	144.36
4	14	22.75	22.75	144.36	144.36
4	15	15.29	15.29	157.40	157.40
5	15	15.29	15.29	157.40	157.40
5	16	14.54	14.54	161.78	161.78
6	16	14.54	14.54	161.78	161.78
6	17	28.47	28.46	113.89	113.88
7	17	28.47	28.46	113.89	113.88
7	18	26.81	26.79	76.16	76.15
8	18	26.81	26.79	76.16	76.15
8	19	5.12	5.10	103.68	103.67
9	19	5.76	5.74	104.51	104.50
9	30	27.48	27.46	66.62	66.61
10	30	27.48	27.46	66.62	66.61
10	31	39.71	39.70	77.06	77.05
11	31	34.99	34.98	77.73	77.73
11	32	42.99	42.99	104.42	104.42
12	32	42.99	42.99	104.42	104.42
12	33	14.54	14.54	152.79	152.79
13	33	14.54	14.54	152.79	152.79
13	34	29.09	29.10	134.41	134.41
14	34	29.09	29.10	134.41	134.41
14	35	38.20	38.19	93.08	93.08
15	35	38.20	38.19	93.08	93.08
15	36	37.29	37.28	64.41	64.40
16	36	37.29	37.28	64.41	64.40
16	37	6.00	5.99	124.87	124.87
17	37	6.65	6.64	125.53	125.52
17	48	28.98	28.97	86.92	86.91
18	48	28.97	28.97	86.92	86.91
18	49	40.61	40.62	98.66	98.66
19	49	35.32	35.33	97.89	97.89
19	50	37.05	37.06	114.82	114.82
20	50	37.05	37.06	114.82	114.82

20	51	-6051.812	103.775	-0.004	0.009	0.412	-2621.123	10.73	10.74	159.80	159.80
21	51	6051.811	-103.775	0.004	-0.009	-0.412	2621.123	10.73	10.74	159.80	159.80
21	52	-6203.642	-301.215	-0.007	0.011	0.391	-1994.084	26.37	26.38	139.77	139.78
22	52	6203.643	301.215	0.007	-0.011	-0.391	1994.082	26.37	26.38	139.77	139.78
22	53	-5270.674	-211.909	-0.004	0.012	0.139	-1070.313	36.24	36.25	97.11	97.11
23	53	5270.684	211.909	0.004	-0.012	-0.139	1070.310	36.24	36.25	97.11	97.11
23	54	-4246.108	80.843	-0.032	0.027	-0.368	-547.405	36.18	36.18	67.31	67.31
24	54	4246.115	-80.842	0.032	-0.027	0.368	547.404	36.19	36.18	67.31	67.31
24	55	-3972.300	951.021	0.015	0.013	0.633	-2122.224	-1.87	-1.86	118.82	118.83
25	55	4029.476	733.428	-0.095	0.151	-0.632	2122.216	-1.22	-1.21	119.48	119.48
25	66	-4241.780	-103.789	0.036	-0.021	-0.351	-1052.955	24.92	24.92	84.80	84.80
26	66	4241.790	103.790	-0.036	0.021	0.351	1052.955	24.92	24.92	84.80	84.80
26	67	-5268.425	38.974	0.005	-0.001	0.161	-1047.788	36.72	36.72	96.30	96.31
27	67	4986.195	66.797	-0.005	0.001	-0.161	1115.860	32.00	32.00	95.45	95.46
27	68	-5995.820	290.308	0.006	-0.001	0.389	-1398.249	37.22	37.23	116.74	116.74
28	68	5995.818	-290.309	-0.006	0.001	-0.389	1398.248	37.22	37.23	116.74	116.74
28	69	-6128.459	102.929	-0.005	0.004	0.408	-2658.013	10.79	10.80	161.95	161.95
29	69	6128.459	-102.928	0.005	-0.004	-0.408	2658.015	10.79	10.80	161.95	161.95
29	70	-6279.030	-307.170	-0.008	0.006	0.384	-2014.267	26.78	26.79	141.33	141.33
30	70	6279.029	307.167	0.008	-0.006	-0.384	2014.268	26.78	26.79	141.33	141.33
30	71	-5351.629	-217.052	-0.008	0.007	0.141	-1070.517	37.16	37.16	98.04	98.04
31	71	5351.637	217.053	0.008	-0.007	-0.141	1070.519	37.16	37.16	98.04	98.04
31	72	-4320.415	81.731	-0.039	0.026	-0.359	-543.145	37.12	37.12	68.01	68.01
32	72	4320.395	-81.730	0.039	-0.026	0.359	543.144	37.12	37.12	68.01	68.01
32	73	-4715.019	949.659	0.047	-0.126	2.854	-2105.262	6.94	6.99	126.68	126.70
81	181	4677.955	727.035	-3.392	0.000	0.579	2081.154	7.08	7.07	125.43	125.43
81	192	-4653.655	-96.769	0.021	-0.022	-0.306	-1045.909	29.77	29.76	89.24	89.24
82	192	4653.760	96.769	-0.021	0.022	0.306	1045.910	29.77	29.76	89.25	89.24
82	193	-5680.072	40.732	-0.002	-0.006	0.103	-1062.784	41.07	41.07	101.51	101.51
83	193	5373.649	64.271	0.002	0.006	-0.103	1140.664	35.85	35.86	100.72	100.72
83	194	-6383.446	291.011	-0.004	-0.003	0.310	-1442.248	40.66	40.66	122.68	122.68
84	194	6383.444	-291.011	0.004	0.004	-0.310	1442.249	40.66	40.66	122.68	122.68
84	195	-6514.497	92.656	-0.006	-0.001	0.289	-2697.767	14.30	14.31	167.72	167.72
85	195	6514.498	-92.657	0.006	0.001	-0.289	2697.768	14.30	14.31	167.72	167.73
85	196	-6666.514	-301.821	-0.016	0.005	0.234	-2069.526	29.97	29.97	147.66	147.66
86	196	6666.515	301.822	0.016	-0.005	-0.234	2069.526	29.97	29.97	147.66	147.66
86	197	-5820.036	-199.629	-2.851	0.003	-0.826	-1093.560	41.99	41.97	104.17	104.17
87	197	5820.017	199.630	2.851	-0.003	0.826	1093.560	41.99	41.97	104.17	104.17
87	198	-4789.473	129.234	-2.851	0.003	-1.370	-575.188	41.76	41.74	74.46	74.46
88	198	4789.572	-129.234	2.851	-0.003	1.370	575.188	41.76	41.74	74.47	74.46
88	199	-4946.618	949.733	-2.851	0.003	-1.633	-2175.315	6.92	6.90	130.62	130.61
89	199	4903.999	747.980	2.927	-0.137	1.633	2175.304	7.58	7.55	131.28	131.27
89	210	-4703.934	-110.991	0.001	-0.002	-0.649	-1065.164	29.91	29.90	90.49	90.48
90	210	4703.914	110.991	-0.001	0.002	0.649	1065.163	29.91	29.90	90.49	90.48
90	211	-5731.240	8.451	-0.009	0.006	0.280	-996.622	43.12	43.12	99.80	99.80
91	211	5623.241	91.489	0.009	-0.006	0.280	1123.685	39.08	39.07	102.98	102.97
91	212	-5711.163	214.665	-0.011	0.008	-0.311	-1279.804	36.61	36.61	109.39	109.39
92	212	5711.141	-214.664	0.011	-0.008	0.311	1279.807	36.61	36.61	109.39	109.39
92	213	-6800.092	67.473	-0.006	0.003	-0.089	-2401.156	24.13	24.13	160.68	160.68
93	213	6800.096	-67.473	0.006	-0.003	0.089	2401.158	24.13	24.13	160.69	160.68
93	214	-5969.692	-335.523	-0.020	0.015	-0.436	-1584.702	32.79	32.79	122.91	122.91
94	214	5969.670	335.523	0.020	-0.015	0.435	1584.703	32.79	32.79	122.91	122.91
94	215	-5992.968	-293.116	-0.020	0.015	-0.514	-294.626	61.67	61.66	78.42	78.42
95	215	5992.942	293.116	0.020	-0.015	0.514	294.625	61.67	61.66	78.42	78.42
95	216	-4903.383	180.682	-0.051	0.038	-1.148	81.600	57.62	57.60	52.98	52.97

96	216	4903.362	-180.682	0.051	-0.038	1.148	-81.600	57.62	57.60	52.98	52.97
96	217	-4790.892	1010.353	2.883	-0.106	3.922	-1963.033	10.95	11.02	122.61	122.63
97	217	4847.964	568.228	-2.619	0.594	-3.922	1963.038	11.60	11.67	123.26	123.28
97	228	-4794.333	80.928	0.050	-0.035	-1.023	-1317.964	25.34	25.32	100.29	100.28
98	228	4794.313	-80.928	-0.050	0.035	1.023	1317.964	25.34	25.32	100.29	100.28
98	229	-5849.520	176.044	0.048	-0.034	-0.854	-1679.837	29.32	29.31	124.85	124.84
99	229	6176.598	35.598	-0.048	0.034	0.854	1880.792	28.59	28.57	135.54	135.53
99	230	-6167.041	42.359	2.608	-0.585	2.612	-1864.760	28.80	28.85	134.86	134.88
00	230	6167.015	-42.361	-2.608	0.585	-2.612	1864.761	28.80	28.85	134.86	134.88
00	231	-7195.573	347.560	2.593	-0.576	2.261	-2390.808	28.84	28.88	164.82	164.83
01	231	7195.574	-347.558	-2.593	0.576	-2.260	2390.808	28.84	28.88	164.82	164.83
01	232	-7117.382	101.573	2.593	-0.576	1.695	-3286.944	8.08	8.11	195.02	195.03
02	232	7117.383	-101.573	-2.593	0.576	-1.695	3286.940	8.08	8.11	195.02	195.03
02	233	-6973.101	-274.708	2.593	-0.576	1.130	-2732.672	18.74	18.76	174.15	174.16
03	233	6973.100	274.708	-2.593	0.576	-1.130	2732.669	18.74	18.76	174.15	174.16
03	234	-6936.892	-133.368	3.099	-0.685	0.695	-2068.701	33.06	33.07	150.71	150.71
04	234	6936.891	133.368	-3.099	0.685	-0.695	2068.700	33.06	33.07	150.71	150.71
04	235	-6890.094	76.592	0.031	-0.022	0.000	-1941.055	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FENOSA

HIPOTESIS 1632

MOME Z MIN envolvente G-I (ELS) (total) (frecuente)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	3370.942	83.293	0.101	-0.032	-1.033	-216.999	43.17	43.18	30.83	30.84
1	12	-3458.648	-121.183	-0.086	0.030	0.542	523.978	50.98	50.99	21.18	21.19
2	12	3458.650	121.184	0.086	-0.030	-0.542	-523.978	50.98	50.99	21.18	21.19
2	13	-3513.704	-89.073	-0.091	0.032	0.258	864.145	59.15	59.16	10.01	10.01
3	13	3513.704	89.073	0.086	-0.030	-0.289	-864.145	59.15	59.16	10.01	10.01
3	14	-3540.017	51.959	-0.091	0.032	-0.014	905.363	60.37	60.37	8.88	8.88
4	14	3540.018	-51.958	0.086	-0.030	-0.035	-905.362	60.37	60.37	8.88	8.88
4	15	-3573.026	157.524	-0.091	0.032	-0.282	563.068	53.15	53.15	21.13	21.13
5	15	3573.024	-157.525	0.091	-0.032	0.282	-563.066	53.15	53.15	21.13	21.13
5	16	-3986.174	-19.129	-0.064	0.019	-0.199	179.458	49.35	49.34	39.14	39.14
6	16	3986.175	19.130	0.064	-0.019	0.199	-179.458	49.35	49.34	39.14	39.14
6	17	-4814.996	-268.336	-0.036	0.010	0.107	545.264	66.89	66.89	35.88	35.88
7	17	4814.999	268.337	0.036	-0.010	-0.107	-545.264	66.89	66.89	35.88	35.88
7	18	-6072.317	-392.041	-0.028	0.007	0.149	1632.838	105.32	105.32	12.46	12.46
8	18	6072.316	392.041	0.028	-0.007	-0.149	-1632.838	105.32	105.32	12.46	12.46
8	19	-6584.433	485.595	-0.049	-0.047	-0.157	2136.460	122.32	122.32	0.82	0.82
9	19	6640.230	509.857	0.000	0.000	0.157	-2136.474	122.95	122.95	1.45	1.45
9	30	-6113.256	270.998	-0.009	0.004	-0.076	1200.236	96.19	96.19	27.94	27.93
10	30	6113.257	-270.998	0.009	-0.004	0.076	-1200.236	96.19	96.19	27.94	27.93
10	31	-4829.828	-99.082	0.031	-0.019	-0.413	1201.405	81.62	81.61	13.29	13.29
11	31	4610.747	188.459	-0.031	0.019	0.413	-1111.085	77.12	77.11	13.93	13.93
11	32	-3929.647	119.510	0.043	-0.028	-0.812	1245.269	72.35	72.33	1.53	1.52
12	32	3929.647	-119.511	-0.043	0.028	0.812	-1245.270	72.35	72.33	1.53	1.52
12	33	-4023.011	67.256	0.047	-0.030	-0.645	540.253	57.77	57.76	27.04	27.04
13	33	4023.003	-67.256	-0.047	0.030	0.645	-540.254	57.77	57.76	27.04	27.04
13	34	-4128.472	-122.547	0.047	-0.030	-0.464	811.504	64.99	64.98	18.83	18.83
14	34	4128.481	122.547	-0.047	0.030	0.464	-811.504	64.99	64.98	18.83	18.83
14	35	-4955.280	-98.653	0.038	-0.023	0.117	1237.899	83.85	83.85	13.45	13.45
15	35	4955.281	98.653	-0.038	0.023	-0.117	-1237.901	83.85	83.85	13.45	13.45
15	36	-6275.703	-238.534	0.058	-0.034	0.543	1931.508	114.25	114.26	4.41	4.42
16	36	6275.704	238.534	-0.058	0.038	-0.543	-1931.509	114.25	114.26	4.41	4.42
16	37	-6023.002	699.777	0.040	-0.018	0.835	1895.941	110.59	110.60	2.77	2.78
17	37	6080.399	355.726	-0.010	-0.013	-0.835	-1895.935	111.24	111.25	3.42	3.43
17	48	-6236.325	230.414	-0.035	0.025	0.650	1109.356	95.57	95.58	32.49	32.49
18	48	6236.325	-230.414	0.034	-0.025	-0.650	-1109.355	95.57	95.58	32.49	32.49
18	49	-4993.568	-79.445	0.002	0.003	0.311	1163.930	82.07	82.08	15.88	15.88
19	49	4648.205	179.398	-0.002	-0.003	-0.311	-1088.321	77.03	77.04	15.14	15.15
19	50	-4729.416	165.828	0.002	0.003	0.317	1173.369	79.84	79.85	13.12	13.12
20	50	4729.416	-165.828	-0.002	-0.003	-0.317	-1173.371	79.84	79.85	13.12	13.12

20	51	-4065.496	64.537	0.008	0.002	0.080	472.371	56.74	56.74	29.88	29.88
21	51	4065.505	-64.537	-0.006	-0.002	-0.080	-472.372	56.74	56.74	29.88	29.88
21	52	-4172.215	-131.009	0.011	0.000	0.114	747.940	64.07	64.07	21.54	21.54
22	52	4172.208	131.009	-0.011	0.000	-0.114	-747.941	64.07	64.07	21.54	21.54
22	53	-4990.194	-93.278	0.008	-0.001	0.380	1185.513	83.08	83.09	15.66	15.67
23	53	4990.194	93.279	-0.008	0.001	-0.380	-1185.514	83.08	83.09	15.66	15.67
23	54	-6308.777	-254.468	0.040	-0.017	0.744	1894.420	113.81	113.82	6.08	6.08
24	54	6308.774	254.468	-0.040	0.017	-0.744	-1894.422	113.81	113.82	6.08	6.08
24	55	-6733.784	697.127	-0.019	-0.003	-0.250	1833.516	117.30	117.30	13.03	13.03
25	55	6790.985	358.392	0.099	-0.157	0.250	-1833.512	117.95	117.95	13.68	13.68
25	66	-6278.452	230.808	-0.038	0.026	0.745	1139.143	96.71	96.72	31.93	31.94
26	66	6278.454	-230.808	0.038	-0.026	-0.745	-1139.143	96.71	96.72	31.93	31.94
26	67	-4990.765	-79.163	-0.003	0.004	0.401	1195.555	83.31	83.32	15.32	15.32
27	67	4721.939	179.908	0.003	-0.004	-0.401	-1130.718	78.81	78.82	14.51	14.51
27	68	-4801.162	170.233	-0.003	0.004	0.388	1209.507	81.46	81.47	12.68	12.68
28	68	4801.160	-170.233	0.003	-0.004	-0.388	-1209.507	81.46	81.47	12.68	12.68
28	69	-4136.356	68.871	-0.001	0.002	0.171	491.403	57.97	57.97	30.03	30.03
29	69	4136.366	-68.871	0.001	-0.002	-0.171	-491.402	57.97	57.97	30.03	30.03
29	70	-4242.189	-130.140	0.002	0.000	0.172	760.236	65.14	65.14	21.90	21.91
30	70	4242.198	130.139	-0.002	0.000	-0.172	-760.234	65.14	65.14	21.90	21.91
30	71	-5070.012	-93.408	0.003	0.000	0.393	1192.143	84.14	84.14	16.34	16.34
31	71	5070.012	93.408	-0.003	0.000	-0.393	-1192.141	84.14	84.14	16.34	16.34
31	72	-6390.308	-257.785	0.037	-0.021	0.716	1911.045	115.10	115.12	6.43	6.43
32	72	6390.310	257.785	-0.037	0.021	-0.716	-1911.044	115.10	115.12	6.43	6.43
32	73	-6137.190	697.105	-0.056	0.130	-2.514	1845.174	110.79	110.75	5.84	5.83
81	181	6977.807	379.897	3.402	-0.004	-0.984	-1882.990	121.16	121.18	14.09	14.09
81	192	-6694.646	237.545	-0.042	0.027	0.664	1168.978	102.11	102.12	35.63	35.64
82	192	6694.647	-237.545	0.042	-0.027	-0.664	-1168.977	102.11	102.12	35.63	35.64
82	193	-5401.893	-66.354	-0.015	0.008	0.334	1190.474	87.88	87.88	20.18	20.18
83	193	5110.054	166.367	0.015	-0.008	-0.334	-1116.295	82.91	82.92	19.43	19.43
83	194	-4435.019	125.590	-0.014	0.006	0.058	1154.362	76.07	76.08	10.43	10.43
84	194	4434.993	-125.590	0.014	-0.006	-0.058	-1154.359	76.07	76.08	10.43	10.43
84	195	-4527.099	75.300	-0.011	0.004	0.011	430.319	61.06	61.06	36.59	36.59
85	195	4527.080	-75.301	0.011	-0.004	-0.011	-430.319	61.06	61.06	36.59	36.59
85	196	-4633.920	-120.665	-0.009	0.002	-0.027	666.207	67.51	67.51	29.63	29.63
86	196	4633.896	120.666	0.009	-0.002	0.027	-666.209	67.51	67.51	29.62	29.62
86	197	-5452.404	-80.421	-0.010	0.004	0.141	1011.716	84.49	84.49	26.95	26.95
87	197	5452.403	80.421	0.010	-0.004	-0.141	-1011.715	84.49	84.49	26.95	26.95
87	198	-6771.788	-247.205	0.019	-0.019	0.367	1683.251	114.40	114.40	18.67	18.67
88	198	6771.785	247.206	-0.019	0.019	-0.367	-1683.250	114.40	114.40	18.67	18.67
88	199	-6784.469	679.406	2.835	-0.001	1.498	1660.574	114.03	114.05	19.60	19.61
89	199	6841.868	414.014	-2.899	0.115	-1.498	-1660.586	114.68	114.71	20.25	20.26
89	210	-6741.807	187.462	-0.044	0.031	0.263	1069.348	100.44	100.44	39.63	39.63
90	210	6741.811	-187.461	0.044	-0.031	-0.263	-1069.350	100.44	100.44	39.63	39.63
90	211	-5453.405	-97.593	-0.029	0.020	-0.083	1255.100	89.90	89.90	18.52	18.52
91	211	5350.563	192.784	0.029	-0.019	0.083	-1138.084	86.05	86.04	21.55	21.55
91	212	-5434.307	149.511	-0.026	0.017	-0.197	1260.322	89.80	89.80	18.12	18.12
92	212	5434.304	-149.510	0.026	-0.017	0.198	-1260.320	89.80	89.80	18.12	18.12
92	213	-4744.831	74.819	-0.031	0.023	-0.562	481.479	64.68	64.67	37.30	37.29
93	213	4744.933	-74.820	0.031	-0.023	0.562	-481.476	64.68	64.67	37.30	37.30
93	214	-5680.476	-264.071	-0.023	0.015	-0.391	893.875	84.47	84.47	33.64	33.64
94	214	5680.473	264.071	0.023	-0.015	0.391	-893.875	84.47	84.47	33.64	33.64
94	215	-5702.664	-155.037	-0.023	0.015	-0.482	1774.560	104.26	104.25	3.34	3.34
95	215	5702.666	155.037	0.023	-0.015	0.482	-1774.561	104.26	104.25	3.34	3.34
95	216	-7025.612	-116.377	0.009	-0.009	-0.232	2435.387	133.97	133.97	-4.53	-4.53
96	216	7025.619	116.377	-0.008	0.009	0.232	-2435.387	133.97	133.97	-4.53	-4.53
96	217	-6945.185	759.773	-2.913	0.126	-5.115	1849.263	120.10	128.01	14.90	14.87
97	217	7002.188	177.798	2.568	-0.564	5.116	-1849.254	120.75	120.66	15.55	15.52
97	228	-6846.282	300.009	0.002	0.002	-0.050	1266.036	105.99	105.99	33.99	33.99
98	228	6846.279	-300.009	-0.002	-0.002	0.050	-1266.037	105.99	105.99	33.99	33.99
98	229	-5568.739	139.355	0.008	-0.003	-0.146	676.364	78.30	78.37	39.91	39.91
99	229	5880.297	62.231	-0.008	0.004	0.146	-484.958	77.68	77.68	50.10	50.10
99	230	-5890.750	54.128	0.008	-0.004	-0.121	524.761	78.68	78.68	48.84	48.83
100	230	5890.749	-54.130	-0.008	0.004	0.121	-524.761	78.68	78.68	48.84	48.83
100	231	-5051.300	235.923	0.022	-0.012	-0.264	159.182	61.02	61.01	51.96	51.96
101	231	5051.279	-235.922	-0.022	0.012	0.264	-159.182	61.02	61.01	51.96	51.96
101	232	-4993.438	145.043	0.022	-0.012	-0.198	-571.010	48.16	48.16	76.64	76.64
102	232	4993.420	-145.043	-0.022	0.012	0.198	571.006	48.16	48.16	76.64	76.64
102	233	-4889.129	-37.411	0.022	-0.012	-0.132	-522.713	44.05	44.05	73.77	73.77
103	233	4889.233	37.411	-0.022	0.012	0.132	522.711	44.05	44.05	73.78	73.77
103	234	-4860.490	144.143	0.022	-0.012	-0.066	-638.203	41.16	41.16	77.45	77.45
104	234	4860.466	-144.143	-0.022	0.012	0.066	638.203	41.16	41.16	77.45	77.45
104	235	-4825.099	323.540	0.026	-0.015	0.000	-1364.136	29.66	29.66	102.23	102.23

ADUCTO SOBRE LA RIERA FINOSA

POTESIS 1141

NE Z MAX grupo I (ELS) (ipf-75)

ESFUERZOS EN BARRAS

BRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	6248.256	121.145	0.075	-0.023	-1.088	1761.748
1	12	-6327.879	-92.704	-0.081	0.025	0.893	-1576.178
2	12	6327.880	92.705	0.081	-0.025	-0.893	1576.178
2	13	-5792.939	61.750	-0.106	0.034	0.650	-1700.285
3	13	5792.940	-61.751	0.105	-0.034	-0.650	1700.285
3	14	-5830.379	144.688	-0.105	0.034	0.340	-2022.406
4	14	5830.377	-144.687	0.105	-0.034	-0.340	2022.406
4	15	-5877.343	177.161	-0.105	0.034	0.030	-2544.375
5	15	5877.344	-177.163	0.106	-0.034	-0.030	2544.378
5	16	-5986.803	-123.185	-0.106	0.034	-0.280	-2816.385
6	16	5986.803	123.186	0.106	-0.034	0.280	2816.386
6	17	-5092.390	-298.336	-0.134	0.043	-1.089	-1931.205
7	17	5092.395	298.336	0.134	-0.043	1.089	1931.204
7	18	-4046.279	-107.498	-0.135	0.043	-1.507	-1429.226
8	18	4046.271	107.498	0.135	-0.043	1.507	1429.226
8	19	-4169.895	999.765	-0.099	0.134	-1.579	-2567.291
9	19	4225.694	1054.713	-0.076	0.040	1.579	2567.266
9	30	-4091.628	-200.170	0.097	-0.059	-1.964	-932.898
10	30	4091.630	200.170	-0.097	0.059	1.964	932.898
10	31	-5105.176	43.690	0.034	-0.022	-0.715	-807.195
1	31	4875.165	50.146	-0.034	0.022	0.715	902.021
1	32	-5882.780	313.806	0.022	-0.013	-0.059	-1320.321
2	32	5882.780	-313.807	-0.022	0.013	0.059	1320.320
12	33	-6015.621	132.486	0.006	-0.004	0.049	-2700.796
13	33	6015.620	-132.485	-0.006	0.004	-0.049	2700.795
13	34	-6165.686	-282.423	0.006	-0.004	0.071	-2176.769
14	34	6165.687	282.423	-0.006	0.004	-0.071	2176.767
14	35	-5236.889	-176.284	0.014	-0.011	-0.308	-1359.213
15	35	5236.883	176.283	-0.014	0.011	0.308	1359.212
15	36	-4205.796	210.506	-0.007	0.000	-1.012	-958.875
16	36	4205.806	-210.507	0.007	0.000	1.013	958.875
16	37	-4264.503	1172.338	-0.009	0.001	-1.173	-3080.967
17	37	4321.894	959.772	-0.067	0.030	1.173	3080.958
17	48	-4195.180	-235.087	0.064	-0.027	-0.791	-1456.403
18	48	4195.189	235.086	-0.064	0.027	0.791	1456.404
18	49	-5221.734	34.121	0.012	0.005	0.081	-1376.972
19	49	4911.629	70.818	-0.012	-0.005	-0.081	1456.353
19	50	-5920.841	284.835	0.009	0.004	0.386	-1716.957
20	50	5920.841	-284.835	-0.009	-0.004	-0.387	1716.954

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
32.02	32.04	132.22	132.23
37.05	37.06	126.69	126.69
37.05	37.06	126.69	126.69
28.21	28.22	124.91	124.91
28.21	28.22	124.91	124.91
21.49	21.50	136.51	136.51
21.49	21.50	136.51	136.51
10.46	10.46	155.15	155.15
10.45	10.46	155.15	155.15
5.67	5.67	165.83	165.83
5.67	5.67	165.83	165.83
15.13	15.11	124.95	124.94
15.13	15.11	124.95	124.94
14.36	14.34	95.63	95.62
14.36	14.34	95.63	95.62
-9.47	-9.50	136.52	136.51
-8.84	-8.86	137.15	137.14
25.89	25.86	78.93	78.92
25.89	25.86	78.93	78.92
40.20	40.19	86.10	86.10
35.48	35.47	86.78	86.77
37.67	37.66	112.75	112.75
37.67	37.66	112.75	112.75
8.56	8.56	162.15	162.15
8.56	8.56	162.15	162.15
21.89	21.89	145.68	145.68
21.89	21.89	145.68	145.68
29.45	29.45	106.75	106.75
29.45	29.45	106.75	106.75
26.61	26.59	81.13	81.12
26.61	26.59	81.13	81.12
-19.79	-19.81	155.42	155.41
-19.14	-19.16	156.07	156.06
15.45	15.43	98.27	98.26
15.45	15.43	98.27	98.26
28.89	28.89	107.19	107.19
23.60	23.60	106.42	106.42
29.30	29.30	126.94	126.94
29.30	29.30	126.94	126.94

20	51	-6051.812	109.131	-0.007	0.012	0.419	-2955.636	3.32	3.32	171.40	171.41
21	51	6051.811	-109.131	0.007	-0.012	-0.419	2955.635	3.32	3.32	171.40	171.41
21	52	-6203.642	-292.232	-0.010	0.014	0.387	-2356.378	18.33	18.34	152.34	152.34
22	52	6203.643	292.232	0.010	-0.014	-0.388	2356.376	18.33	18.34	152.34	152.34
22	53	-5270.674	-199.299	-0.007	0.015	0.125	-1474.443	27.28	27.28	111.13	111.13
23	53	5270.684	199.299	0.007	-0.015	-0.125	1474.440	27.28	27.28	111.13	111.13
23	54	-4246.108	215.105	-0.052	0.038	-0.701	-1037.481	25.32	25.31	84.32	84.31
24	54	4246.115	-215.105	0.052	-0.038	0.702	1037.480	25.32	25.31	84.32	84.31
24	55	-4308.519	1176.345	-0.054	0.040	-1.032	-3175.794	-21.39	-21.41	159.21	159.20
25	55	4365.696	963.699	-0.060	0.036	1.032	3175.786	-20.74	-20.76	159.86	159.85
25	66	-4241.780	-239.647	0.058	-0.034	-0.678	-1536.632	14.20	14.19	101.58	101.58
26	66	4241.790	239.648	-0.058	0.034	0.678	1536.632	14.20	14.19	101.58	101.58
26	67	-5268.425	28.477	0.008	-0.001	0.150	-1444.440	27.92	27.92	110.06	110.07
27	67	4986.195	77.293	-0.008	0.001	-0.150	1512.513	23.20	23.20	109.21	109.22
27	68	-5995.820	283.439	0.008	-0.002	0.387	-1761.258	29.17	29.18	129.33	129.33
28	68	5995.818	-283.440	-0.008	0.002	-0.387	1761.257	29.17	29.18	129.33	129.33
28	69	-6128.459	107.302	-0.008	0.006	0.414	-3001.485	3.17	3.18	173.87	173.87
29	69	6128.459	-107.301	0.008	-0.006	-0.414	3001.486	3.17	3.18	173.87	173.87
29	70	-6279.030	-299.169	-0.011	0.008	0.380	-2381.712	18.63	18.64	154.08	154.08
30	70	6279.029	299.167	0.011	-0.008	-0.379	2381.713	18.63	18.64	154.08	154.08
30	71	-5351.629	-205.425	-0.011	0.009	0.125	-1475.989	28.17	28.17	112.11	112.11
31	71	5351.637	205.426	0.011	-0.009	-0.125	1475.991	28.17	28.17	112.11	112.11
31	72	-4320.415	217.746	-0.060	0.039	-0.681	-1037.346	26.17	26.16	85.16	85.15
32	72	4320.395	-217.745	0.060	-0.039	0.681	1037.346	26.17	26.15	85.16	85.15
32	73	-4378.799	1180.030	-0.062	0.041	-1.037	-3190.351	-20.92	-20.94	160.51	160.50
81	181	4780.556	955.469	-0.039	0.037	0.845	3139.646	-15.22	-15.24	163.32	163.32
81	192	-4653.655	-230.984	0.037	-0.035	-0.591	-1535.138	18.92	18.91	106.22	106.21
82	192	4653.760	230.984	-0.037	0.035	0.592	1535.139	18.92	18.91	106.22	106.21
82	193	-5680.872	28.141	0.000	-0.009	0.088	-1466.851	32.11	32.11	115.53	115.53
83	193	5373.649	76.861	0.000	0.009	-0.088	1544.731	26.89	26.89	114.74	114.74
83	194	-6383.446	282.047	-0.002	-0.007	0.303	-1804.551	32.62	32.63	135.25	135.25
84	194	6383.444	-282.048	0.002	0.007	-0.303	1804.556	32.62	32.63	135.25	135.25
84	195	-6514.497	87.320	-0.004	-0.004	0.290	-3032.368	6.88	6.89	179.33	179.33
85	195	6514.498	-87.321	0.004	0.004	-0.290	3032.370	6.88	6.89	179.33	179.33
85	196	-6666.514	-295.985	-0.018	0.004	0.225	-2419.137	22.21	22.22	159.79	159.79
86	196	6666.515	295.986	0.018	-0.004	-0.225	2419.137	22.21	22.22	159.79	159.79
86	197	-5733.010	-205.648	-0.017	0.002	-0.046	-1469.090	32.66	32.66	116.21	116.21
87	197	5732.991	205.648	0.017	-0.002	0.046	1469.089	32.66	32.66	116.21	116.21
87	198	-4707.864	218.756	-0.058	0.036	-0.786	-1035.080	30.63	30.61	89.49	89.48
88	198	4707.963	-218.756	0.058	-0.036	0.786	1035.080	30.63	30.61	89.49	89.48
88	199	-4770.427	1180.324	-0.060	0.039	-1.122	-3191.146	-16.48	-16.50	164.99	164.99
89	199	4827.808	965.653	-0.012	0.012	1.122	3191.137	-15.82	-15.84	165.65	165.64
89	210	-4703.934	-241.939	0.011	-0.010	-0.972	-1546.302	19.25	19.23	107.18	107.17
90	210	4703.914	241.939	-0.011	0.010	0.972	1546.301	19.25	19.23	107.18	107.17
90	211	-5731.240	-11.170	-0.004	0.003	-0.334	-1390.660	34.38	34.38	113.47	113.47
91	211	5623.241	111.109	0.004	-0.003	0.335	1517.722	30.34	30.33	116.65	116.64
91	212	-5711.162	198.672	-0.007	0.006	-0.348	-1604.840	29.40	29.40	120.67	120.67
92	212	5711.140	-198.671	0.007	-0.006	0.349	1604.844	29.40	29.40	120.67	120.67
92	213	-6800.091	55.107	-0.002	0.000	-0.110	-2671.246	18.14	18.14	170.05	170.05
93	213	6800.095	-55.107	0.002	0.000	0.110	2671.248	18.14	18.14	170.05	170.05
93	214	-5969.692	-338.017	-0.020	0.015	-0.459	-1825.587	27.45	27.44	131.27	131.27
94	214	5969.670	338.017	0.020	-0.015	0.459	1825.587	27.45	27.44	131.27	131.27
94	215	-5992.968	-291.982	-0.020	0.015	-0.537	-532.875	56.39	56.38	86.69	86.69
95	215	5992.942	291.982	0.020	-0.015	0.537	532.875	56.39	56.38	86.69	86.69
95	216	-4903.383	312.931	-0.070	0.052	-1.515	-239.411	50.51	50.48	64.11	64.10

96	216	4903.362	-312.931	0.070	-0.052	1.515	239.411	50.51	50.48	64.11	64.10
96	217	-4823.745	1245.234	-0.067	0.049	-1.842	-2870.366	-8.75	-8.78	154.48	154.46
97	217	4880.816	714.145	-0.078	0.058	1.842	2870.382	-8.10	-8.13	155.13	155.11
97	228	-4794.333	44.047	0.063	-0.045	-1.303	-1878.475	12.91	12.89	119.73	119.72
98	228	4794.313	-44.046	-0.063	0.045	1.304	1878.474	12.91	12.89	119.73	119.72
98	229	-5849.520	141.912	0.062	-0.044	-1.095	-2136.046	19.20	19.19	140.67	140.67
99	229	6176.598	69.730	-0.062	0.044	1.095	2337.000	18.97	18.95	151.37	151.36
99	230	-6187.573	-0.113	0.062	-0.044	-0.912	-2204.514	21.53	21.52	146.90	146.89
00	230	6187.547	0.111	-0.062	0.044	0.912	2204.515	21.53	21.52	146.90	146.89
00	231	-7211.999	311.962	0.048	-0.035	-0.559	-2622.230	23.92	23.91	173.04	173.04
01	231	7212.000	-311.960	-0.048	0.035	0.559	2622.230	23.92	23.91	173.04	173.04
01	232	-7129.701	72.849	0.048	-0.035	-0.420	-3430.225	5.06	5.06	200.14	200.13
02	232	7129.702	-72.849	-0.048	0.035	0.419	3430.221	5.06	5.06	200.14	200.13
02	233	-6981.313	-296.558	0.048	-0.035	-0.280	-2808.004	17.17	17.17	176.86	176.86
03	233	6981.313	296.558	-0.048	0.035	0.280	2808.002	17.17	17.17	176.86	176.86
03	234	-6940.416	-148.039	0.048	-0.035	-0.140	-2096.276	32.49	32.49	151.71	151.70
04	234	6940.416	148.039	-0.048	0.035	0.140	2096.275	32.49	32.49	151.71	151.70
04	235	-6890.094	59.836	0.044	-0.032	0.000	-1941.063	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1142

MOMI Z MIN grupo I (ELS) (ipf-75)

ESFUERZOS EN BARRAS — TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	3125.632	149.187	0.125	-0.039	-1.241	-566.841	48.13	48.15	15.90	15.91
1	12	-3181.593	-105.709	-0.119	0.036	0.860	895.732	56.07	56.08	5.13	5.14
2	12	3181.594	105.709	0.119	-0.036	-0.860	-895.733	56.07	56.08	5.13	5.14
2	13	-3236.648	-58.911	-0.119	0.036	0.510	1168.871	62.75	62.76	-3.72	-3.71
3	13	3236.648	58.911	0.119	-0.036	-0.510	-1168.870	62.75	62.76	-3.72	-3.71
3	14	-3876.236	-7.556	-0.066	0.019	0.183	1326.819	73.54	73.54	-1.91	-1.91
4	14	3876.237	7.556	0.066	-0.020	-0.183	-1326.819	73.54	73.54	-1.91	-1.91
4	15	-3909.245	126.444	-0.066	0.020	-0.012	1117.584	69.28	69.28	5.72	5.72
5	15	3909.244	-126.445	0.066	-0.020	0.012	-1117.583	69.28	69.28	5.72	5.72
5	16	-3986.174	26.532	-0.066	0.020	-0.208	757.445	62.17	62.16	19.09	19.09
6	16	3986.175	-26.531	0.066	-0.020	0.208	-757.445	62.17	62.16	19.09	19.09
6	17	-4814.996	-188.671	-0.039	0.011	0.091	939.178	75.63	75.63	22.22	22.22
7	17	4814.999	188.671	0.039	-0.011	-0.091	-939.178	75.63	75.63	22.22	22.22
7	18	-6072.317	-298.458	-0.026	0.006	0.202	1760.057	108.14	108.14	8.05	8.05
8	18	6072.316	298.457	0.027	-0.006	-0.202	-1760.057	108.14	108.14	8.05	8.05
8	19	-6248.213	510.669	-0.093	-0.069	-0.915	2026.674	116.07	116.05	0.80	0.80
9	19	6304.011	543.336	-0.035	0.026	0.915	-2026.691	116.70	116.68	1.44	1.43
9	30	-6113.256	184.742	-0.022	0.011	-0.142	1238.252	97.04	97.03	26.62	26.62
10	30	6113.257	-184.741	0.022	-0.011	0.142	-1238.251	97.04	97.03	26.62	26.62
10	31	-4929.828	-195.035	0.042	-0.026	-0.703	1618.807	90.88	90.86	-1.19	-1.19
11	31	4610.747	284.412	-0.042	0.026	0.703	-1528.487	86.38	86.37	-0.55	-0.55
11	32	-3929.647	68.414	0.054	-0.035	-1.059	1947.578	87.93	87.91	-22.84	-22.84
12	32	3929.647	-68.415	-0.054	0.035	1.059	-1947.579	87.93	87.91	-22.39	-22.84
12	33	-4023.011	61.018	0.058	-0.037	-0.849	1353.649	75.81	75.80	-1.17	-1.18
13	33	4023.003	-61.017	-0.058	0.037	0.849	-1353.650	75.81	75.80	-1.17	-1.18
13	34	-4128.472	-83.929	0.058	-0.037	-0.625	1562.165	81.64	81.63	-7.21	-7.21
14	34	4128.481	83.929	-0.058	0.037	0.626	-1562.165	81.64	81.63	-7.21	-7.21
14	35	-4955.280	-15.178	0.049	-0.031	-0.001	1752.005	95.25	95.25	-4.38	-4.38
15	35	4955.281	15.178	-0.049	0.031	0.001	-1752.007	95.25	95.25	-4.38	-4.38
15	36	-6275.703	-145.196	0.081	-0.048	0.634	2062.928	117.17	117.18	-0.15	-0.14
16	36	6275.704	145.195	-0.081	0.048	-0.634	-2062.928	117.17	117.18	-0.15	-0.14
16	37	-6359.221	708.224	0.024	-0.014	0.528	1851.832	113.44	113.45	8.13	8.13
17	37	6416.618	386.545	0.007	-0.009	-0.528	-1851.830	114.09	114.10	8.78	8.79
17	48	-6236.325	143.240	-0.054	0.037	0.767	1216.126	97.94	97.95	28.78	28.79
18	48	6236.325	-143.240	0.054	-0.037	-0.767	-1216.125	97.94	97.95	28.78	28.79
18	49	-4943.568	-171.374	0.004	0.002	0.228	1649.270	92.84	92.84	-0.95	-0.95
19	49	4648.205	271.327	-0.004	-0.002	-0.228	-1573.662	87.80	87.80	-1.69	-1.69
19	50	-4729.416	118.756	0.004	0.002	0.243	1928.024	96.58	96.59	-13.06	-13.06
20	50	4729.416	-118.756	-0.004	-0.002	-0.243	-1928.026	96.58	96.59	-13.06	-13.06

20	51	-4065.496	62.322	0.010	0.001	0.016	1322.520	75.60	75.60	0.39	0.39
[illegible]	51	4065.505	-62.322	-0.010	-0.001	-0.016	-1322.521	75.60	75.60	0.39	0.39
[illegible]	52	-4172.215	-88.367	0.013	-0.001	0.059	1519.761	81.19	81.19	-5.24	-5.24
22	52	4172.208	88.366	-0.013	0.001	-0.059	-1519.762	81.19	81.19	-5.24	-5.24
22	53	-4990.194	-5.779	0.010	-0.002	0.334	1705.186	94.61	94.61	-2.36	-2.36
23	53	4990.194	5.780	-0.010	0.002	-0.334	-1705.187	94.61	94.61	-2.36	-2.36
23	54	-6308.777	-167.964	0.062	-0.029	0.909	2042.514	117.09	117.11	0.94	0.94
24	54	6308.774	167.964	-0.062	0.029	-0.910	-2042.515	117.09	117.11	0.94	0.94
24	55	-6397.565	700.459	0.009	-0.002	0.562	1821.834	113.21	113.22	9.61	9.61
25	55	6454.765	387.899	0.008	-0.007	-0.562	-1821.835	113.86	113.87	10.26	10.26
25	66	-6278.452	145.389	-0.053	0.039	0.910	1282.601	99.89	99.91	26.95	26.96
26	66	6278.454	-145.389	0.059	-0.039	-0.910	-1282.601	99.89	99.91	26.95	26.96
26	67	-4990.765	-169.278	-0.003	0.004	0.365	1711.637	94.76	94.76	-2.58	-2.58
27	67	4721.939	270.022	0.003	-0.003	-0.365	-1646.800	90.26	90.27	-3.39	-3.39
27	68	-4801.162	124.976	-0.003	0.003	0.352	1987.872	98.73	98.73	-14.32	-14.32
28	68	4801.160	-124.975	0.003	-0.004	-0.352	-1987.872	98.73	98.73	-14.32	-14.32
28	69	-4136.356	68.470	-0.001	0.002	0.135	1358.230	77.20	77.20	-0.04	-0.04
29	69	4136.366	-68.471	0.001	-0.002	-0.135	-1358.229	77.20	77.20	-0.04	-0.04
[illegible]	70	-4242.189	-85.683	0.002	0.000	0.136	1541.704	82.47	82.47	-5.20	-5.20
[illegible]	70	4242.198	85.682	-0.002	0.000	-0.136	-1541.703	82.47	82.47	-5.20	-5.20
[illegible]	71	-5070.012	-4.095	0.003	0.000	0.358	1714.432	95.72	95.73	-1.78	-1.77
31	71	5070.012	4.095	-0.003	0.000	-0.358	-1714.430	95.72	95.73	-1.78	-1.77
31	72	-6390.308	-172.210	0.058	-0.034	0.872	2061.389	118.44	118.45	1.21	1.22
32	72	6390.310	172.211	-0.058	0.034	-0.872	-2061.389	118.44	118.45	1.21	1.22
32	73	-6473.410	699.883	0.007	-0.004	0.542	1836.955	114.41	114.42	9.94	9.95
81	181	6875.206	380.264	0.016	-0.010	-0.558	-1878.604	119.90	119.91	13.07	13.08
81	192	-6694.646	150.981	-0.060	0.039	0.794	1316.479	105.38	105.39	30.52	30.52
82	192	6694.647	-150.981	0.060	-0.039	-0.794	-1316.478	105.38	105.39	30.52	30.52
82	193	-5901.892	-153.874	-0.017	0.010	0.290	1710.228	99.40	99.41	2.15	2.15
83	193	5110.053	253.887	0.017	-0.010	-0.290	-1636.049	94.44	94.44	1.40	1.40
83	194	-4435.018	82.927	-0.016	0.008	0.008	1926.344	93.20	93.20	-16.35	-16.35
84	194	4434.992	-82.928	0.015	-0.008	-0.007	-1926.342	93.20	93.20	-16.35	-16.35
84	195	-4527.099	77.494	-0.013	0.005	-0.047	1280.710	79.93	79.92	7.09	7.09
85	195	4527.080	-77.495	0.013	-0.005	0.047	-1280.710	79.93	79.92	7.09	7.09
85	196	-4633.919	-73.613	-0.011	0.003	-0.093	1421.186	84.26	84.26	3.44	3.43
86	196	4633.895	73.615	0.011	-0.003	0.093	-1421.188	84.26	84.26	3.43	3.43
86	197	-5452.403	11.487	-0.012	0.005	0.069	1497.460	95.26	95.26	10.10	10.10
[illegible]	197	5452.403	-11.488	0.012	-0.005	-0.069	-1497.460	95.26	95.26	10.10	10.10
[illegible]	198	-6771.788	-159.983	0.035	-0.032	0.451	1789.775	116.76	116.77	14.98	14.98
88	198	6771.785	159.984	-0.035	0.032	-0.451	-1789.774	116.76	116.77	14.98	14.98
88	199	-6860.661	706.937	-0.004	-0.001	0.251	1644.364	114.55	114.55	21.03	21.03
89	199	6919.060	420.285	0.017	-0.011	-0.251	-1644.370	115.20	115.20	21.69	21.69
89	210	-6741.807	94.093	-0.062	0.044	0.330	1200.325	103.34	103.35	35.08	35.09
90	210	6741.811	-94.093	0.062	-0.044	-0.330	-1200.326	103.34	103.35	35.08	35.09
90	211	-5453.405	-181.108	-0.038	0.026	-0.192	1769.298	101.31	101.30	0.69	0.68
91	211	5350.563	276.298	0.038	-0.026	0.192	-1648.274	97.45	97.45	3.71	3.71
91	212	-5434.307	110.853	-0.035	0.024	-0.342	2011.220	106.45	106.45	-7.92	-7.93
92	212	5434.304	-110.853	0.035	-0.024	0.342	-2011.218	106.45	106.45	-7.92	-7.93
92	213	-4744.831	81.019	-0.040	0.029	-0.742	1295.264	82.73	82.72	9.07	9.06
93	213	4744.933	-81.019	0.040	-0.029	0.742	-1295.262	82.73	82.72	9.07	9.06
93	214	-5680.476	-213.015	-0.032	0.022	-0.606	1596.726	100.07	100.05	9.26	9.25
94	214	5680.473	213.015	0.033	-0.022	0.606	-1596.727	100.07	100.05	9.26	9.25
94	215	-5702.664	-59.124	-0.033	0.022	-0.732	2192.658	113.54	113.52	-11.16	-11.17
95	215	5702.666	59.124	0.032	-0.022	0.732	-2192.659	113.54	113.52	-11.16	-11.17
95	216	-7025.611	-30.077	0.019	-0.017	-0.322	2473.287	134.81	134.81	-5.84	-5.85
96	216	7025.613	30.077	-0.019	0.017	0.322	-2473.286	134.81	134.81	-5.84	-5.85
96	217	-6912.332	791.076	-0.005	0.002	-0.106	1846.251	119.61	119.61	14.62	14.62
97	217	6969.335	175.766	-0.004	0.001	0.106	-1846.236	120.26	120.26	15.27	15.27
97	228	-6846.282	206.371	0.001	0.004	-0.012	1392.127	108.79	108.79	29.62	29.62
98	228	6846.279	-206.371	0.000	-0.004	0.012	-1392.127	108.79	108.79	29.62	29.62
98	229	-5568.739	59.637	0.009	-0.004	-0.163	1069.350	87.09	87.09	26.28	26.28
99	229	5880.297	141.949	-0.009	0.004	0.163	-877.944	86.39	86.39	36.46	36.46
99	230	-5890.750	8.414	0.009	-0.004	-0.135	1101.974	91.48	91.48	28.81	28.81
100	230	5890.749	-8.417	-0.009	0.004	0.136	-1101.974	91.48	91.48	28.81	28.81
100	231	-5051.300	224.214	0.023	-0.013	-0.276	820.732	75.69	75.69	29.02	29.01
101	231	5051.279	-224.213	-0.023	0.013	0.276	-820.732	75.69	75.69	29.02	29.01
101	232	-4993.438	167.338	0.023	-0.013	-0.207	74.991	58.49	58.49	54.23	54.23
102	232	4993.420	-167.338	-0.023	0.012	0.207	-74.995	58.49	58.49	54.23	54.23
102	233	-4889.129	18.889	0.023	-0.012	-0.138	7.850	55.82	55.81	55.37	55.37
103	233	4889.233	-18.889	-0.023	0.012	0.138	-7.851	55.82	55.81	55.37	55.37
103	234	-4860.490	234.448	0.023	-0.012	-0.069	-322.966	48.15	48.15	66.52	66.52
104	234	4860.466	-234.448	-0.023	0.013	0.069	322.966	48.15	48.15	66.52	66.52
104	235	-4825.099	443.876	0.027	-0.016	0.000	-1364.115	24.66	24.66	102.23	102.23

ACUCTO SOBRE LA RIERA FEMOSA

POTESIS 1161

ME Z MAX grupo II (ELS) (ipf-75)

ESFUERZOS EN BARRAS

RRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	5689.159	114.366	-12.405	-44.165	50.579	1679.306
1	12	-5760.350	-90.750	9.746	35.297	-18.026	-1492.173
2	12	5760.351	90.750	-9.746	-35.297	18.026	1492.172
2	13	-5254.644	0.263	-0.038	0.013	0.448	-1301.417
3	13	5254.645	-0.263	0.038	-0.013	-0.448	1301.418
3	14	-5288.043	68.720	-0.038	0.013	0.336	-1420.004
4	14	5288.042	-68.719	0.038	-0.013	-0.336	1420.005
4	15	-5330.014	91.760	-0.038	0.013	0.223	-1700.281
5	15	5330.015	-91.762	0.038	-0.013	-0.223	1700.283
5	16	-5428.232	-184.738	-0.038	0.013	0.111	-1737.422
6	16	5428.232	184.739	0.038	-0.013	-0.111	1737.423
6	17	-5198.014	-201.806	-3.551	-9.044	27.209	-864.261
7	17	5198.018	201.806	3.551	9.044	-27.209	864.260
7	18	-3027.255	117.990	-6.230	-17.905	12.526	-811.969
8	18	3027.248	-117.991	6.230	17.905	-12.526	811.969
8	19	-3138.976	867.791	-8.885	-26.775	-9.674	-1916.698
9	19	3189.195	845.739	-12.527	-49.619	9.676	1916.688
9	30	-3069.152	-129.272	9.025	37.918	32.081	-753.910
10	30	3069.154	129.272	-9.025	-37.918	-32.081	753.911
10	31	-4556.217	41.304	0.031	-0.019	-0.581	-201.262
11	31	4349.208	43.149	-0.031	0.019	0.581	286.606
[illegible]	32	-5256.453	276.247	0.020	-0.011	0.011	-654.624
[illegible]	32	5256.453	-276.248	-0.020	0.011	-0.011	654.623
12	33	-5376.403	90.830	0.017	-0.009	0.089	-1828.706
13	33	5376.403	-90.830	-0.017	0.009	-0.089	1828.705
13	34	-5511.856	-290.748	0.017	-0.009	0.155	-1230.870
14	34	5511.856	290.748	-0.017	0.009	-0.155	1230.869
14	35	-4676.334	-203.384	0.025	-0.016	-0.140	-337.235
15	35	4676.329	203.383	-0.025	0.016	0.140	337.235
15	36	-4394.796	151.634	-12.011	-32.268	-2.481	-388.897
16	36	4394.805	-151.634	12.011	32.268	2.481	388.896
16	37	-4447.005	958.365	-15.512	-43.969	-55.806	-2073.406
17	37	4498.657	748.854	-13.388	-47.228	55.807	2073.402
17	48	-4383.985	-156.199	9.886	35.528	-10.713	-914.091
18	48	4383.994	156.199	-9.886	-35.528	10.713	914.091
18	49	-4734.836	51.764	0.006	0.003	0.098	-388.629
19	49	4455.741	42.681	-0.006	-0.003	-0.098	460.066
19	50	-5363.634	269.245	0.003	0.002	0.351	-760.712
[illegible]	50	5363.634	-269.245	-0.003	-0.002	-0.351	760.710

TENSIONES

20	51	-5481.108	85.946	0.000	0.004	0.359	-1908.669	20.04	20.05	128.59	128.59
21	51	5481.107	-85.946	0.000	-0.004	-0.359	1908.668	20.04	20.05	128.59	128.59
21	52	-5617.355	-283.442	-0.002	0.006	0.356	-1306.300	34.95	34.96	109.24	109.24
22	52	5617.356	283.441	0.002	-0.006	-0.356	1306.298	34.95	34.96	109.24	109.24
22	53	-4777.284	-207.963	0.000	0.007	0.144	-417.898	45.10	45.10	68.86	68.87
23	53	4777.293	207.963	0.000	-0.007	-0.144	417.896	45.10	45.10	68.86	68.87
23	54	-3216.963	137.116	-11.137	-34.664	-25.192	-411.740	27.70	27.26	50.98	50.81
24	54	3216.969	-137.115	11.137	34.664	25.192	411.739	27.70	27.26	50.98	50.81
24	55	-3273.766	942.940	-14.638	-46.365	-75.131	-2032.522	-7.17	-8.48	108.01	107.52
25	55	3325.226	746.327	-14.009	-47.214	75.131	2032.515	-6.58	-7.89	108.59	108.11
25	66	-3214.336	-154.127	10.507	35.513	-27.631	-877.432	17.36	16.88	67.11	66.93
26	66	3214.349	154.127	-10.507	-35.513	27.631	877.432	17.36	16.88	67.11	66.93
26	67	-4709.510	49.296	0.002	0.000	0.159	-408.122	44.54	44.55	67.75	67.75
27	67	4455.503	45.897	-0.002	0.000	-0.159	469.387	40.29	40.30	66.99	66.99
27	68	-5364.568	270.601	0.002	0.000	0.353	-768.821	44.00	44.00	87.72	87.72
28	68	5364.566	-270.601	-0.002	0.000	-0.353	768.821	44.00	44.00	87.72	87.72
28	69	-5484.346	86.783	0.000	0.001	0.358	-1928.848	19.63	19.64	129.33	129.33
29	69	5484.346	-86.782	0.000	-0.001	-0.358	1928.850	19.63	19.64	129.33	129.33
29	70	-5620.264	-287.202	-0.003	0.003	0.352	-1316.977	34.75	34.75	109.65	109.65
30	70	5620.263	287.201	0.003	-0.003	-0.352	1316.978	34.75	34.75	109.65	109.65
30	71	-4786.008	-210.993	-0.003	0.004	0.149	-416.128	45.24	45.24	68.90	68.90
31	71	4786.015	210.994	0.003	-0.004	-0.149	416.129	45.24	45.24	68.90	68.90
31	72	-4487.814	134.716	-10.512	-34.682	-27.679	-402.611	42.38	41.90	65.13	64.95
32	72	4487.796	-134.716	10.512	34.682	27.679	402.611	42.38	41.90	65.13	64.95
32	73	-4539.719	941.458	-14.013	-46.383	-75.197	-2021.754	7.48	6.17	122.04	121.56
81	181	4513.432	745.712	-14.784	-46.616	72.192	1989.729	7.86	6.61	120.62	120.16
81	192	-4389.651	-153.072	11.282	34.915	-21.689	-856.490	31.15	30.77	79.74	79.60
82	192	4389.745	153.072	-11.282	-34.915	21.689	856.491	31.15	30.77	79.74	79.60
82	193	-5112.064	53.656	-0.005	-0.001	0.112	-411.016	49.06	49.06	72.44	72.44
83	193	4836.284	40.847	0.005	0.001	-0.112	481.108	44.37	44.37	71.73	71.73
83	194	-5745.102	274.010	-0.006	0.001	0.288	-808.905	47.44	47.44	93.44	93.44
84	194	5745.100	-274.011	0.006	-0.001	-0.288	808.908	47.44	47.44	93.44	93.44
84	195	-5863.047	90.595	-0.008	0.003	0.260	-1976.278	22.89	22.89	135.28	135.28
85	195	5863.048	-90.595	0.008	-0.003	-0.260	1976.279	22.89	22.89	135.28	135.28
85	196	-5999.863	-279.519	-0.010	0.005	0.223	-1390.598	37.44	37.44	116.52	116.52
86	196	5999.863	279.520	0.010	-0.005	-0.223	1390.598	37.44	37.44	116.52	116.52
86	197	-5152.971	-206.286	-0.009	0.003	0.001	-468.858	48.24	48.24	74.91	74.91
87	197	5152.955	206.286	0.009	-0.003	-0.001	468.857	48.24	48.24	74.91	74.91
87	198	-4381.019	135.071	-9.735	-35.280	-3.698	-494.247	38.93	38.86	67.02	66.99
88	198	4381.109	-135.071	9.735	35.280	3.698	494.247	38.93	38.86	67.02	66.99
88	199	-4427.755	941.049	-13.236	-46.981	-48.204	-2124.968	3.68	2.84	124.26	123.95
89	199	4479.398	768.935	-15.156	-44.000	48.203	2124.957	4.27	3.43	124.85	124.54
89	210	-4358.343	-176.613	11.654	32.299	3.741	-899.999	29.61	29.67	80.81	80.83
90	210	4358.325	176.613	-11.654	-32.299	-3.741	899.998	29.61	29.67	80.81	80.83
90	211	-5163.143	34.003	-0.013	0.009	-0.179	-365.011	50.66	50.66	71.42	71.42
91	211	5065.943	55.942	0.013	-0.009	0.179	479.368	47.02	47.02	74.28	74.28
91	212	-5144.647	214.699	-0.016	0.011	-0.229	-713.027	42.74	42.73	83.28	83.28
92	212	5144.627	-214.699	0.016	-0.011	0.229	713.030	42.74	42.73	83.28	83.28
92	213	-6124.259	77.330	-0.011	0.006	-0.051	-1796.421	29.85	29.85	132.02	132.01
93	213	6124.263	-77.330	0.011	-0.006	0.051	1796.423	29.85	29.85	132.02	132.01
93	214	-5376.478	-298.695	-0.018	0.013	-0.360	-1101.039	36.77	36.76	99.38	99.38
94	214	5376.457	298.695	0.018	-0.013	0.360	1101.040	36.77	36.76	99.38	99.38
94	215	-5393.671	-265.334	-0.018	0.013	-0.431	56.474	62.64	62.63	59.42	59.42
95	215	5393.648	265.335	0.018	-0.013	0.431	-56.474	62.64	62.63	59.42	59.42
95	216	-4345.617	227.477	-9.362	-37.898	30.393	33.291	49.93	50.46	48.20	48.40

96	216	4345.597	-227.477	9.362	37.898	-30.393	-33.291	49.93	50.46	48.20	48.40
96	217	-4283.497	1002.884	-12.864	-49.598	-12.670	-2009.231	4.30	4.08	118.49	118.41
97	217	4334.860	604.795	-11.156	-27.873	12.668	2009.233	4.88	4.66	119.07	118.99
97	228	-4264.267	-124.956	8.502	19.003	16.205	-1158.532	22.69	22.98	88.67	88.77
98	228	4264.249	124.957	-8.502	-19.003	-16.205	1158.532	22.69	22.97	88.67	88.77
98	229	-5221.175	18.699	5.846	10.134	37.301	-976.610	37.43	38.08	93.18	93.42
99	229	5515.547	171.784	-5.846	-10.134	-37.301	1157.469	36.77	37.42	102.80	103.04
99	230	-5570.364	70.423	0.025	-0.017	-0.370	-1174.102	37.36	37.35	104.12	104.12
00	230	5570.340	-70.424	-0.025	0.017	0.370	1174.103	37.36	37.35	104.12	104.12
00	231	-6492.034	345.103	0.012	-0.009	-0.142	-1748.382	35.11	35.10	134.53	134.53
01	231	6492.036	-345.102	-0.012	0.009	0.142	1748.382	35.11	35.10	134.53	134.53
01	232	-6417.656	123.715	0.012	-0.009	-0.107	-2655.739	14.14	14.13	165.16	165.16
02	232	6417.657	-123.716	-0.012	0.009	0.107	2655.736	14.14	14.13	165.16	165.16
02	233	-6283.797	-214.937	0.012	-0.009	-0.071	-2257.729	21.44	21.44	149.83	149.83
03	233	6283.796	214.937	-0.012	0.009	0.071	2257.727	21.44	21.44	149.83	149.83
03	234	-6246.681	-87.457	0.012	-0.009	-0.036	-1760.990	32.03	32.03	132.18	132.18
04	234	6246.681	87.457	-0.012	0.009	0.036	1760.989	32.03	32.03	132.18	132.18
04	235	-6201.084	91.554	0.010	-0.007	0.000	-1746.938	31.83	31.83	131.17	131.17

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1162

NOME Z MIN grupo II (ELS) (ipf-75)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	2747.340	120.495	-12.357	-44.180	50.425	-603.887	45.10	44.22	10.48	10.13
1	12	-2798.174	-83.237	9.708	35.309	-18.038	862.810	51.14	50.82	1.97	1.86
2	12	2798.176	83.238	-9.708	-35.309	18.038	-862.810	51.14	50.82	1.97	1.86
2	13	-2848.194	-43.499	7.053	26.439	6.580	1078.544	56.28	56.39	-5.02	-4.98
3	13	2848.194	43.499	-7.053	-26.439	-6.580	-1078.543	56.28	56.39	-5.02	-4.98
3	14	-2872.344	94.269	4.399	17.569	23.401	993.381	54.52	54.92	-1.85	-1.70
4	14	2872.345	-94.268	-4.399	-17.569	-23.401	-993.381	54.52	54.92	-1.85	-1.70
4	15	-2902.521	200.117	1.745	8.699	32.425	531.215	44.53	45.10	14.50	14.71
5	15	2902.520	-200.118	-1.745	-8.699	-32.425	-531.213	44.53	45.10	14.50	14.71
5	16	-2972.225	95.444	-0.910	-0.171	33.652	-23.434	33.01	33.60	34.53	34.75
6	16	2972.226	-95.443	0.910	0.171	-33.652	23.433	33.01	33.60	34.53	34.75
6	17	-4293.683	-345.886	-0.030	0.009	0.110	-36.051	48.06	48.07	50.11	50.11
7	17	4293.686	345.887	0.030	-0.009	-0.110	36.051	48.06	48.07	50.11	50.12
7	18	-5504.603	-482.340	-0.026	0.008	0.079	1301.867	91.52	91.52	17.48	17.48
8	18	5504.602	482.339	0.026	-0.008	-0.079	-1301.868	91.52	91.52	17.48	17.48
8	19	-5662.614	456.944	-0.026	0.008	-0.003	1825.215	104.92	104.92	1.13	1.13
9	19	5712.832	490.350	-0.009	0.005	0.003	-1825.231	105.50	105.50	1.70	1.70
9	30	-5540.762	360.792	0.009	-0.005	0.032	1039.947	86.12	86.12	26.98	26.98
10	30	5540.764	-360.792	-0.009	0.005	-0.032	-1039.947	86.12	86.12	26.98	26.98
10	31	-4959.540	-110.067	5.486	26.242	61.167	947.904	76.93	78.00	23.36	23.76
11	31	4762.367	190.507	-5.486	-26.242	-61.167	-866.615	72.89	73.95	23.94	24.33
11	32	-4148.758	107.577	1.996	14.533	75.175	1026.019	69.32	70.62	11.38	11.86
12	32	4148.758	-107.577	-1.996	-14.533	-75.175	-1026.020	69.32	70.62	11.38	11.86
12	33	-4232.164	81.459	-1.503	2.831	76.124	349.107	55.25	56.57	35.81	36.30
13	33	4232.157	-81.459	1.503	-2.831	-76.124	-349.109	55.25	56.57	35.81	36.30
13	34	-4326.456	-68.453	-5.004	-8.870	63.517	469.801	59.10	60.21	32.73	33.19
14	34	4326.465	68.453	5.004	8.870	-63.517	-469.800	59.10	60.21	32.73	33.19
14	35	-5069.958	-26.037	-8.513	-20.564	37.703	649.087	71.77	72.42	35.06	35.30
15	35	5069.958	26.037	8.513	20.564	-37.703	-649.088	71.77	72.42	35.06	35.30
15	36	-5611.663	-341.136	0.021	-0.012	0.368	1562.244	98.51	98.52	9.67	9.67
16	36	5611.664	341.135	-0.021	0.012	-0.368	-1562.245	98.51	98.52	9.67	9.67
16	37	-5687.227	638.440	0.021	-0.012	0.447	1652.361	101.37	101.37	7.40	7.40
17	37	5738.884	349.699	0.005	-0.007	-0.447	-1652.360	101.95	101.96	7.99	7.99
17	48	-5577.018	325.279	-0.005	0.007	0.430	857.118	82.48	82.48	33.73	33.74
18	48	5577.018	-325.279	0.005	-0.007	-0.430	-857.117	82.48	82.48	33.73	33.74
18	49	-3841.518	-109.125	6.371	23.835	21.207	615.038	57.17	57.54	22.31	22.45
19	49	3575.691	199.082	-6.371	-23.835	-21.207	-546.990	52.64	53.01	21.65	21.79
19	50	-3649.411	132.532	2.870	12.135	39.111	730.654	57.40	58.08	16.06	16.31
20	50	3649.412	-132.532	-2.870	-12.135	-39.111	-730.656	57.40	58.08	16.06	16.31

20	51	-3052.515	62.281	-0.626	0.433	43.229	125.849	37.15	37.91	30.23	30.51
	51	3052.524	-62.280	0.626	-0.433	-43.229	-125.850	37.15	37.91	30.23	30.51
	52	-3149.194	-92.800	-8.125	-11.269	34.022	318.924	42.62	43.21	24.67	24.89
22	52	3149.187	92.799	8.125	11.269	-34.022	-318.926	42.62	43.21	24.67	24.89
22	53	-3886.007	-37.930	-7.629	-22.971	11.456	576.775	56.92	57.12	24.18	24.25
23	53	3886.007	37.931	7.629	22.971	-11.456	-576.777	56.92	57.12	24.18	24.25
23	54	-5711.176	-346.022	0.006	-0.001	0.446	1505.387	98.38	98.39	12.77	12.78
24	54	5711.173	346.022	-0.006	0.001	-0.446	-1505.388	98.38	98.39	12.77	12.77
24	55	-5790.685	632.263	0.006	-0.001	0.470	1619.168	101.81	101.82	9.73	9.73
25	55	5842.165	351.338	0.006	-0.005	-0.470	-1619.169	102.39	102.40	10.32	10.32
25	66	-5683.082	322.993	-0.006	0.005	0.448	832.288	83.13	83.14	35.80	35.81
26	66	5683.083	-322.992	0.006	-0.005	-0.448	-832.288	83.13	83.14	35.80	35.81
26	67	-5094.320	-112.154	6.998	23.818	6.571	604.141	71.32	71.43	37.00	37.04
27	67	4852.377	202.823	-6.998	-23.818	-6.571	-545.787	67.27	67.38	36.27	36.31
27	68	-4923.041	-133.214	3.497	12.118	26.905	732.837	72.05	72.51	30.52	30.69
28	68	4923.039	-133.214	-3.497	-12.118	-26.905	-732.837	72.05	72.51	30.52	30.69
28	69	-4324.079	62.900	-0.002	0.416	33.488	121.650	51.62	52.20	44.88	45.10
29	69	4324.087	-62.899	0.002	-0.416	-33.487	-121.649	51.62	52.20	44.88	45.10
29	70	-4418.689	-95.300	-3.501	-11.286	26.698	317.673	57.10	57.56	39.18	39.35
30	70	4418.697	95.299	3.501	11.286	-26.698	-317.672	57.10	57.56	39.18	39.35
30	71	-5163.091	-41.330	-7.002	-22.988	6.539	579.429	71.55	71.67	38.64	38.68
31	71	5163.092	41.330	7.002	22.988	-6.539	-579.427	71.55	71.67	38.64	38.68
31	72	-5721.223	-347.481	0.005	-0.002	0.435	1517.061	98.75	98.76	12.48	12.48
32	72	5721.225	347.482	-0.005	0.002	-0.435	-1517.060	98.75	98.76	12.48	12.48
32	73	-5796.421	632.109	0.005	-0.002	0.454	1631.557	102.15	102.16	9.37	9.37
81	181	6187.685	344.305	0.013	-0.008	-0.471	-1669.486	107.44	107.45	12.50	12.51
81	192	-6025.181	330.652	-0.013	0.008	0.421	852.954	87.48	87.49	38.98	38.98
82	192	6025.182	-330.652	0.013	-0.008	-0.421	-852.953	87.48	87.49	38.98	38.98
82	193	-4669.913	-99.170	7.773	23.223	15.506	578.381	65.84	66.11	33.03	33.13
83	193	4407.258	189.182	-7.773	-23.223	-15.506	-511.620	61.37	61.64	32.36	32.46
83	194	-3809.296	94.491	4.273	11.521	38.646	673.929	57.96	58.63	19.85	20.10
84	194	3809.272	-94.491	-4.273	-11.521	-38.646	-673.927	57.96	58.63	19.85	20.10
84	195	-3901.738	70.141	0.773	-0.182	48.424	69.309	45.52	46.36	41.84	42.16
85	195	3901.721	-70.142	-0.773	0.182	-48.424	-69.307	45.52	46.36	41.84	42.16
85	196	-4007.447	-85.316	-2.726	-11.884	44.641	247.597	50.71	51.49	36.87	37.16
86	196	4007.425	85.317	2.726	11.884	-44.641	-247.597	50.71	51.49	36.87	37.16
86	197	-4753.652	-28.186	-6.228	-23.583	27.477	443.511	63.70	64.17	38.62	38.80
87	197	4753.651	28.185	6.228	23.583	-27.477	-443.511	63.70	64.17	38.62	38.80
87	198	-6100.918	-340.325	-0.005	0.000	0.218	1371.121	99.84	99.84	21.87	21.87
88	198	6100.916	340.326	0.005	0.000	-0.218	-1371.120	99.84	99.84	21.87	21.87
88	199	-6180.475	638.177	-0.005	0.000	0.200	1462.350	102.77	102.77	19.61	19.61
89	199	6232.134	379.831	0.014	-0.009	-0.200	-1462.357	103.36	103.36	20.19	20.20
89	210	-6067.626	294.763	-0.014	0.009	0.146	785.595	86.47	86.48	41.80	41.80
90	210	6067.630	-294.763	0.014	-0.009	-0.146	-785.597	86.47	86.48	41.80	41.80
90	211	-4792.830	-139.030	8.152	20.598	42.391	653.366	68.67	69.40	31.74	32.02
91	211	4790.272	224.701	-8.152	-20.598	-42.391	-544.444	65.20	65.93	34.47	34.74
91	212	-4785.207	104.275	4.653	8.896	67.194	831.605	72.32	73.49	25.39	25.83
92	212	4785.202	-104.275	-4.653	-8.896	-67.194	-831.602	72.32	73.49	25.39	25.83
92	213	-4366.456	49.870	1.147	-2.800	78.198	223.162	53.96	55.32	41.70	42.20
93	213	4366.548	-49.871	-1.147	2.800	-78.198	-223.159	53.96	55.32	41.70	42.20
93	214	-5198.975	-234.220	-2.348	-14.507	76.122	605.822	71.94	73.26	37.90	38.40
94	214	5198.970	234.220	2.348	14.507	-76.122	-605.821	71.94	73.26	37.90	38.40
94	215	-5209.383	-115.178	-5.849	-26.208	60.241	1328.919	88.24	89.28	12.99	13.38
95	215	5209.384	115.178	5.849	26.208	-60.241	-1328.919	88.24	89.28	12.99	13.38
95	216	-6325.962	-221.334	-0.006	0.002	-0.088	2140.689	119.47	119.47	-2.27	-2.27
96	216	6325.964	221.334	0.006	-0.002	0.088	-2140.688	119.47	119.47	-2.27	-2.27
96	217	-6223.591	713.671	-0.006	0.002	-0.111	1649.800	107.42	107.42	13.60	13.60
97	217	6274.895	158.780	-0.005	0.002	0.111	-1649.786	108.00	108.00	14.18	14.18
97	228	-6163.830	396.333	0.005	-0.002	-0.097	969.214	91.64	91.64	36.53	36.52
98	228	6163.829	-396.333	-0.005	0.002	0.097	-969.214	91.64	91.64	36.53	36.52
98	229	-5011.865	233.038	0.006	-0.003	-0.108	78.196	58.77	58.77	54.32	54.32
99	229	5292.267	-51.611	-0.006	0.003	0.108	94.069	58.14	58.14	63.49	63.49
99	230	-5337.828	-21.687	3.173	1.278	50.850	79.438	62.07	62.95	57.83	58.16
100	230	5337.829	21.685	-3.173	-1.278	-50.850	-79.438	62.07	62.95	57.83	58.16
100	231	-4575.090	157.781	0.532	-7.600	56.123	-77.897	49.85	50.83	54.59	54.95
101	231	4575.068	-157.780	-0.532	7.600	-56.123	77.897	49.85	50.83	54.59	54.95
101	232	-4472.409	99.889	-2.123	-16.469	53.791	-609.924	36.90	37.84	71.88	72.23
102	232	4472.395	-99.889	2.123	16.469	-53.791	609.921	36.90	37.84	71.88	72.23
102	233	-4385.764	-48.468	-4.777	-25.339	43.657	-487.883	38.71	39.47	66.70	66.98
103	233	4385.857	48.467	4.777	25.339	-43.657	487.881	38.71	39.47	66.70	66.98
103	234	-4367.217	130.783	-7.431	-34.209	25.725	-559.821	37.06	37.51	69.04	69.20
104	234	4367.194	-130.783	7.431	34.209	-25.725	559.821	37.06	37.51	69.04	69.20
104	235	-4342.587	305.407	-10.083	-43.082	-0.003	-1227.728	22.19	22.19	92.01	92.01

ADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1181

ME Z MAX envolvente (ELS) (ipf-75)

ESFUERZOS EN BARRAS

BRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	6248.256	121.145	0.075	-0.023	-1.088	1761.748
1	12	-6327.879	-92.704	-0.081	0.025	0.893	-1576.178
2	12	6327.880	92.705	0.081	-0.025	-0.893	1576.178
2	13	-5792.939	61.750	-0.106	0.034	0.650	-1700.285
3	13	5792.940	-61.751	0.105	-0.034	-0.650	1700.285
3	14	-5830.379	144.688	-0.105	0.034	0.340	-2022.406
4	14	5830.377	-144.687	0.105	-0.034	-0.340	2022.406
4	15	-5877.343	177.161	-0.105	0.034	0.030	-2544.375
5	15	5877.344	-177.163	0.106	-0.034	-0.030	2544.378
5	16	-5986.803	-123.185	-0.106	0.034	-0.280	-2816.385
6	16	5986.803	123.186	0.106	-0.034	0.280	2816.386
6	17	-5092.390	-298.336	-0.134	0.043	-1.089	-1931.205
7	17	5092.395	298.336	0.134	-0.043	1.089	1931.204
7	18	-4046.279	-107.498	-0.135	0.043	-1.507	-1429.226
8	18	4046.271	107.498	0.135	-0.043	1.507	1429.226
8	19	-4169.895	999.765	-0.099	0.134	-1.579	-2567.291
9	19	4225.694	1054.713	-0.076	0.040	1.579	2567.266
9	30	-4091.628	-200.170	0.097	-0.059	-1.964	-932.898
10	30	4091.630	200.170	-0.097	0.059	1.964	932.898
10	31	-5105.176	43.690	0.034	-0.022	-0.715	-807.195
11	31	4875.165	50.146	-0.034	0.022	0.715	902.021
11	32	-5882.780	313.806	0.022	-0.013	-0.059	-1320.321
11	32	5882.780	-313.807	-0.022	0.013	0.059	1320.320
12	33	-6015.621	132.486	0.006	-0.004	0.049	-2700.796
13	33	6015.620	-132.485	-0.006	0.004	-0.049	2700.795
13	34	-6165.686	-282.423	0.006	-0.004	0.071	-2176.769
14	34	6165.687	282.423	-0.006	0.004	-0.071	2176.767
14	35	-5236.889	-176.284	0.014	-0.011	-0.308	-1359.213
15	35	5236.883	176.283	-0.014	0.011	0.308	1359.212
15	36	-4205.796	210.506	-0.007	0.000	-1.012	-958.875
16	36	4205.806	-210.507	0.007	0.000	1.013	958.875
16	37	-4264.503	1172.338	-0.009	0.001	-1.173	-3080.967
17	37	4321.894	959.772	-0.067	0.030	1.173	3080.958
17	48	-4195.180	-235.087	0.064	-0.027	-0.791	-1456.403
18	48	4195.189	235.086	-0.064	0.027	0.791	1456.404
18	49	-5221.734	34.121	0.012	0.005	0.081	-1376.972
19	49	4911.629	70.818	-0.012	-0.005	-0.081	1456.353
19	50	-5920.841	284.835	0.009	0.004	0.386	-1716.957
20	50	5920.841	-284.835	-0.009	-0.004	-0.387	1716.954

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
32.02	32.04	132.22	132.23
37.05	37.06	126.69	126.69
37.05	37.06	126.69	126.69
28.21	28.22	124.91	124.91
28.21	28.22	124.91	124.91
21.49	21.50	136.51	136.51
21.49	21.50	136.51	136.51
10.45	10.46	155.15	155.15
10.45	10.46	155.15	155.15
5.67	5.67	165.83	165.83
5.67	5.67	165.83	165.83
15.13	15.11	124.95	124.94
15.13	15.11	124.95	124.94
14.36	14.34	95.63	95.62
14.36	14.34	95.63	95.62
-9.47	-9.50	136.52	136.51
-8.84	-8.86	137.15	137.14
25.89	25.86	78.93	78.92
25.89	25.86	78.93	78.92
40.20	40.19	86.10	86.10
35.48	35.47	86.78	86.77
37.67	37.66	112.75	112.75
37.67	37.66	112.75	112.75
8.56	8.56	162.15	162.15
8.56	8.56	162.15	162.15
21.89	21.89	145.68	145.68
21.89	21.89	145.68	145.68
29.45	29.45	106.75	106.75
29.45	29.45	106.75	106.75
26.61	26.59	81.13	81.12
26.61	26.59	81.13	81.12
-19.79	-19.81	155.42	155.41
-19.14	-19.16	156.07	156.06
15.45	15.43	98.27	98.26
15.45	15.43	98.27	98.26
28.89	28.89	107.19	107.19
23.60	23.60	106.42	106.42
29.30	29.30	126.94	126.94
29.30	29.30	126.94	126.94

20	51	-6051.812	109.131	-0.007	0.012	0.419	-2955.636	3.32	3.32	171.40	171.41
21	51	6051.811	-109.131	0.007	-0.012	-0.419	2955.635	3.32	3.32	171.40	171.41
21	52	-6203.642	-292.232	-0.010	0.014	0.387	-2356.378	18.33	18.34	152.34	152.34
22	52	6203.643	292.232	0.010	-0.014	-0.388	2356.376	18.33	18.34	152.34	152.34
22	53	-5270.674	-199.299	-0.007	0.015	0.125	-1474.443	27.28	27.28	111.13	111.13
23	53	5270.684	199.299	0.007	-0.015	-0.125	1474.440	27.28	27.28	111.13	111.13
23	54	-4246.108	215.105	-0.052	0.038	-0.701	-1037.481	25.32	25.31	84.32	84.31
24	54	4246.115	-215.105	0.052	-0.038	0.702	1037.480	25.32	25.31	84.32	84.31
24	55	-4308.519	1176.345	-0.054	0.040	-1.032	-3175.794	-21.39	-21.41	159.21	159.20
25	55	4365.696	963.699	-0.060	0.036	1.032	3175.786	-20.74	-20.76	159.86	159.85
25	66	-4241.780	-239.647	0.058	-0.034	-0.678	-1536.632	14.20	14.19	101.58	101.58
26	66	4241.790	239.648	-0.058	0.034	0.678	1536.632	14.20	14.19	101.58	101.58
26	67	-5268.425	28.477	0.008	-0.001	0.150	-1444.440	27.92	27.92	110.06	110.07
27	67	4986.195	77.293	-0.008	0.001	-0.150	1512.513	23.20	23.20	109.21	109.22
27	68	-5995.820	283.439	0.008	-0.002	0.387	-1761.258	29.17	29.18	129.33	129.33
28	68	5995.818	-283.440	-0.008	0.002	-0.387	1761.257	29.17	29.18	129.33	129.33
28	69	-6128.459	107.302	-0.008	0.006	0.414	-3001.485	3.17	3.18	173.87	173.87
29	69	6128.459	-107.301	0.008	-0.006	-0.414	3001.486	3.17	3.18	173.87	173.87
29	70	-6279.030	-299.169	-0.011	0.008	0.380	-2381.712	18.63	18.64	154.08	154.08
30	70	6279.029	299.167	0.011	-0.008	-0.379	2381.713	18.63	18.64	154.08	154.08
30	71	-5351.629	-205.425	-0.011	0.009	0.125	-1475.989	28.17	28.17	112.11	112.11
31	71	5351.637	205.426	0.011	-0.009	-0.125	1475.991	28.17	28.17	112.11	112.11
31	72	-4320.415	217.746	-0.060	0.039	-0.681	-1037.346	26.17	26.16	85.16	85.15
32	72	4320.395	-217.745	0.060	-0.039	0.681	1037.346	26.17	26.15	85.16	85.15
32	73	-4378.799	1180.030	-0.062	0.041	-1.037	-3190.351	-20.92	-20.94	160.51	160.50
81	181	4780.556	955.469	-0.039	0.037	0.845	3139.646	-15.22	-15.24	163.32	163.32
81	192	-4653.655	-230.984	0.037	-0.035	-0.591	-1535.138	18.92	18.91	106.22	106.21
82	192	4653.760	230.984	-0.037	0.035	0.592	1535.139	18.92	18.91	106.22	106.21
82	193	-5680.072	28.141	0.000	-0.009	0.088	-1466.851	32.11	32.11	115.53	115.53
83	193	5373.649	76.861	0.000	0.009	-0.088	1544.731	26.89	26.89	114.74	114.74
83	194	-6383.446	282.047	-0.002	-0.007	0.303	-1804.551	32.62	32.63	135.25	135.25
84	194	6383.444	-282.048	0.002	0.007	-0.303	1804.556	32.62	32.63	135.25	135.25
84	195	-6514.497	87.329	-0.004	-0.004	0.290	-3032.368	6.88	6.89	179.33	179.33
85	195	6514.498	-87.321	0.004	0.004	-0.290	3032.370	6.88	6.89	179.33	179.33
85	196	-6666.514	-295.985	-0.018	0.004	0.225	-2419.137	22.21	22.22	159.79	159.79
86	196	6666.515	295.986	0.018	-0.004	-0.225	2419.137	22.21	22.22	159.79	159.79
86	197	-5733.010	-205.648	-0.017	0.002	-0.046	-1469.090	32.66	32.66	116.21	116.21
87	197	5732.991	205.648	0.017	-0.002	0.046	1469.089	32.66	32.66	116.21	116.21
87	198	-4707.864	218.756	-0.058	0.036	-0.786	-1035.080	30.63	30.61	89.49	89.48
88	198	4707.963	-218.756	0.058	-0.036	0.786	1035.080	30.63	30.61	89.49	89.48
88	199	-4770.427	1180.324	-0.060	0.039	-1.122	-3191.146	-16.48	-16.50	164.99	164.99
89	199	4827.808	965.653	-0.012	0.012	1.122	3191.137	-15.82	-15.84	165.65	165.64
89	210	-4703.934	-241.939	0.011	-0.010	-0.972	-1546.302	19.25	19.23	107.18	107.17
90	210	4703.914	241.939	-0.011	0.010	0.972	1546.301	19.25	19.23	107.18	107.17
90	211	-5731.240	-11.170	-0.004	0.003	-0.334	-1390.660	34.38	34.38	113.47	113.47
91	211	5623.241	111.109	0.004	-0.003	0.335	1517.722	30.34	30.33	116.65	116.64
91	212	-5711.162	198.672	-0.007	0.006	-0.348	-1604.840	29.40	29.40	120.67	120.67
92	212	5711.140	-198.671	0.007	-0.006	0.349	1604.844	29.40	29.40	120.67	120.67
92	213	-6800.091	55.107	-0.002	0.000	-0.110	-2671.246	18.14	18.14	170.05	170.05
93	213	6800.095	-55.107	0.002	0.000	0.110	2671.248	18.14	18.14	170.05	170.05
93	214	-5969.692	-338.017	-0.020	0.015	-0.459	-1825.587	27.45	27.44	131.27	131.27
94	214	5969.670	338.017	0.020	-0.015	0.459	1825.587	27.45	27.44	131.27	131.27
94	215	-5992.968	-291.982	-0.020	0.015	-0.537	-532.875	56.39	56.38	86.69	86.69
95	215	5992.942	291.982	0.020	-0.015	0.537	532.875	56.39	56.38	86.69	86.69
95	216	-4903.383	312.931	-0.070	0.052	-1.515	-239.411	50.51	50.48	64.11	64.10

96	216	4903.362	-312.921	0.070	-0.052	1.515	239.411	50.51	50.48	64.11	64.10
96	217	-4823.745	1245.234	-0.067	0.049	-1.842	-2870.366	-9.75	-8.78	154.48	154.46
97	217	4880.816	714.145	-0.078	0.059	1.842	2870.382	-8.10	-8.13	155.13	155.11
97	228	-4794.333	44.047	0.063	-0.045	-1.303	-1878.475	12.91	12.89	119.73	119.72
98	228	4794.313	-44.046	-0.063	0.045	1.304	1878.474	12.91	12.89	119.73	119.72
98	229	-5849.520	141.912	0.062	-0.044	-1.095	-2136.046	19.20	19.19	140.67	140.67
99	229	6176.598	69.730	-0.062	0.044	1.095	2337.000	18.47	18.45	151.37	151.36
99	230	-6187.573	-0.113	0.062	-0.044	-0.912	-2204.514	21.53	21.52	146.90	146.89
00	230	6187.547	0.111	-0.062	0.044	0.912	2204.515	21.53	21.52	146.90	146.89
00	231	-7211.999	311.962	0.048	-0.035	-0.559	-2622.230	23.92	23.91	173.04	173.04
01	231	7212.000	-311.960	-0.048	0.035	0.559	2622.230	23.92	23.91	173.04	173.04
01	232	-7129.701	72.849	0.048	-0.035	-0.420	-3430.225	5.06	5.06	200.14	200.13
02	232	7129.702	-72.849	-0.048	0.035	0.419	3430.221	5.06	5.06	200.14	200.13
02	233	-6981.313	-296.558	0.048	-0.035	-0.280	-2808.004	17.17	17.17	176.86	176.86
03	233	6981.313	296.558	-0.048	0.035	0.280	2808.002	17.17	17.17	176.86	176.86
03	234	-6940.416	-148.039	0.048	-0.035	-0.140	-2096.276	32.49	32.49	151.71	151.70
04	234	6940.416	148.039	-0.048	0.035	0.140	2096.275	32.49	32.49	151.71	151.70
04	235	-6890.094	59.836	0.044	-0.032	0.000	-1941.063	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1182

MOMI Z MIN envolvente (ELS) (ipf-75)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	2747.340	120.495	-12.357	-44.180	50.425	-603.887	45.10	44.22	10.48	10.15
1	12	-3181.593	-105.709	-0.119	0.036	0.860	895.732	56.07	56.08	5.13	5.14
2	12	3181.594	105.709	0.119	-0.036	-0.860	-895.733	56.07	56.08	5.13	5.14
2	13	-3236.648	-58.911	-0.119	0.036	0.510	1168.871	62.75	62.76	-3.72	-3.71
3	13	3236.648	58.911	0.119	-0.036	-0.510	-1168.870	62.75	62.76	-3.72	-3.71
3	14	-3876.236	-7.556	-0.066	0.019	0.183	1326.819	73.54	73.54	-1.91	-1.91
4	14	3876.237	7.556	0.066	-0.020	-0.183	-1326.819	73.54	73.54	-1.91	-1.91
4	15	-3909.245	126.444	-0.066	0.020	-0.012	1117.584	69.28	69.28	5.72	5.72
5	15	3909.244	-126.445	0.066	-0.020	0.012	-1117.583	69.28	69.28	5.72	5.72
5	16	-3986.174	26.532	-0.066	0.020	-0.208	757.445	62.17	62.16	19.09	19.09
6	16	3986.175	-26.531	0.066	-0.020	0.208	-757.445	62.17	62.16	19.09	19.09
6	17	-4814.996	-188.671	-0.039	0.011	0.091	939.178	75.63	75.63	22.22	22.22
7	17	4814.999	188.671	0.039	-0.011	-0.091	-939.178	75.63	75.63	22.22	22.22
7	18	-6072.317	-298.458	-0.026	0.006	0.202	1760.057	108.14	108.14	8.05	8.05
8	18	6072.316	298.457	0.027	-0.006	-0.202	-1760.057	108.14	108.14	8.05	8.05
8	19	-6248.213	510.669	-0.093	-0.069	-0.915	2026.674	116.07	116.05	0.80	0.80
9	19	6304.011	543.336	-0.035	0.026	0.915	-2026.691	116.70	116.68	1.44	1.43
9	30	-6113.256	184.742	-0.022	0.011	-0.142	1238.252	97.04	97.03	26.62	26.62
10	30	6113.257	-184.741	0.022	-0.011	0.142	-1238.251	97.04	97.03	26.62	26.62
10	31	-4829.828	-195.035	0.042	-0.026	-0.703	1618.807	90.88	90.86	-1.19	-1.19
11	31	4610.747	284.412	-0.042	0.026	0.703	-1528.487	86.38	86.37	-0.55	-0.55
11	32	-3929.647	68.414	0.054	-0.035	-1.059	1947.578	87.93	87.91	-22.84	-22.84
12	32	3929.647	-68.415	-0.054	0.035	1.059	-1947.579	87.93	87.91	-22.84	-22.84
12	33	-4023.011	61.018	0.058	-0.037	-0.849	1353.649	75.81	75.80	-1.17	-1.18
13	33	4023.003	-61.017	-0.058	0.037	0.849	-1353.650	75.81	75.80	-1.17	-1.18
13	34	-4128.472	-83.929	0.058	-0.037	-0.625	1562.165	81.64	81.63	-7.21	-7.21
14	34	4128.481	83.929	-0.058	0.037	0.626	-1562.165	81.64	81.63	-7.21	-7.21
14	35	-4955.280	-15.178	0.049	-0.031	-0.001	1752.005	95.25	95.25	-4.38	-4.38
15	35	4955.281	15.178	-0.049	0.031	0.001	-1752.007	95.25	95.25	-4.38	-4.38
15	36	-6275.703	-145.196	0.081	-0.048	0.634	2062.928	117.17	117.18	-0.15	-0.14
16	36	6275.704	145.195	-0.081	0.048	-0.634	-2062.928	117.17	117.18	-0.15	-0.14
16	37	-6359.221	708.224	0.024	-0.014	0.528	1851.832	113.44	113.45	8.13	8.13
17	37	6416.618	386.545	0.007	-0.009	-0.528	-1851.830	114.09	114.10	8.78	8.79
17	48	-6236.325	143.240	-0.054	0.037	0.767	1216.126	97.94	97.95	28.78	28.79
18	48	6236.325	-143.240	0.054	-0.037	-0.767	-1216.125	97.94	97.95	28.78	28.79
18	49	-4943.568	-171.374	0.004	0.002	0.228	1649.270	92.84	92.84	-0.95	-0.95
19	49	4648.205	271.327	-0.004	-0.002	-0.228	-1573.662	87.80	87.80	-1.69	-1.69
19	50	-4729.416	118.756	0.004	0.002	0.243	1928.024	96.58	96.59	-13.06	-13.06
20	50	4729.416	-118.756	-0.004	-0.002	-0.243	-1928.026	96.58	96.59	-13.06	-13.06

20	51	-4065.496	62.322	0.010	0.001	0.016	1322.520	75.60	75.60	0.39	0.39
21	51	4065.505	-62.322	-0.010	-0.001	-0.016	-1322.521	75.60	75.60	0.39	0.39
21	52	-4172.215	-88.367	0.013	-0.001	0.059	1519.761	81.19	81.19	-5.24	-5.24
22	52	4172.208	88.366	-0.013	0.001	-0.059	-1519.762	81.19	81.19	-5.24	-5.24
22	53	-4990.194	-5.779	0.010	-0.002	0.334	1705.186	94.61	94.61	-2.36	-2.36
23	53	4990.194	5.780	-0.010	0.002	-0.334	-1705.187	94.61	94.61	-2.36	-2.36
23	54	-6308.777	-167.964	0.062	-0.029	0.909	2042.514	117.09	117.11	0.94	0.94
24	54	6308.774	167.964	-0.062	0.029	-0.910	-2042.515	117.09	117.11	0.94	0.94
24	55	-6397.565	700.459	0.009	-0.002	0.562	1821.834	113.21	113.22	9.61	9.61
25	55	6454.765	387.899	0.008	-0.007	-0.562	-1821.835	113.86	113.87	10.26	10.26
25	66	-6278.452	145.389	-0.059	0.039	0.910	1282.601	99.89	99.91	26.95	26.96
26	66	6278.454	-145.389	0.059	-0.039	-0.910	-1282.601	99.89	99.91	26.95	26.96
26	67	-4990.765	-169.278	-0.003	0.004	0.365	1711.637	94.76	94.76	-2.58	-2.58
27	67	4721.939	270.022	0.003	-0.003	-0.365	-1646.800	90.26	90.27	-3.39	-3.39
27	68	-4801.162	124.976	-0.003	0.003	0.352	1987.872	98.73	98.73	-14.32	-14.32
28	68	4801.160	-124.975	0.003	-0.004	-0.352	-1987.872	98.73	98.73	-14.32	-14.32
28	69	-4136.356	68.470	-0.001	0.002	0.135	1358.230	77.20	77.20	-0.04	-0.04
29	69	4136.366	-68.471	0.001	-0.002	-0.135	-1358.229	77.20	77.20	-0.04	-0.04
29	70	-4242.189	-85.683	0.002	0.000	0.136	1541.704	82.47	82.47	-5.20	-5.20
30	70	4242.198	85.682	-0.002	0.000	-0.136	-1541.703	82.47	82.47	-5.20	-5.20
30	71	-5070.012	-4.095	0.003	0.000	0.358	1714.432	95.72	95.73	-1.78	-1.77
31	71	5070.012	4.095	-0.003	0.000	-0.358	-1714.430	95.72	95.73	-1.78	-1.77
31	72	-6390.308	-172.210	0.058	-0.034	0.872	2061.389	118.44	118.45	1.21	1.22
32	72	6390.310	172.211	-0.058	0.034	-0.872	-2061.389	118.44	118.45	1.21	1.22
32	73	-6473.410	699.883	0.007	-0.004	0.542	1836.955	114.41	114.42	9.94	9.95
81	181	6875.206	380.264	-0.016	-0.010	-0.558	-1878.604	119.90	119.91	13.07	13.08
81	192	-6694.646	150.981	-0.060	0.039	0.794	1316.479	105.38	105.39	30.52	30.52
82	192	6694.647	-150.981	0.060	-0.039	-0.794	-1316.478	105.38	105.39	30.52	30.52
82	193	-5401.892	-153.874	-0.017	0.010	0.290	1710.228	99.40	99.41	2.15	2.15
83	193	5110.053	253.887	0.017	-0.010	-0.290	-1636.049	94.44	94.44	1.40	1.40
83	194	-4435.018	82.927	-0.016	0.008	0.008	1926.344	93.20	93.20	-16.35	-16.35
84	194	4434.992	-82.928	0.015	-0.008	-0.007	-1926.342	93.20	93.20	-16.35	-16.35
84	195	-4527.099	77.494	-0.013	0.005	-0.047	1280.710	79.93	79.92	7.09	7.09
85	195	4527.080	-77.495	0.013	-0.005	0.047	-1280.710	79.93	79.92	7.09	7.09
85	196	-4633.919	-73.613	-0.011	0.003	-0.093	1421.186	84.26	84.26	3.44	3.43
86	196	4633.895	73.615	0.011	-0.003	0.093	-1421.188	84.26	84.26	3.43	3.43
86	197	-5452.403	11.487	-0.012	0.005	0.069	1497.460	95.26	95.26	10.10	10.10
87	197	5452.403	-11.488	0.012	-0.005	-0.069	-1497.460	95.26	95.26	10.10	10.10
87	198	-6771.788	-159.983	0.035	-0.032	0.451	1789.775	116.76	116.77	14.98	14.98
88	198	6771.785	159.984	-0.035	0.032	-0.451	-1789.774	116.76	116.77	14.98	14.98
88	199	-6860.661	706.937	-0.004	-0.001	0.251	1644.364	114.55	114.55	21.03	21.03
89	199	6918.060	420.285	0.017	-0.011	-0.251	-1644.370	115.20	115.20	21.69	21.69
89	210	-6741.807	94.093	-0.062	0.044	0.330	1200.325	103.34	103.35	35.08	35.09
90	210	6741.811	-94.093	0.062	-0.044	-0.330	-1200.326	103.34	103.35	35.08	35.09
90	211	-5453.405	-181.108	-0.038	0.026	-0.192	1769.298	101.31	101.30	0.69	0.68
91	211	5350.563	276.298	0.038	-0.026	0.192	-1648.274	97.45	97.45	3.71	3.71
91	212	-5434.307	110.853	-0.035	0.024	-0.342	2011.220	106.45	106.45	-7.92	-7.93
92	212	5434.304	-110.853	0.035	-0.024	0.342	-2011.218	106.45	106.45	-7.92	-7.93
92	213	-4744.831	81.019	-0.040	0.029	-0.742	1295.264	82.73	82.72	9.07	9.06
93	213	4744.933	-81.019	0.040	-0.029	0.742	-1295.262	82.73	82.72	9.07	9.06
93	214	-5680.476	-213.015	-0.032	0.022	-0.606	1596.726	100.07	100.05	9.26	9.25
94	214	5680.473	213.015	0.033	-0.022	0.606	-1596.727	100.07	100.05	9.26	9.25
94	215	-5702.664	-59.124	-0.033	0.022	-0.732	2192.658	113.54	113.52	-11.16	-11.17
95	215	5702.666	59.124	0.032	-0.022	0.732	-2192.659	113.54	113.52	-11.16	-11.17
95	216	-7025.611	-30.077	0.019	-0.017	-0.322	2473.287	134.81	134.81	-5.84	-5.85
96	216	7025.613	30.077	-0.019	0.017	0.322	-2473.286	134.81	134.81	-5.84	-5.85
96	217	-6912.332	791.076	-0.005	0.002	-0.106	1846.251	119.61	119.61	14.62	14.62
97	217	6969.335	175.766	-0.004	0.001	0.106	-1846.236	120.26	120.26	15.27	15.27
97	228	-6846.282	206.371	0.001	0.004	-0.012	1392.127	108.79	108.79	29.62	29.62
98	228	6846.279	-206.371	0.000	-0.004	0.012	-1392.127	108.79	108.79	29.62	29.62
98	229	-5568.739	59.637	0.009	-0.004	-0.163	1069.350	87.09	87.09	26.28	26.28
99	229	5880.297	141.949	-0.009	0.004	0.163	-827.944	86.39	86.39	36.46	36.46
99	230	-5890.750	8.414	0.009	-0.004	-0.135	1101.974	91.48	91.48	28.81	28.81
100	230	5890.749	-8.417	-0.009	0.004	0.136	-1101.974	91.48	91.48	28.81	28.81
100	231	-5051.300	224.214	0.023	-0.013	-0.276	820.732	75.69	75.69	29.02	29.01
101	231	5051.279	-224.213	-0.023	0.013	0.276	-820.732	75.69	75.69	29.02	29.01
101	232	-4993.438	167.338	0.023	-0.013	-0.207	74.991	58.49	58.49	54.23	54.23
102	232	4993.420	-167.338	-0.023	0.012	0.207	-74.995	58.49	58.49	54.23	54.23
102	233	-4889.129	18.889	0.023	-0.012	-0.138	7.850	55.82	55.81	55.37	55.37
103	233	4889.233	-18.889	-0.023	0.012	0.138	-7.851	55.82	55.81	55.37	55.37
103	234	-4860.490	234.448	0.023	-0.012	-0.069	-322.966	48.15	48.15	66.52	66.52
104	234	4860.466	-234.448	-0.023	0.013	0.069	322.966	48.15	48.15	66.52	66.52
104	235	-4342.587	305.407	-10.083	-43.082	-0.003	-1227.728	22.19	22.19	92.01	92.01

ADUCTO SOBRE LA RIERA FIMOSA

POTESIS 1221

ME Z MAX grupo II (ELS) (ec-1)

ESFUERZOS EN BARRAS

BRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	6268.378	62.624	-13.791	-49.070	56.321	1790.442
1	12	-6268.113	-9.610	-3.653	-211.802	61.441	-1802.213
2	12	6268.115	9.611	3.653	211.802	-61.441	1802.212
2	13	-6345.927	-64.085	-5.128	-148.786	48.544	-1650.887
3	13	6345.928	64.084	5.128	148.786	-48.544	1650.887
3	14	-6382.846	36.420	-6.602	-85.769	31.315	-1630.692
4	14	6382.844	-36.418	6.602	85.769	-31.315	1630.692
4	15	-6429.289	86.459	-8.077	-22.752	9.755	-1861.943
5	15	6429.291	-86.461	8.077	22.752	-9.755	1861.946
5	16	-6538.229	-196.321	-9.552	40.264	-16.137	-1894.836
6	16	6538.229	196.322	9.552	-40.264	16.137	1894.837
6	17	-5722.661	-284.666	-3.935	-10.052	30.284	-863.390
7	17	5722.667	284.666	3.935	10.052	-30.284	863.390
7	18	-3416.527	43.082	-6.902	-19.901	14.208	-588.429
8	18	3416.519	-43.082	6.902	19.901	-14.208	588.429
8	19	-3540.661	856.453	-9.851	-29.757	-10.399	-1528.359
9	19	3596.461	830.803	-13.909	-55.127	10.401	1528.348
9	30	-3463.079	-60.769	10.019	42.127	35.960	-607.934
10	30	3463.081	60.769	-10.019	-42.127	-35.960	607.934
10	31	-5062.464	49.222	0.033	-0.021	-0.631	-178.631
11	31	4832.453	44.614	-0.033	0.021	0.631	273.457
11	32	-5840.504	310.271	0.021	-0.012	0.023	-695.269
12	32	5840.503	-310.271	-0.021	0.012	-0.023	695.267
12	33	-5973.781	100.579	0.019	-0.011	0.106	-2001.231
13	33	5973.781	-100.579	-0.019	0.011	-0.106	2001.230
13	34	-6124.285	-323.396	0.019	-0.011	0.181	-1335.639
14	34	6124.285	323.397	-0.019	0.011	-0.181	1335.637
14	35	-5195.927	-230.139	0.029	-0.019	-0.139	-326.734
15	35	5195.921	230.138	-0.029	0.019	0.139	326.733
15	36	-4830.197	82.367	-13.346	-35.842	-2.752	-173.603
16	36	4830.207	-82.368	13.346	35.842	2.752	173.602
16	37	-4888.207	952.696	-17.237	-48.842	-62.007	-1661.133
17	37	4945.598	721.481	-14.934	-52.468	62.007	1661.129
17	48	-4818.185	-89.016	11.043	39.468	-11.677	-751.047
18	48	4818.194	89.015	-11.043	-39.468	11.677	751.047
18	49	-5260.929	61.022	0.005	0.004	0.126	-383.817
19	49	4950.824	43.917	-0.005	-0.004	-0.126	463.198
19	50	-5959.593	302.668	0.002	0.003	0.403	-810.836
20	50	5959.593	-302.668	-0.002	-0.003	-0.403	810.834

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
32.12	31.14	133.63	133.27
30.83	31.90	133.65	134.05
30.83	31.90	133.65	134.05
35.18	36.03	129.33	129.65
35.18	36.03	129.33	129.65
36.20	36.74	129.11	129.31
36.20	36.74	129.11	129.31
31.79	31.96	137.73	137.79
31.79	31.96	137.73	137.79
32.52	32.24	140.19	140.09
32.52	32.24	140.19	140.09
45.71	46.24	94.98	95.18
45.71	46.24	94.98	95.18
25.71	25.95	59.25	59.34
25.71	25.95	59.25	59.34
6.49	6.31	93.35	93.28
7.12	6.94	93.98	93.91
25.62	26.24	60.38	60.62
25.62	26.24	60.38	60.62
53.66	53.65	63.81	63.81
48.94	48.93	64.48	64.48
51.05	51.05	90.59	90.59
51.05	51.05	90.59	90.59
23.60	23.60	137.41	137.41
23.60	23.60	137.41	137.41
40.07	40.08	116.03	116.03
40.07	40.08	116.03	116.03
51.89	51.88	70.47	70.47
51.89	51.88	70.47	70.47
51.14	51.10	61.00	60.98
51.14	51.10	61.00	60.98
19.33	18.25	113.46	113.05
19.98	18.90	114.11	113.71
38.28	38.07	80.92	80.85
38.28	38.07	80.92	80.85
51.36	51.36	73.19	73.19
46.07	46.07	72.41	72.41
49.84	49.84	95.95	95.95
49.84	49.84	95.95	95.95

20	51	-6090.120	95.440	0.000	0.004	0.408	-2087.455	23.01	23.01	141.72	141.72
21	51	6090.119	-95.439	0.000	-0.004	-0.408	2087.455	23.01	23.01	141.72	141.72
21	52	-6241.506	-318.577	-0.001	0.005	0.407	-1416.880	39.60	39.61	120.18	120.18
22	52	6241.507	318.576	0.001	-0.005	-0.407	1416.878	39.60	39.61	120.18	120.18
22	53	-5308.094	-234.711	0.001	0.007	0.177	-415.657	51.19	51.19	74.83	74.83
23	53	5308.104	234.711	-0.001	-0.007	-0.177	415.655	51.19	51.19	74.83	74.83
23	54	-3627.313	68.640	-12.435	-38.509	-29.582	-204.858	36.99	36.48	48.48	48.29
24	54	3627.320	-68.640	12.435	38.509	29.582	204.858	36.99	36.48	48.48	48.29
24	55	-3690.428	937.961	-16.326	-51.509	-85.306	-1630.896	6.57	5.09	98.85	98.30
25	55	3747.604	719.289	-15.443	-52.696	85.306	1630.888	7.22	5.74	99.50	98.95
25	66	-3624.394	-87.329	11.553	39.695	-33.001	-723.118	25.50	24.92	66.44	66.23
26	66	3624.403	87.329	-11.553	-39.695	33.001	723.118	25.50	24.92	66.44	66.23
26	67	-5232.789	58.319	0.001	0.001	0.195	-404.857	50.57	50.57	73.60	73.60
27	67	4950.559	47.452	-0.001	-0.001	-0.195	472.929	45.85	45.85	72.74	72.75
27	68	-5960.631	304.212	0.001	0.000	0.406	-819.369	49.66	49.67	96.26	96.26
28	68	5960.629	-304.213	-0.001	0.000	-0.406	819.369	49.66	49.67	96.26	96.26
28	69	-6093.718	96.416	0.000	0.002	0.408	-2109.488	22.56	22.57	142.53	142.53
29	69	6093.718	-96.416	0.000	-0.002	-0.408	2109.490	22.56	22.57	142.53	142.53
29	70	-6244.738	-322.679	-0.002	0.003	0.403	-1428.390	39.38	39.39	120.62	120.62
30	70	6244.737	322.677	0.002	-0.003	-0.403	1428.391	39.38	39.39	120.62	120.62
30	71	-5317.787	-238.002	-0.003	0.003	0.182	-413.633	51.34	51.35	74.87	74.87
31	71	5317.794	238.003	0.003	-0.003	-0.182	413.635	51.34	51.35	74.87	74.87
31	72	-4933.551	65.552	-11.557	-38.772	-25.622	-193.767	52.07	51.63	62.95	62.79
32	72	4933.531	-65.552	11.557	38.772	25.622	193.768	52.07	51.63	62.95	62.78
32	73	-4991.223	935.892	-15.448	-51.773	-77.944	-1616.350	21.63	20.28	113.13	112.62
81	181	4996.116	718.668	-11.723	-51.780	79.956	1584.819	22.40	21.01	112.09	111.58
81	192	-4859.434	-86.219	7.833	38.779	-24.077	-699.764	39.99	39.57	79.66	79.50
82	192	4859.540	86.219	-7.832	-38.779	24.077	699.765	39.99	39.57	79.66	79.50
82	193	-5680.072	63.245	-0.006	0.000	0.138	-408.209	55.59	55.59	78.80	78.80
83	193	5373.649	41.757	0.006	0.000	-0.138	486.090	50.37	50.37	78.02	78.02
83	194	-6383.446	308.084	-0.008	0.002	0.330	-864.368	53.47	53.48	102.63	102.63
84	194	6383.444	-308.084	0.008	-0.002	-0.330	864.372	53.47	53.48	102.63	102.63
84	195	-6514.497	100.710	-0.009	0.003	0.297	-2162.669	26.17	26.17	149.16	149.16
85	195	6514.498	-100.711	0.009	-0.003	-0.297	2162.669	26.17	26.17	149.16	149.16
85	196	-6658.553	-313.977	-0.011	0.005	0.258	-1510.752	42.27	42.27	128.18	128.19
86	196	6658.553	313.977	0.011	-0.005	-0.258	1510.752	42.27	42.27	128.18	128.19
86	197	-5725.524	-232.708	-0.009	0.003	0.015	-473.028	54.67	54.67	81.57	81.57
87	197	5725.505	232.708	0.009	-0.003	-0.015	473.027	54.67	54.67	81.57	81.57
87	198	-4854.958	66.076	-15.516	-39.219	-5.457	-288.399	48.90	48.81	65.27	65.24
88	198	4855.057	-66.075	15.516	39.219	5.457	288.399	48.90	48.81	65.27	65.24
88	199	-4907.739	935.566	-19.407	-52.220	-55.130	-1723.031	18.12	17.16	115.80	115.45
89	199	4965.121	742.577	-11.969	-49.111	55.130	1723.019	18.77	17.81	116.46	116.10
89	210	-4831.467	-110.481	8.078	36.110	-1.703	-743.396	38.48	38.51	80.77	80.78
90	210	4831.448	110.481	-8.078	-36.110	-1.703	743.396	38.48	38.51	80.77	80.78
90	211	-5736.825	41.928	-0.016	0.012	-0.186	-357.702	57.36	57.35	77.70	77.70
91	211	5628.826	58.012	0.016	-0.012	0.186	484.765	53.31	53.31	80.88	80.87
91	212	-5716.275	238.894	-0.018	0.013	-0.247	-760.317	48.19	48.19	91.43	91.43
92	212	5716.253	-238.893	0.018	-0.013	0.247	760.320	48.19	48.19	91.43	91.43
92	213	-6804.733	86.261	-0.013	0.008	-0.051	-1965.402	33.85	33.85	145.62	145.62
93	213	6804.737	-86.261	0.013	-0.008	0.051	1965.404	33.85	33.85	145.62	145.62
93	214	-5973.864	-335.210	-0.019	0.014	-0.391	-1191.335	41.57	41.56	109.31	109.31
94	214	5973.841	335.211	0.019	-0.014	0.391	1191.336	41.57	41.56	109.31	109.31
94	215	-5992.968	-298.143	-0.019	0.014	-0.467	107.685	70.60	70.59	64.47	64.47
95	215	5992.942	298.144	0.019	-0.014	0.467	-107.685	70.59	70.59	64.47	64.47
95	216	-4834.484	170.226	-5.523	-42.337	41.820	252.690	60.26	60.99	46.12	46.39

96	216	4834.463	-170.226	5.523	42.337	-41.929	-252.690	60.26	60.99	46.12	46.39
96	217	-4764.610	1005.749	-9.414	-55.338	-5.113	-1647.849	17.72	17.63	111.40	111.37
97	217	4821.684	568.451	-16.657	-30.051	5.110	1647.850	18.37	18.28	112.05	112.02
97	228	-4742.600	-55.081	13.708	20.196	25.850	-978.659	32.04	32.49	87.84	88.01
98	228	4742.580	55.081	-13.708	-20.196	-25.850	978.658	32.04	32.49	87.84	88.01
98	229	-5805.185	84.790	10.757	10.341	48.169	-994.568	43.59	44.43	100.41	100.72
99	229	6132.263	126.852	-10.757	-10.341	-48.170	1195.522	42.85	43.69	111.11	111.42
99	230	-6189.293	81.923	0.027	-0.018	-0.394	-1250.566	42.70	42.70	113.82	113.82
00	230	6189.267	-81.925	-0.027	0.018	0.394	1250.568	42.70	42.70	113.82	113.82
00	231	-7213.372	387.124	0.012	-0.009	-0.145	-1899.453	39.96	39.96	147.98	147.98
01	231	7213.374	-387.122	-0.012	0.009	0.145	1899.453	39.96	39.96	147.98	147.98
01	232	-7130.729	141.137	0.012	-0.009	-0.109	-2918.425	16.42	16.42	182.39	182.39
02	232	7130.729	-141.138	-0.012	0.009	0.109	2918.421	16.42	16.42	182.39	182.39
02	233	-6981.997	-235.144	0.012	-0.009	-0.072	-2486.989	24.30	24.30	165.73	165.73
03	233	6981.996	235.144	-0.012	0.009	0.072	2486.986	24.30	24.30	165.73	165.73
03	234	-6940.757	-93.499	0.012	-0.009	-0.036	-1945.854	35.83	35.83	146.49	146.49
04	234	6940.756	93.498	-0.012	0.009	0.036	1945.853	35.83	35.83	146.49	146.49
04	235	-6890.094	98.963	0.011	-0.007	0.000	-1941.035	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1222

ACME Z MIN grupo II (ELS) (ec-1)

	ESFUERZOS EN BARRAS						TENSIONES			
BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	3105.510	76.889	-13.748	-49.084	56.149	-595.517	49.04	48.06	14.86	14.50
1	12	-3161.992	-48.389	10.802	39.227	-20.106	724.685	52.23	51.88	10.91	10.78
2	12	3161.994	48.389	-10.802	-39.227	20.106	-724.686	52.23	51.88	10.91	10.78
2	13	-3217.570	-23.975	7.852	29.372	7.292	863.847	55.71	55.84	6.63	6.67
3	13	3217.570	23.975	-7.852	-29.372	-7.292	-863.847	55.71	55.84	6.63	6.67
3	14	-3244.404	109.361	4.903	19.516	26.027	726.664	52.81	53.27	11.63	11.80
4	14	3244.405	-109.360	-4.903	-19.516	-26.027	-726.664	52.81	53.27	11.63	11.80
4	15	-3277.934	207.229	1.954	9.661	36.099	228.576	42.06	42.69	29.26	29.49
5	15	3277.932	-207.231	-1.954	-9.661	-36.099	-228.575	42.06	42.69	29.26	29.49
5	16	-3355.383	71.186	-0.995	-0.194	37.507	-314.284	30.89	31.54	48.97	49.21
6	16	3355.384	-71.185	0.995	0.194	-37.507	314.283	30.89	31.54	48.97	49.21
6	17	-4264.089	-261.150	7.086	-113.332	77.362	-186.931	43.71	45.05	54.76	55.26
7	17	4264.092	261.151	-7.086	113.332	-77.362	186.931	43.71	45.05	54.76	55.26
7	18	-6116.225	-525.940	-0.032	0.010	0.029	1241.046	97.13	97.13	26.55	26.55
8	18	6116.224	525.940	0.032	-0.010	-0.029	-1241.046	97.13	97.13	26.55	26.55
8	19	-6291.793	517.708	-0.032	0.010	-0.067	1793.190	111.38	111.37	9.40	9.40
9	19	6347.591	551.616	-0.013	0.007	0.067	-1793.207	112.01	112.01	10.03	10.03
9	30	-6156.402	394.098	0.013	-0.007	-0.015	946.952	91.07	91.06	37.21	37.21
10	30	6156.404	-394.098	-0.013	0.007	0.015	-946.952	91.07	91.06	37.21	37.21
10	31	-5457.690	-76.935	6.095	29.170	67.978	762.173	78.42	79.61	35.45	35.89
11	31	5238.609	166.312	-6.095	-29.170	-67.978	-671.852	73.93	75.11	36.09	36.53
11	32	-4556.821	138.852	2.216	16.160	83.537	723.641	67.18	68.63	26.49	27.03
12	32	4556.821	-138.852	-2.216	-16.160	-83.537	-723.642	67.18	68.63	26.49	27.03
12	33	-4649.494	87.465	-1.673	3.158	84.586	-64.378	50.75	52.22	54.87	55.42
13	33	4649.487	-87.465	1.673	-3.158	-84.586	64.378	50.75	52.22	54.87	55.42
13	34	-4754.263	-105.144	-5.563	-9.842	70.567	131.977	56.42	57.65	49.30	49.76
14	34	4754.273	105.144	5.563	9.842	-70.567	-131.978	56.42	57.65	49.30	49.76
14	35	-5580.377	-80.242	-9.463	-22.835	41.866	479.693	73.78	74.51	46.73	47.00
15	35	5580.378	80.242	9.463	22.835	-41.866	-479.695	73.78	74.51	46.73	47.00
15	36	-6235.181	-374.433	0.022	-0.012	0.384	1549.173	105.31	105.32	17.22	17.22
16	36	6235.182	374.432	-0.022	0.012	-0.384	-1549.173	105.31	105.32	17.22	17.22
16	37	-6319.141	713.984	0.022	-0.012	0.468	1631.453	108.09	108.10	15.32	15.32
17	37	6376.538	394.106	0.003	-0.007	-0.468	-1631.452	108.75	108.76	15.97	15.97
17	48	-6196.687	355.870	-0.003	0.007	0.457	769.364	87.58	87.59	43.83	43.83
18	48	6196.687	-355.870	0.003	-0.007	-0.457	-769.363	87.58	87.59	43.83	43.83
18	49	-4321.264	-72.157	7.017	26.491	23.163	455.519	59.08	59.48	33.30	33.45
19	49	4025.901	172.109	-7.017	-26.491	-23.163	-379.911	54.04	54.44	32.56	32.71
19	50	-4107.812	170.311	3.126	13.491	42.814	444.197	56.23	56.97	31.20	31.48
20	50	4107.812	-170.311	-3.126	-13.491	-42.814	-444.199	56.23	56.97	31.20	31.48

20	51	-3444.594	69.777	-0.760	0.490	47.145	-279.164	32.60	33.42	48.73	49.04
21	51	3444.603	-69.777	0.760	-0.490	-47.145	279.162	32.60	33.42	48.73	49.04
21	52	-3552.014	-124.990	-4.648	-12.512	36.667	-17.473	39.72	40.35	40.91	41.15
22	52	3552.007	124.989	4.648	12.512	-36.667	17.471	39.72	40.35	40.91	41.15
22	53	-4370.696	-90.064	-8.542	-25.513	11.341	404.262	58.61	58.81	35.68	35.75
23	53	4370.696	90.065	8.542	25.513	-11.341	-404.264	58.61	58.81	35.68	35.75
23	54	-6345.751	-378.359	0.004	0.001	0.468	1482.344	105.09	105.10	20.79	20.80
24	54	6345.749	378.359	-0.004	-0.001	-0.468	-1482.346	105.09	105.10	20.79	20.80
24	55	-6434.094	708.624	0.004	0.001	0.485	1585.091	108.37	108.38	18.23	18.29
25	55	6491.294	396.310	0.004	-0.004	-0.485	-1585.092	109.03	109.03	18.89	18.89
25	66	-6314.535	352.946	-0.004	0.004	0.470	733.774	88.13	88.14	46.41	46.41
26	66	6314.537	-352.946	0.004	-0.004	-0.470	-733.775	88.13	88.14	46.41	46.41
26	67	-5607.447	-76.301	7.897	26.229	10.061	430.211	73.27	73.44	48.86	48.92
27	67	5338.621	177.046	-7.897	-26.229	-10.061	-365.374	68.77	68.95	48.05	48.11
27	68	-5417.136	170.290	4.007	13.228	33.125	436.443	71.04	71.62	46.40	46.62
28	68	5417.135	-170.290	-4.007	-13.228	-33.125	-436.444	71.04	71.62	46.40	46.62
28	69	-4751.623	69.676	0.118	0.227	40.907	-291.047	47.26	47.98	64.04	64.30
29	69	4751.632	-69.675	-0.118	-0.227	-40.907	291.048	47.27	47.98	64.04	64.30
29	70	-4856.747	-128.585	-3.771	-12.775	33.827	-23.173	54.46	55.05	55.97	56.19
30	70	4856.756	128.584	3.771	12.775	-33.827	23.174	54.46	55.05	55.97	56.19
30	71	-5683.860	-94.659	-7.661	-25.776	11.889	406.068	73.59	73.79	50.56	50.64
31	71	5683.860	94.659	7.661	25.776	-11.889	-406.067	73.59	73.79	50.56	50.64
31	72	-6356.915	-380.300	0.003	-0.001	0.457	1496.157	105.52	105.53	20.44	20.44
32	72	6356.917	380.300	-0.003	0.001	-0.457	-1496.156	105.52	105.53	20.44	20.44
32	73	-6440.468	708.134	0.003	-0.001	0.469	1600.936	108.80	108.81	17.76	17.76
81	181	6864.865	388.548	0.012	-0.007	-0.485	-1641.393	114.53	114.53	21.18	21.19
81	192	-6694.646	361.302	-0.012	0.007	0.448	757.728	92.99	93.00	49.90	49.90
82	192	6694.647	-361.302	0.012	-0.007	-0.448	-757.727	92.99	93.00	49.90	49.90
82	193	-5205.895	-62.762	13.342	25.820	17.451	406.464	68.11	68.41	45.09	45.20
83	193	4914.056	162.776	-13.342	-25.820	-17.451	-332.285	63.14	63.45	44.34	44.45
83	194	-4248.802	126.376	9.453	12.817	43.406	377.992	56.36	57.11	35.10	35.38
84	194	4248.776	-126.376	-9.453	-12.817	-43.406	-377.989	56.36	57.11	35.10	35.38
84	195	-4350.663	76.859	5.564	-0.185	54.511	-340.380	41.49	42.44	61.14	61.50
85	195	4350.644	-76.860	-5.564	0.185	-54.511	340.381	41.49	42.44	61.14	61.50
85	196	-4467.265	-118.361	1.675	-13.187	50.546	-90.330	48.40	49.28	53.81	54.14
86	196	4467.241	118.361	-1.675	13.187	-50.546	90.329	48.40	49.28	53.81	54.14
86	197	-5295.530	-80.922	-2.217	-26.185	31.711	267.806	65.93	66.48	50.87	51.08
87	197	5295.529	80.922	2.217	26.185	-31.711	-267.806	65.93	66.48	50.87	51.08
88	198	-6778.797	-372.604	-0.007	0.001	0.225	1340.572	106.88	106.88	30.64	30.64
88	198	6778.795	372.605	0.007	-0.001	-0.225	-1340.571	106.88	106.88	30.64	30.64
88	199	-6867.195	714.621	-0.007	0.001	0.199	1420.488	109.66	109.66	28.87	28.88
89	199	6924.594	426.635	0.015	-0.009	-0.199	-1420.495	110.31	110.31	29.53	29.53
89	210	-6741.807	322.915	-0.015	0.009	0.142	686.362	91.95	91.95	52.91	52.92
90	210	6741.811	-322.915	0.015	-0.009	-0.142	-686.363	91.95	91.95	52.91	52.92
90	211	-5335.650	-104.187	13.936	22.659	50.573	485.466	71.05	71.93	43.72	44.04
91	211	5232.809	199.378	-13.936	-22.659	-50.573	-364.441	67.20	68.07	46.75	47.07
91	212	-5326.327	143.919	10.047	9.657	79.043	537.634	71.85	73.23	41.71	42.22
92	212	5326.325	-143.919	-10.047	-9.657	-79.043	-537.630	71.85	73.23	41.71	42.22
92	213	-4843.037	-58.108	-3.595	-2.890	81.769	-198.004	50.01	51.44	61.72	62.25
93	213	4843.139	-58.109	3.595	2.890	-81.769	198.007	50.01	51.44	61.72	62.25
93	214	-5768.911	-279.921	-7.479	-15.897	78.579	265.756	70.86	72.23	56.18	56.69
94	214	5768.908	279.921	7.479	15.897	-78.579	-265.756	70.86	72.23	56.18	56.69
94	215	-5781.330	-173.692	-11.370	-28.898	60.051	1197.211	91.83	92.87	24.07	24.46
95	215	5781.332	173.693	11.370	28.898	-60.051	-1197.212	91.83	92.87	24.07	24.46
95	216	-7028.848	-239.163	-0.009	0.005	-0.137	2170.236	128.13	128.12	4.71	4.71
96	216	7028.850	239.163	0.009	-0.005	0.137	-2170.235	128.13	128.12	4.71	4.71
96	217	-6915.102	799.731	-0.009	0.005	-0.173	1598.594	114.15	114.15	23.24	23.24
97	217	6972.105	186.402	-0.007	0.004	0.173	-1598.579	114.80	114.80	23.89	23.89
97	228	-6848.701	430.391	0.007	-0.004	-0.152	871.702	97.26	97.27	47.70	47.70
98	228	6848.698	-430.391	-0.007	0.004	0.152	-871.703	97.23	97.27	47.70	47.70
98	229	-5568.739	248.952	0.009	-0.005	-0.158	-89.003	61.40	61.40	66.46	66.46
99	229	5880.297	-47.366	-0.009	0.005	0.158	280.408	60.79	60.79	76.65	76.65
99	230	-5927.690	7.205	-0.748	2.347	51.088	-181.810	62.96	63.87	73.60	73.93
100	230	5927.688	-7.207	0.748	-2.347	-51.088	181.811	62.98	63.87	73.60	73.93
100	231	-5021.754	195.139	4.855	-9.366	66.809	-418.582	47.29	48.45	71.45	71.89
101	231	5021.732	-195.138	-4.855	9.366	-66.808	418.582	47.29	48.45	71.45	71.89
101	232	-4971.281	102.132	1.906	-19.221	63.100	-1013.697	33.54	34.69	91.54	91.94
102	232	4971.265	-102.132	-1.906	19.221	-63.100	1013.694	33.54	34.69	91.54	91.94
102	233	-4874.362	-82.449	-1.043	-29.076	50.729	-824.083	36.75	37.64	83.90	84.22
103	233	4874.465	82.449	1.043	29.076	-50.729	824.081	36.76	37.64	83.90	84.22
103	234	-4853.108	96.979	-3.992	-38.932	29.694	-792.016	37.41	37.92	82.61	82.80
104	234	4853.084	-96.979	3.992	38.932	-29.694	792.016	37.41	37.92	82.61	82.80
104	235	-4825.098	278.777	-15.479	-46.940	-0.003	-1364.154	24.66	24.66	102.23	102.23

[redacted]

ADUCTO SOBRE LA RIERA FENOSA

POTESIS 1241

ME Z MAX envolvente (ELS) (ec-1)

ESFUERZOS EN BARRAS

TENSIONES

BAR	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	6268.378	62.624	-13.791	-49.070	56.321	1790.442	32.12	31.14	133.63	133.27
1	12	-6274.969	107.277	-0.092	0.026	0.882	-2189.021	22.85	22.87	147.35	147.35
2	12	6274.971	-107.277	0.092	-0.026	-0.882	2189.021	22.85	22.87	147.35	147.35
2	13	-6353.305	28.363	-0.083	0.023	0.671	-2343.636	20.32	20.33	153.60	153.61
3	13	6353.305	-28.364	0.092	-0.026	-0.613	2343.636	20.32	20.33	153.60	153.61
3	14	-6390.744	104.427	-0.083	0.023	0.426	-2557.588	16.00	16.01	161.45	161.45
4	14	6390.743	-104.426	0.092	-0.026	-0.348	2557.588	16.00	16.01	161.45	161.46
4	15	-6437.708	130.027	-0.083	0.023	0.181	-2951.196	7.81	7.81	175.64	175.64
5	15	6437.709	-130.029	0.083	-0.023	-0.181	2951.199	7.81	7.81	175.64	175.64
5	16	-6547.168	-177.193	-0.083	0.023	-0.064	-3074.654	6.32	6.32	181.17	181.17
6	16	6547.168	177.194	0.083	-0.023	0.064	3074.655	6.32	6.32	181.17	181.17
6	17	-5652.755	-359.218	-0.120	0.035	-0.963	-2020.730	19.52	19.50	134.43	134.43
7	17	5652.760	359.218	0.120	-0.035	0.963	2020.729	19.52	19.50	134.43	134.43
7	18	-3485.914	-92.207	-0.143	0.043	-1.640	-1439.238	7.76	7.74	89.60	89.59
8	18	3485.906	92.206	0.143	-0.043	1.640	1439.238	7.76	7.74	89.60	89.59
8	19	-3609.530	987.648	-0.087	0.126	-1.336	-2830.817	-21.69	-21.72	139.28	139.28
9	19	3665.329	1009.534	-0.051	0.035	1.336	2830.795	-21.06	-21.08	139.92	139.91
9	30	-3531.263	-288.949	0.077	-0.057	-1.957	-1103.875	15.72	15.69	78.49	78.47
10	30	3531.265	288.949	-0.079	0.036	2.154	1103.875	15.72	15.69	78.49	78.47
10	31	-4549.811	3.851	0.078	-0.056	-1.031	-982.174	29.95	29.93	85.80	85.79
11	31	4314.800	89.985	-0.078	0.056	1.031	1077.001	25.23	25.21	86.47	86.46
11	32	-5322.416	264.900	0.066	-0.047	-0.206	-1323.360	31.22	31.22	106.48	106.48
12	32	5322.415	-264.900	-0.067	0.026	0.389	1323.358	31.22	31.22	106.48	106.48
12	33	-5455.256	156.042	-0.015	-0.006	0.199	-2632.947	3.69	3.69	153.42	153.42
13	33	5455.255	-156.041	0.014	-0.014	-0.023	2632.945	3.69	3.69	153.42	153.42
13	34	-5605.321	-267.934	-0.015	-0.006	0.140	-2182.630	15.38	15.38	139.51	139.51
14	34	5605.322	267.935	0.015	0.006	-0.140	2182.629	15.38	15.38	139.51	139.51
14	35	-4676.524	-174.676	-0.004	0.006	-0.476	-1389.002	22.42	22.41	101.41	101.40
15	35	4676.519	174.676	0.005	0.014	0.314	1389.001	22.42	22.41	101.41	101.40
15	36	-4766.161	-52.239	-0.020	0.016	-0.571	-999.882	32.07	32.06	88.93	88.93
16	36	4766.170	52.238	0.022	0.004	0.416	999.882	32.07	32.06	88.93	88.93
16	37	-4824.868	1139.507	-0.009	-0.012	-0.997	-3315.946	-18.63	-18.64	169.94	169.94
17	37	4882.259	913.453	0.018	0.005	0.997	3315.940	-17.97	-17.99	170.60	170.59
17	48	-4755.545	-319.965	-0.018	-0.005	-1.049	-1545.890	19.84	19.82	107.75	107.74
18	48	4755.554	319.964	-0.106	0.023	0.715	1545.890	19.84	19.83	107.75	107.75
18	49	-5782.099	0.448	0.106	-0.022	0.234	-1447.039	33.71	33.71	116.00	116.00
19	49	5471.994	104.490	-0.106	0.022	-0.234	1526.420	28.42	28.42	115.22	115.23
19	50	-6481.206	242.095	0.103	-0.023	0.902	-1638.975	37.40	37.42	130.61	130.62
20	50	6481.206	-242.095	-0.103	0.023	-0.902	1638.973	37.40	37.42	130.61	130.62
20	51	-6612.176	154.292	0.027	0.011	1.304	-2689.691	15.58	15.61	168.55	168.56
21	51	6612.175	-154.292	-0.027	-0.011	-1.304	2689.691	15.58	15.61	168.55	168.56
21	52	-6764.006	-259.724	0.025	0.013	1.905	-2246.803	27.13	27.16	154.91	154.92
22	52	6764.007	259.724	-0.025	-0.013	-1.905	2246.802	27.13	27.16	154.91	154.92
22	53	-5831.039	-175.858	0.028	0.014	1.278	-1973.269	33.67	33.70	117.46	117.47
23	53	5831.049	175.859	-0.028	-0.014	-1.278	1973.267	33.67	33.70	117.46	117.47
23	54	-3685.744	302.091	0.026	0.016	0.869	-1046.031	18.74	18.75	78.23	78.24
24	54	3685.750	-302.091	-0.026	-0.016	-0.869	1046.031	18.74	18.75	78.23	78.24
24	55	-3748.154	1132.729	0.026	0.016	0.949	-3342.677	-31.46	-31.47	158.61	158.62
25	55	3805.330	914.633	-0.157	0.252	-0.949	3342.669	-30.84	-30.82	159.26	159.27
25	66	-3681.415	-321.658	0.157	-0.252	1.578	-1566.128	7.15	7.17	96.22	96.23
26	66	3681.424	321.658	-0.157	0.252	-1.578	1566.128	7.15	7.17	96.22	96.23
26	67	-4708.859	-2.289	0.157	-0.251	2.713	-1465.502	21.05	21.10	104.41	104.43
27	67	4425.830	109.060	-0.157	0.251	-2.713	1533.574	16.33	16.38	103.56	103.56
27	68	-5435.454	243.605	0.157	-0.252	3.529	-1645.530	25.33	25.39	118.93	118.95
28	68	5435.453	-243.606	-0.157	0.252	-3.529	1645.529	25.33	25.39	118.93	118.95
28	69	-5568.093	156.138	0.083	-0.215	4.145	-2701.820	3.41	3.48	157.08	157.11
29	69	5568.093	-156.138	-0.083	0.215	-4.145	2701.822	3.41	3.48	157.08	157.11
29	70	-5718.664	-262.957	0.081	-0.214	4.466	-2252.514	15.08	15.16	143.21	143.24
30	70	5718.663	262.954	-0.081	0.214	-4.468	2252.516	15.08	15.16	143.21	143.24
30	71	-4791.264	-178.280	0.081	-0.213	4.567	-1469.550	21.89	21.97	105.49	105.52
31	71	4791.271	178.280	-0.081	0.213	-4.567	1469.551	21.89	21.97	105.49	105.52
31	72	-4880.780	299.296	0.082	-0.213	4.371	-1032.824	32.60	32.68	91.36	91.39
32	72	4880.760	-299.295	-0.082	0.213	-4.371	1032.825	32.60	32.68	91.36	91.39
32	73	-4939.165	1130.960	0.082	-0.213	4.670	-3323.050	-17.53	-17.45	171.47	171.50
81	181	4609.555	906.635	-5.657	-0.001	1.075	3296.159	-20.64	-20.66	166.81	166.80
81	192	-4653.655	-316.284	0.025	0.020	-0.678	-1540.786	18.79	18.78	106.41	106.41
82	192	4653.760	316.284	-0.025	0.020	0.678	1540.786	18.79	18.78	106.41	106.41
92	193	-5835.573	-0.204	-5.607	-0.041	-0.382	-1463.129	33.96	33.96	117.17	117.17
83	193	5529.150	105.206	5.607	0.041	0.382	1541.010	28.75	28.74	116.38	116.38
83	194	-6531.197	244.635	-5.608	-0.039	-0.346	-1685.374	36.95	36.95	132.80	132.79
84	194	6531.195	-244.635	5.608	0.039	0.346	1685.378	36.95	36.94	132.80	132.79
84	195	-6654.498	37.261	-5.609	-0.037	-0.535	-2749.761	14.75	14.74	171.12	171.12
85	195	6654.499	-37.262	5.609	0.037	0.535	2749.762	14.75	14.74	171.12	171.12
85	196	-6820.586	-258.779	-4.746	0.005	-0.787	-2316.771	26.24	26.23	157.99	157.99
86	196	6820.587	258.780	4.746	-0.005	0.787	2316.771	26.24	26.23	157.99	157.99
86	197	-5878.053	-177.510	-4.745	0.003	-1.388	-1507.250	33.48	33.45	119.19	119.18
87	197	5878.035	177.510	4.745	-0.003	1.388	1507.249	33.48	33.45	119.19	119.18
87	198	-4843.878	298.204	-4.745	0.003	-2.258	-1085.862	31.06	31.02	92.80	92.79
88	198	4843.978	-298.203	4.745	-0.003	2.258	1085.862	31.06	31.02	92.80	92.79
88	199	-4897.413	1129.028	-4.745	0.003	-2.669	-3381.950	-19.25	-19.30	173.06	173.05
89	199	4954.793	928.965	4.867	-0.220	2.669	3381.939	-18.60	-18.64	173.72	173.70
89	210	-4805.185	24.860	5.854	-0.278	2.499	-1571.420	19.81	19.85	109.19	109.21
90	210	4805.166	-24.859	-5.854	0.278	-2.499	1571.419	19.81	19.85	109.19	109.21
90	211	-5637.739	-16.913	5.853	-0.277	3.664	-1410.309	32.85	32.91	113.07	113.10
91	211	5529.740	116.852	-5.853	0.277	-3.664	1537.372	28.80	28.87	116.25	116.27
91	212	-5611.263	180.563	4.889	-0.232	3.950	-1572.581	28.95	29.01	118.40	118.42
92	212	5611.241	-180.563	-4.889	0.232	-3.950	1572.584	28.95	29.01	118.40	118.42
92	213	-6709.221	27.931	4.894	-0.237	5.168	-2537.323	20.03	20.12	164.36	164.39
93	213	6709.225	-27.930	-4.894	0.237	-5.168	2537.326	20.03	20.12	164.36	164.39
93	214	-5887.850	-295.271	4.829	-0.192	5.571	-1701.897	29.21	29.31	126.03	126.06
94	214	5887.828	295.271	-4.829	0.192	-5.571	1701.898	29.21	29.31	126.03	126.06
94	215	-5920.154	-258.304	4.829	-0.192	6.291	-543.334	55.27	55.38	86.20	86.24
95	215	5920.129	258.304	-4.829	0.192	-6.291	543.333	55.27	55.38	86.20	86.24
95	216	-4839.598	399.090	4.820	-0.188	6.292	-280.668	48.80	48.91	64.79	64.83

96	216	4839.577	-399.090	-4.820	0.188	-6.292	280.668	48.80	48.91	64.79	64.80
96	217	-4768.989	1185.476	4.820	-0.188	6.976	-2995.721	-12.23	-12.11	158.17	158.22
97	217	4826.063	730.672	-4.346	0.978	-6.977	2995.731	-11.58	-11.46	158.82	158.87
97	228	-4746.423	73.825	4.330	-0.964	6.438	-1834.728	13.27	13.38	117.64	117.68
98	228	4746.403	-73.825	-4.330	0.964	-6.438	1834.727	13.23	13.38	117.64	117.68
98	229	-5808.455	164.817	4.329	-0.963	5.540	-2159.124	18.17	18.26	140.99	141.02
99	229	6135.533	46.825	-4.329	0.963	-5.540	2360.079	17.43	17.53	151.68	151.71
99	230	-6153.353	15.919	4.329	-0.963	4.617	-2274.225	19.55	19.63	148.91	148.94
00	230	6153.327	-15.920	-4.329	0.963	-4.617	2274.226	19.55	19.63	148.91	148.94
00	231	-7184.623	321.119	4.314	-0.954	3.864	-2718.382	21.44	21.51	176.05	176.08
01	231	7184.624	-321.117	-4.314	0.954	-3.864	2718.382	21.44	21.51	176.05	176.08
01	232	-7109.169	75.132	4.314	-0.954	2.898	-3532.627	2.53	2.58	203.44	203.46
02	232	7109.170	-75.133	-4.314	0.954	-2.898	3532.623	2.53	2.58	203.44	203.46
02	233	-6967.625	-301.149	4.314	-0.954	1.932	-2896.464	15.04	15.07	179.77	179.78
03	233	6967.625	301.148	-4.314	0.954	-1.932	2896.462	15.04	15.07	179.77	179.78
03	234	-6934.542	-160.012	5.157	-1.136	1.182	-2150.601	31.21	31.23	153.52	153.53
04	234	6934.542	160.011	-5.157	1.136	-1.182	2150.600	31.21	31.23	153.52	153.53
04	235	-6890.094	31.468	0.042	-0.027	0.000	-1941.060	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1242

NOME Z MIN envolvente (ELS) (ec-1)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	3105.510	76.889	-13.748	-49.084	56.149	-595.517	49.04	48.06	14.86	14.50
1	12	-3234.502	-200.850	-0.102	0.036	0.554	1132.708	61.93	61.94	-2.49	-2.48
2	12	3234.503	200.851	0.102	-0.036	-0.554	-1132.709	61.93	61.94	-2.49	-2.48
2	13	-3289.558	-131.023	-0.110	0.040	0.198	1651.500	74.06	74.07	-19.85	-19.85
3	13	3289.558	131.022	0.102	-0.036	-0.256	-1651.500	74.06	74.07	-19.86	-19.85
3	14	-3315.870	47.727	-0.110	0.040	-0.125	1760.547	76.78	76.78	-23.34	-23.34
4	14	3315.871	-47.726	0.102	-0.036	0.043	-1760.546	76.78	76.78	-23.34	-23.34
4	15	-3348.880	191.009	-0.110	0.040	-0.447	1375.286	68.62	68.61	-9.60	-9.60
5	15	3348.878	-191.011	0.110	-0.040	0.447	-1375.283	68.62	68.61	-9.60	-9.60
5	16	-3425.809	100.380	-0.110	0.040	-0.770	811.854	57.00	56.99	10.83	10.82
6	16	3425.810	-100.379	0.110	-0.040	0.770	-811.854	57.00	56.99	10.83	10.82
6	17	-4254.630	-105.541	-0.074	0.028	-0.443	763.026	65.35	65.34	21.95	21.95
7	17	4254.633	105.541	0.074	-0.028	0.443	-763.026	65.35	65.34	21.95	21.95
7	18	-6632.682	-572.676	0.012	-0.010	0.860	1661.004	112.31	112.33	17.86	17.87
8	18	6632.681	572.675	-0.012	0.010	-0.860	-1661.004	112.31	112.33	17.86	17.87
8	19	-6808.578	461.841	-0.059	-0.085	-0.208	2375.019	130.16	130.16	-4.90	-4.91
9	19	6864.376	481.685	0.009	-0.005	0.208	-2375.031	130.80	130.79	-4.27	-4.27
9	30	-6673.621	464.028	-0.034	0.027	0.580	1258.145	103.85	103.86	32.30	32.31
10	30	6673.622	-464.028	0.036	-0.006	-0.776	-1258.144	103.85	103.86	32.30	32.31
10	31	-5390.193	-206.000	0.020	-0.001	-0.758	1659.997	98.17	98.15	3.76	3.75
11	31	5171.112	295.377	-0.020	0.001	0.758	-1569.677	93.67	93.66	4.40	4.39
11	32	-4490.012	69.694	0.031	-0.010	-1.202	2007.532	95.63	95.61	-18.54	-18.55
12	32	4490.012	-69.695	-0.030	0.030	1.018	-2007.534	95.63	95.61	-18.54	-18.55
12	33	-4583.375	78.215	0.034	-0.011	-1.080	1373.444	82.63	82.61	4.52	4.51
13	33	4583.368	-78.215	-0.032	0.031	0.903	-1373.445	82.63	82.61	4.52	4.51
13	34	-4688.837	-54.486	0.034	-0.011	-0.950	1491.593	86.45	86.43	1.62	1.61
14	34	4688.847	54.487	-0.034	0.011	0.950	-1491.593	86.45	86.43	1.62	1.61
14	35	-5515.645	30.323	0.022	-0.024	-0.263	1528.968	96.68	96.68	9.73	9.73
15	35	5515.646	-30.323	-0.024	0.003	0.425	-1528.970	96.69	96.68	9.73	9.73
15	36	-5715.338	-388.108	0.051	-0.042	1.013	1902.188	107.22	107.24	-0.95	-0.94
16	36	5715.339	388.107	-0.053	0.022	-0.857	-1902.188	107.22	107.24	-0.95	-0.94
16	37	-5798.856	689.973	0.053	-0.021	1.082	2074.760	112.00	112.02	-5.98	-5.98
17	37	5856.253	329.976	-0.019	-0.018	-1.082	-2074.750	112.65	112.67	-5.33	-5.32
17	48	-5675.960	359.344	0.039	0.013	1.120	1027.087	87.36	87.38	28.96	28.97
18	48	5675.960	-359.344	0.085	-0.031	-0.786	-1027.086	87.37	87.38	28.96	28.97
18	49	-4383.204	-192.270	-0.064	0.015	-0.506	1522.643	83.66	83.65	-2.94	-2.94
19	49	4087.840	292.221	0.064	-0.015	0.506	-1447.034	78.62	78.61	-3.67	-3.68
19	50	-4169.051	110.106	-0.064	0.015	-0.755	1858.641	88.68	88.66	-17.03	-17.03
20	50	4169.051	-110.106	0.064	-0.015	0.755	-1858.643	88.68	88.66	-17.03	-17.03

20	51	-3505.131	69.479	-0.060	0.015	-1.249	1250.456	67.63	67.61	-3.48	-3.49
[illegible]	51	3505.141	-69.479	0.060	-0.015	1.249	-1250.458	67.63	67.61	-3.48	-3.49
[illegible]	52	-3611.850	-65.380	-0.058	0.013	-1.477	1395.178	72.06	72.04	-7.29	-7.30
22	52	3611.843	65.379	0.058	-0.013	1.477	-1395.180	72.06	72.04	-7.29	-7.30
22	53	-4429.830	29.453	-0.061	0.012	-1.476	1467.804	82.98	82.96	-0.50	-0.51
23	53	4429.830	-29.452	0.061	-0.012	1.476	-1467.806	82.98	82.96	-0.50	-0.51
23	54	-6869.142	-387.231	-0.034	-0.007	-0.627	1823.872	118.63	118.62	14.91	14.90
24	54	6869.139	387.231	0.034	0.007	0.627	-1823.873	118.63	118.62	14.91	14.90
24	55	-6957.930	689.299	-0.034	-0.007	-0.740	1999.772	123.54	123.53	9.81	9.81
25	55	7015.131	333.151	0.162	-0.258	0.740	-1999.764	124.19	124.18	10.47	10.46
25	66	-6838.818	360.587	-0.146	0.255	-1.316	1074.124	101.66	101.64	40.57	40.56
26	66	6838.819	-360.587	0.146	-0.255	1.316	-1074.125	101.66	101.64	40.57	40.56
26	67	-5551.131	-196.035	-0.122	0.237	-2.892	1485.911	96.16	96.11	11.64	11.62
27	67	5282.305	296.779	0.121	-0.237	2.892	-1421.073	91.66	91.61	10.83	10.81
27	68	-5361.527	110.463	-0.121	0.237	-3.363	1842.106	101.90	101.84	-2.88	-2.90
28	68	5361.526	-110.463	0.122	-0.237	3.363	-1842.106	101.90	101.84	-2.88	-2.90
28	69	-4696.723	69.757	-0.120	0.237	-4.040	1232.439	80.82	80.75	10.71	10.68
29	69	4696.731	-69.757	0.120	-0.237	4.040	-1232.439	80.82	80.75	10.71	10.68
29	70	-4802.555	-68.596	-0.118	0.235	-4.504	1385.997	85.43	85.36	6.59	6.56
[illegible]	70	4802.564	68.595	0.118	-0.235	4.504	-1385.997	85.43	85.36	6.59	6.56
0	71	-5630.378	25.238	-0.118	0.235	-4.750	1468.787	96.69	96.61	13.14	13.11
31	71	5630.378	-25.238	0.118	-0.235	4.750	-1468.785	96.69	96.61	13.14	13.11
31	72	-5829.942	-388.184	-0.096	0.218	-4.150	1834.756	107.08	107.00	2.71	2.69
32	72	5829.944	388.185	0.096	-0.218	4.150	-1834.755	107.08	107.00	2.71	2.69
32	73	-5913.044	689.789	-0.096	0.218	-4.503	2008.165	111.87	111.79	-2.36	-2.39
81	181	7046.207	374.062	5.662	-0.002	-1.310	-2044.055	125.51	125.54	9.28	9.28
81	192	-6694.646	368.518	-0.030	0.023	0.894	1094.040	100.44	100.46	38.23	38.24
82	192	6694.647	-368.518	0.030	-0.023	-0.894	-1094.038	100.44	100.46	38.23	38.24
82	193	-5296.392	-184.224	5.621	0.026	0.169	1470.528	92.32	92.32	8.69	8.69
83	193	4954.553	284.237	-5.621	-0.026	-0.169	-1396.348	87.35	87.36	7.94	7.95
83	194	-4287.268	64.821	5.622	0.024	0.187	1792.478	88.54	88.55	-13.39	-13.39
84	194	4287.242	-64.822	-5.622	-0.024	-0.188	-1792.476	88.54	88.55	-13.39	-13.39
84	195	-4387.098	75.212	5.624	0.023	0.432	1192.388	76.37	76.38	8.56	8.56
85	195	4387.079	-75.213	-5.624	-0.023	-0.432	-1192.387	76.37	76.38	8.56	8.56
85	196	-4479.848	-59.591	4.696	0.018	0.498	1328.579	80.44	80.45	4.89	4.90
86	196	4479.824	59.592	-4.696	-0.018	-0.498	-1328.581	80.44	80.45	4.89	4.90
86	197	-5307.361	37.755	4.695	0.020	0.907	1340.715	90.13	90.14	13.89	13.89
[illegible]	197	5307.360	-37.754	-4.695	-0.020	-0.907	-1340.715	90.13	90.14	13.89	13.89
[illegible]	198	-6635.773	-370.136	4.709	0.006	1.941	1549.832	109.87	109.91	21.75	21.76
88	198	6635.771	370.136	-4.709	-0.006	-1.941	-1549.831	109.87	109.91	21.75	21.76
88	199	-6733.675	655.862	4.730	-0.003	2.365	1820.632	116.99	117.03	13.47	13.48
89	199	6791.074	405.667	-4.841	0.199	-2.365	-1820.649	117.65	117.69	14.12	14.13
89	210	-6640.556	332.936	-5.868	0.294	-2.437	1021.998	98.26	98.22	40.13	40.11
90	210	6640.560	-332.936	5.868	-0.294	2.437	-1021.999	98.26	98.22	40.13	40.11
90	211	-5546.906	-222.554	-5.860	0.281	-4.582	1536.436	97.24	97.16	9.84	9.81
91	211	5444.064	317.744	5.860	-0.281	4.582	-1415.911	93.39	93.31	12.87	12.84
91	212	-5534.207	84.950	-4.896	0.236	-4.894	1903.150	105.23	105.15	-3.02	-3.05
92	212	5534.204	-84.951	4.896	-0.236	4.894	-1903.147	105.23	105.15	-3.02	-3.05
92	213	-4835.702	67.361	-4.900	0.241	-6.136	1249.919	82.81	82.70	11.69	11.65
93	213	4835.804	-67.361	4.900	-0.241	6.136	-1249.915	82.81	82.70	11.69	11.65
93	214	-5762.318	-210.761	-4.894	0.234	-6.846	1563.922	100.32	100.20	11.35	11.30
94	214	5762.314	210.761	4.894	-0.234	6.845	-1563.921	100.32	100.20	11.35	11.30
94	215	-5775.477	-44.625	-4.894	0.234	-7.818	2113.471	112.67	112.53	-7.56	-7.61
95	215	5775.479	44.625	4.894	-0.234	7.818	-2113.471	112.67	112.53	-7.56	-7.61
95	216	-7089.396	-305.826	-4.849	0.208	-7.614	2343.242	132.72	132.59	-0.58	-0.63
96	216	7089.398	305.826	4.849	-0.208	7.613	-2343.242	132.72	132.59	-0.58	-0.63
96	217	-6967.087	733.068	-4.849	0.208	-8.410	2016.383	124.08	123.94	9.37	9.31
97	217	7024.089	172.119	4.285	-0.942	8.411	-2016.378	124.73	124.59	10.02	9.96
97	228	-6894.191	435.540	-4.284	0.942	-7.372	1239.753	106.02	105.89	35.48	35.43
98	228	6894.188	-435.540	4.284	-0.942	7.372	-1239.754	106.02	105.89	35.48	35.43
98	229	-5609.804	84.602	-4.252	0.913	-6.897	843.925	82.62	82.50	34.59	34.54
99	229	5921.362	116.984	4.252	-0.913	6.897	-652.519	81.93	81.80	44.77	44.73
99	230	-5924.971	-24.668	-4.242	0.903	-5.885	907.656	87.61	87.51	35.96	35.92
100	230	5924.969	24.666	4.242	-0.903	5.885	-907.655	87.61	87.51	35.96	35.92
100	231	-5078.676	197.379	-4.230	0.896	-4.855	699.739	73.36	73.27	33.54	33.51
101	231	5078.656	-197.378	4.230	-0.896	4.855	-699.739	73.36	73.27	33.54	33.51
101	232	-5013.970	149.786	-4.230	0.896	-3.641	8.637	57.28	57.22	56.77	56.75
102	232	5013.952	-149.786	4.230	-0.896	3.641	-8.640	57.28	57.22	56.77	56.75
102	233	-4902.817	10.619	-4.230	0.896	-2.427	-31.132	55.13	55.08	56.88	56.87
103	233	4902.921	-10.619	4.230	-0.896	2.427	31.131	55.13	55.09	56.89	56.87
103	234	-4866.364	235.969	-5.073	1.078	-1.430	-361.845	47.37	47.34	67.94	67.93
104	234	4866.340	-235.969	5.073	-1.078	1.430	361.845	47.37	47.34	67.94	67.93
104	235	-4825.099	400.402	0.042	-0.030	0.000	-1364.120	29.66	29.66	102.23	102.23

ADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1261

ME Z MAX envolvente (ELS) (total)

ESFUERZOS EN BARRAS

BRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	6268.378	62.624	-13.791	-49.070	56.321	1790.442
1	12	-6274.969	107.277	-0.092	0.026	0.882	-2189.021
2	12	6274.971	-107.277	0.092	-0.026	-0.882	2189.021
2	13	-6353.305	28.363	-0.083	0.023	0.671	-2343.636
3	13	6353.305	-28.364	0.092	-0.026	-0.613	2343.636
3	14	-6390.744	104.427	-0.083	0.023	0.426	-2557.588
4	14	6390.743	-104.426	0.092	-0.026	-0.348	2557.588
4	15	-6437.708	130.027	-0.083	0.023	0.181	-2951.196
5	15	6437.709	-130.029	0.083	-0.023	-0.181	2951.199
5	16	-6547.168	-177.193	-0.083	0.023	-0.064	-3074.654
6	16	6547.168	177.194	0.083	-0.023	0.064	3074.655
6	17	-5652.755	-359.218	-0.120	0.035	-0.963	-2020.730
7	17	5652.760	359.218	0.120	-0.035	0.963	2020.729
7	18	-3485.914	-92.207	-0.143	0.043	-1.640	-1439.238
8	18	3485.906	92.206	0.143	-0.043	1.640	1439.238
8	19	-3609.530	987.648	-0.087	0.126	-1.336	-2830.817
9	19	3665.329	1009.534	-0.051	0.035	1.336	2830.795
9	30	-3531.263	-288.949	0.077	-0.057	-1.957	-1103.875
10	30	3531.265	288.949	-0.079	0.036	2.154	1103.875
10	31	-4544.811	3.851	0.078	-0.056	-1.031	-982.174
11	31	4314.800	89.985	-0.078	0.056	1.031	1077.001
11	32	-5322.416	264.900	0.066	-0.047	-0.206	-1323.360
12	32	5322.415	-264.900	-0.067	0.026	0.389	1323.358
12	33	-6015.621	132.486	0.006	-0.004	0.049	-2700.796
13	33	6015.620	-132.485	-0.006	0.004	-0.049	2700.795
13	34	-5605.321	-267.934	-0.015	-0.006	0.140	-2182.630
14	34	5605.322	267.935	0.015	0.006	-0.140	2182.629
14	35	-4676.524	-174.676	-0.004	0.006	-0.476	-1389.002
15	35	4676.519	174.676	0.005	0.014	0.314	1389.001
15	36	-4766.161	-52.239	-0.020	0.016	-0.571	-999.882
16	36	4766.170	52.238	0.022	0.004	0.416	999.882
16	37	-4824.868	1139.507	-0.009	-0.012	-0.997	-3315.946
17	37	4882.259	913.453	0.018	0.005	0.997	3315.940
17	48	-4755.545	-319.965	-0.018	-0.005	-1.049	-1545.890
18	48	4755.554	319.964	-0.106	0.023	0.715	1545.890
18	49	-5782.099	0.448	0.106	-0.022	0.234	-1447.039
19	49	5471.994	104.490	-0.106	0.022	-0.234	1526.420
19	50	-5920.841	284.835	0.009	0.004	0.386	-1716.957
20	50	5920.841	-284.835	-0.009	-0.004	-0.387	1716.954

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
32.12	31.14	133.63	133.27
22.85	22.87	147.35	147.35
22.85	22.87	147.35	147.35
20.32	20.33	153.60	153.61
20.32	20.33	153.60	153.61
16.00	16.01	161.45	161.45
16.00	16.01	161.45	161.45
7.81	7.81	175.64	175.64
7.81	7.81	175.64	175.64
6.32	6.32	181.17	181.17
6.32	6.32	181.17	181.17
19.52	19.50	134.43	134.43
19.52	19.50	134.43	134.43
7.76	7.74	89.60	89.59
7.76	7.74	89.60	89.59
-21.69	-21.72	139.28	139.28
-21.06	-21.08	139.92	139.91
15.72	15.69	78.49	78.47
15.72	15.69	78.49	78.47
29.95	29.93	85.80	85.79
25.23	25.21	86.47	86.46
31.22	31.22	106.48	106.48
31.22	31.22	106.48	106.48
8.56	8.56	162.15	162.15
8.56	8.56	162.15	162.15
15.38	15.38	139.51	139.51
15.38	15.38	139.51	139.51
22.42	22.41	101.41	101.40
22.42	22.41	101.41	101.40
32.07	32.06	88.93	88.93
32.07	32.06	88.93	88.93
-18.63	-18.64	169.94	169.94
-17.97	-17.99	170.60	170.59
19.84	19.82	107.75	107.74
19.84	19.83	107.75	107.75
33.71	33.71	116.00	116.00
28.42	28.42	115.22	115.23
29.30	29.30	126.94	126.94
29.30	29.30	126.94	126.94

20	51	-6051.612	109.131	-0.007	0.012	0.419	-2955.636	3.32	3.32	171.40	171.41
21	51	6051.611	-109.131	0.007	-0.012	-0.419	2955.635	3.32	3.32	171.40	171.41
21	52	-6203.642	-292.232	-0.010	0.014	0.387	-2356.378	18.33	18.34	152.34	152.34
22	52	6203.643	292.232	0.010	-0.014	-0.388	2356.376	18.33	18.34	152.34	152.34
22	53	-5270.674	-199.299	-0.007	0.015	0.125	-1474.443	27.28	27.28	111.13	111.13
23	53	5270.684	199.299	0.007	-0.015	-0.125	1474.440	27.28	27.28	111.13	111.13
23	54	-3685.748	302.091	0.026	0.016	0.869	-1046.031	18.74	18.75	78.23	78.24
24	54	3685.750	-302.091	-0.026	-0.016	-0.869	1046.031	18.74	18.75	78.23	78.24
24	55	-3748.154	1132.729	0.026	0.016	0.949	-3342.677	-31.49	-31.47	158.61	158.62
25	55	3805.330	914.633	-0.157	0.252	-0.949	3342.669	-30.84	-30.82	159.26	159.27
25	66	-3681.415	-321.658	0.157	-0.252	1.578	-1566.128	7.15	7.17	96.22	96.23
26	66	3681.424	321.658	-0.157	0.252	-1.578	1566.128	7.15	7.17	96.22	96.23
26	67	-4708.059	-2.289	0.157	-0.251	2.713	-1465.502	21.05	21.10	104.41	104.43
27	67	4425.830	108.060	-0.157	0.251	-2.713	1533.574	16.33	16.38	103.56	103.58
27	68	-5995.820	283.439	0.008	-0.002	0.387	-1761.258	29.17	29.18	129.33	129.33
28	68	5995.818	-283.440	-0.008	0.002	-0.387	1761.257	29.17	29.18	129.33	129.33
28	69	-6128.459	107.302	-0.008	0.006	0.414	-3001.485	3.17	3.18	173.87	173.87
29	69	6128.459	-107.301	0.008	-0.006	-0.414	3001.486	3.17	3.18	173.87	173.87
29	70	-6279.030	-299.169	-0.011	0.008	0.380	-2381.712	18.63	18.64	154.08	154.08
30	70	6279.029	299.167	0.011	-0.008	-0.379	2381.713	18.63	18.64	154.08	154.08
30	71	-5351.629	-205.425	-0.011	0.009	0.125	-1475.989	28.17	28.17	112.11	112.11
31	71	5351.637	205.426	0.011	-0.009	-0.125	1475.991	28.17	28.17	112.11	112.11
31	72	-4320.415	217.746	-0.060	0.039	-0.681	-1037.346	26.17	26.16	85.16	85.15
32	72	4320.395	-217.745	0.060	-0.039	0.681	1037.346	26.17	26.15	85.16	85.15
32	73	-4939.165	1130.960	0.082	-0.213	4.670	-3323.050	-17.53	-17.45	171.47	171.50
81	181	4609.555	906.655	-5.657	-0.001	1.075	3296.159	-20.64	-20.66	166.81	166.80
81	192	-4653.655	-316.284	0.025	-0.020	-0.678	-1540.786	18.79	18.78	106.41	106.41
82	192	4653.760	316.284	-0.025	0.020	0.678	1540.786	18.79	18.78	106.41	106.41
82	193	-5680.072	28.141	0.000	-0.009	0.088	-1466.851	32.11	32.11	115.53	115.53
83	193	5373.649	76.861	0.000	0.009	-0.088	1544.731	26.89	26.89	114.74	114.74
83	194	-6383.446	282.047	-0.002	-0.007	0.303	-1804.551	32.62	32.63	135.25	135.25
84	194	6383.444	-282.048	0.002	0.007	-0.303	1804.556	32.62	32.63	135.25	135.25
84	195	-6514.497	87.320	-0.004	-0.004	0.290	-3032.368	6.88	6.89	179.33	179.33
85	195	6514.498	-87.321	0.004	0.004	-0.290	3032.370	6.88	6.89	179.33	179.33
85	196	-6666.514	-295.985	-0.018	0.004	0.225	-2419.137	22.21	22.22	159.79	159.79
86	196	6666.515	295.986	0.018	-0.004	-0.225	2419.137	22.21	22.22	159.79	159.79
86	197	-5878.053	-177.510	-4.745	0.003	-1.388	-1507.250	33.48	33.45	119.19	119.18
87	197	5878.035	177.510	4.745	-0.003	1.388	1507.249	33.48	33.45	119.19	119.18
87	198	-4843.878	298.204	-4.745	0.003	-2.258	-1085.862	31.06	31.02	92.80	92.79
88	198	4843.978	-298.203	4.745	-0.003	2.258	1085.862	31.06	31.02	92.80	92.79
88	199	-4897.413	1129.028	-4.745	0.003	-2.669	-3381.950	-19.25	-19.30	173.06	173.05
89	199	4954.793	928.965	4.867	-0.220	2.669	3381.939	-18.60	-18.64	173.72	173.70
89	210	-4805.185	24.860	5.854	-0.278	2.499	-1571.420	19.81	19.85	109.19	109.21
90	210	4805.166	-24.859	-5.854	0.278	-2.499	1571.419	19.81	19.85	109.19	109.21
90	211	-5637.739	-16.913	5.853	-0.277	3.664	-1410.309	32.85	32.91	113.07	113.10
91	211	5529.740	116.852	-5.853	0.277	-3.664	1537.372	28.80	28.87	116.25	116.27
91	212	-5711.162	198.672	-0.007	0.006	-0.348	-1604.840	29.40	29.40	120.67	120.67
92	212	5711.140	-198.671	0.007	-0.006	0.349	1604.844	29.40	29.40	120.67	120.67
92	213	-6800.091	55.107	-0.002	0.000	-0.110	-2671.246	18.14	18.14	170.05	170.05
93	213	6800.095	-55.107	0.002	0.000	0.110	2671.248	18.14	18.14	170.05	170.05
93	214	-5969.692	-338.017	-0.020	0.015	-0.459	-1825.587	27.45	27.44	131.27	131.27
94	214	5969.670	338.017	0.020	-0.015	0.459	1825.587	27.45	27.44	131.27	131.27
94	215	-5920.154	-258.304	4.829	-0.192	6.291	-543.339	55.27	55.38	86.20	86.24
95	215	5920.129	258.304	-4.829	0.192	-6.291	543.333	55.27	55.38	86.20	86.24
95	216	-4839.598	399.090	4.820	-0.188	6.292	-280.668	48.80	48.91	64.79	64.83

96	216	4839.577	-399.090	-4.320	0.188	-6.292	280.668	48.80	48.91	64.79	64.83
96	217	-4768.989	1185.476	4.320	-0.188	6.976	-2995.721	-12.23	-12.11	158.17	158.22
97	217	4826.063	730.672	-4.346	0.978	-6.977	2995.731	-11.58	-11.46	158.82	158.87
97	228	-4794.333	44.047	0.063	-0.045	-1.303	-1878.475	12.91	12.89	119.73	119.72
98	228	4794.313	-44.046	-0.063	0.045	1.308	1878.474	12.91	12.89	119.73	119.72
98	229	-5808.455	168.817	4.329	-0.963	5.540	-2159.124	18.17	18.26	140.99	141.02
99	229	6135.533	46.825	-4.329	0.963	-5.540	2360.079	17.43	17.53	151.68	151.71
99	230	-6153.353	15.919	4.329	-0.963	4.617	-2274.225	19.55	19.63	148.91	148.94
00	230	6153.327	-15.920	-4.329	0.963	-4.617	2274.226	19.55	19.63	148.91	148.94
00	231	-7184.623	321.119	4.314	-0.954	3.864	-2718.382	21.44	21.51	176.05	176.08
01	231	7184.624	-321.117	-4.314	0.954	-3.864	2718.382	21.44	21.51	176.05	176.08
01	232	-7109.169	75.132	4.314	-0.954	2.898	-3532.627	2.53	2.58	203.44	203.46
02	232	7109.170	-75.133	-4.314	0.954	-2.898	3532.623	2.53	2.58	203.44	203.46
02	233	-6967.625	-301.149	4.314	-0.954	1.932	-2896.464	15.04	15.07	179.77	179.78
03	233	6967.625	301.148	-4.314	0.954	-1.932	2896.462	15.04	15.07	179.77	179.78
03	234	-6934.542	-160.012	5.157	-1.136	1.182	-2150.601	31.21	31.23	153.52	153.53
04	234	6934.542	160.011	-5.157	1.136	-1.182	2150.600	31.21	31.23	153.52	153.53
04	235	-6890.094	59.836	0.044	-0.032	0.000	-1941.063	35.36	35.36	145.75	145.75

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1262

NOME Z MIN envolvente (ELS) (total)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	2747.340	120.495	-12.357	-44.180	50.425	-603.087	45.10	44.22	10.48	10.15
1	12	-3234.502	-200.850	-0.102	0.036	0.554	1132.708	61.93	61.94	-2.49	-2.48
2	12	3234.503	200.851	0.102	-0.036	-0.554	-1132.709	61.93	61.94	-2.49	-2.48
2	13	-3289.558	-131.023	-0.110	0.040	0.198	1651.500	74.06	74.07	-19.85	-19.85
3	13	3289.558	131.022	0.102	-0.036	-0.256	-1651.500	74.06	74.07	-19.86	-19.85
3	14	-3315.870	47.727	-0.110	0.040	-0.125	1760.547	76.78	76.78	-23.34	-23.34
4	14	3315.871	-47.726	0.102	-0.036	0.043	-1760.546	76.78	76.78	-23.34	-23.34
4	15	-3348.880	191.009	-0.110	0.040	-0.447	1375.286	68.62	68.61	-9.60	-9.60
5	15	3348.878	-191.011	0.110	-0.040	0.447	-1375.283	68.62	68.61	-9.60	-9.60
5	16	-3425.809	100.380	-0.110	0.040	-0.770	811.854	57.00	56.99	10.83	10.82
6	16	3425.810	-100.379	0.110	-0.040	0.770	-811.854	57.00	56.99	10.83	10.82
6	17	-4814.996	-188.671	-0.039	0.011	0.091	939.178	75.63	75.63	22.22	22.22
7	17	4814.999	188.671	0.039	-0.011	-0.091	-939.178	75.63	75.63	22.22	22.22
7	18	-6072.317	-298.458	-0.026	0.006	0.202	1760.057	108.14	108.14	8.05	8.05
8	18	6072.316	298.457	0.027	-0.006	-0.202	-1760.057	108.14	108.14	8.05	8.05
8	19	-6808.578	461.841	-0.059	-0.085	-0.208	2375.019	130.16	130.16	-4.90	-4.91
9	19	6864.376	481.685	0.009	-0.005	0.208	-2375.031	130.80	130.79	-4.27	-4.27
9	30	-6673.621	464.028	-0.034	0.027	0.580	1258.145	103.85	103.86	32.30	32.31
10	30	6673.622	-464.028	0.036	-0.006	-0.776	-1258.144	103.85	103.86	32.30	32.31
10	31	-5390.193	-206.000	0.020	-0.001	-0.758	1659.997	98.17	98.15	3.76	3.75
11	31	5171.112	295.377	-0.020	0.001	0.758	-1569.677	93.67	93.66	4.40	4.39
11	32	-4490.012	69.694	0.031	-0.010	-1.202	2007.532	95.63	95.61	-18.54	-18.55
12	32	4490.012	-69.695	-0.030	0.030	1.018	-2007.534	95.63	95.61	-18.54	-18.55
12	33	-4583.375	78.215	0.034	-0.011	-1.080	1373.444	82.63	82.61	4.52	4.51
13	33	4583.368	-78.215	-0.032	0.031	0.903	-1373.445	82.63	82.61	4.52	4.51
13	34	-4128.472	-83.929	0.058	-0.037	-0.625	1562.165	81.64	81.63	-7.21	-7.21
14	34	4128.481	83.929	-0.058	0.037	0.626	-1562.165	81.64	81.63	-7.21	-7.21
14	35	-4955.280	-15.178	0.049	-0.031	-0.001	1752.005	95.25	95.25	-4.38	-4.38
15	35	4955.281	15.178	-0.049	0.031	0.001	-1752.007	95.25	95.25	-4.38	-4.38
15	36	-6275.703	-145.196	0.081	-0.048	0.634	2062.928	117.17	117.18	-0.15	-0.14
16	36	6275.704	145.195	-0.081	0.048	-0.634	-2062.928	117.17	117.18	-0.15	-0.14
16	37	-5798.856	689.973	0.053	-0.021	1.082	2074.760	112.00	112.02	-5.98	-5.98
17	37	5856.253	329.976	-0.019	-0.018	-1.082	-2074.750	112.65	112.67	-5.33	-5.32
17	48	-6236.325	143.240	-0.054	0.037	0.767	1216.126	97.94	97.95	28.78	28.79
18	48	6236.325	-143.240	0.054	-0.037	-0.767	-1216.125	97.94	97.95	28.78	28.79
18	49	-4943.568	-171.374	0.004	0.002	0.228	1649.270	92.84	92.84	-0.95	-0.95
19	49	4648.205	271.327	-0.004	-0.002	-0.228	-1573.662	87.80	87.80	-1.69	-1.69
19	50	-4729.416	118.756	0.004	0.002	0.243	1928.024	96.58	96.59	-13.06	-13.06
20	50	4729.416	-118.756	-0.004	-0.002	-0.243	-1928.026	96.58	96.59	-13.06	-13.06

20	51	-4065.496	62.322	0.010	0.001	0.016	1322.520	75.60	75.60	0.39	0.39
21	51	4065.505	-62.322	-0.010	-0.001	-0.016	-1322.521	75.60	75.60	0.39	0.39
21	52	-4172.215	-88.367	0.013	-0.001	0.059	1519.761	81.19	81.19	-5.24	-5.24
22	52	4172.208	88.366	-0.013	0.001	-0.059	-1519.762	81.19	81.19	-5.24	-5.24
22	53	-4990.194	-5.779	0.010	-0.002	0.334	1705.186	94.61	94.61	-2.36	-2.36
23	53	4990.194	5.780	-0.010	0.002	-0.334	-1705.187	94.61	94.61	-2.36	-2.36
23	54	-6308.777	-167.964	0.062	-0.029	0.909	2042.514	117.09	117.11	0.94	0.94
24	54	6308.774	167.964	-0.062	0.029	-0.910	-2042.515	117.09	117.11	0.94	0.94
24	55	-6957.930	689.299	-0.034	-0.007	-0.740	1999.772	123.54	123.53	9.81	9.81
25	55	7015.131	333.151	0.162	-0.258	0.740	-1999.764	124.19	124.16	10.47	10.46
25	66	-6278.452	145.389	-0.059	0.039	0.910	1282.601	99.89	99.91	26.95	26.96
26	66	6278.454	-145.389	0.059	-0.039	-0.910	-1282.601	99.89	99.91	26.95	26.96
26	67	-4990.765	-169.278	-0.003	0.004	0.365	1711.637	94.76	94.76	-2.58	-2.58
27	67	4721.939	270.022	0.003	-0.003	-0.365	-1646.800	90.26	90.27	-3.39	-3.39
27	68	-4801.162	124.976	-0.003	0.003	0.352	1987.872	98.73	98.73	-14.32	-14.32
28	68	4801.160	-124.975	0.003	-0.004	-0.352	-1987.872	98.73	98.73	-14.32	-14.32
28	69	-4136.356	68.470	-0.001	0.002	0.135	1358.230	77.20	77.20	-0.04	-0.04
29	69	4136.366	-68.471	0.001	-0.002	-0.135	-1358.229	77.20	77.20	-0.04	-0.04
29	70	-4242.189	-85.683	0.002	0.000	0.136	1541.704	82.47	82.47	-5.20	-5.20
30	70	4242.198	85.682	-0.002	0.000	-0.136	-1541.703	82.47	82.47	-5.20	-5.20
30	71	-5070.012	-4.095	0.003	0.000	0.358	1714.432	95.72	95.73	-1.78	-1.77
31	71	5070.012	4.095	-0.003	0.000	-0.358	-1714.430	95.72	95.73	-1.78	-1.77
31	72	-6390.308	-172.210	0.058	-0.034	0.872	2061.389	118.48	118.45	1.21	1.22
32	72	6390.310	172.211	-0.058	0.034	-0.872	-2061.389	118.44	118.45	1.21	1.22
32	73	-5913.044	689.789	-0.096	0.218	-4.503	2008.165	111.87	111.79	-2.36	-2.39
81	181	7046.207	374.062	5.662	-0.002	-1.310	-2044.055	125.51	125.54	9.28	9.28
82	192	-6694.646	150.981	-0.060	0.039	0.794	1316.479	105.38	105.39	30.52	30.52
82	192	6694.647	-150.981	0.060	-0.039	-0.794	-1316.478	105.38	105.39	30.52	30.52
83	193	-5401.892	-153.874	-0.017	0.010	0.290	1710.228	99.40	99.41	2.15	2.15
83	193	5110.053	253.887	0.017	-0.010	-0.290	-1636.049	94.44	94.44	1.40	1.40
83	194	-4435.018	82.927	-0.016	0.008	0.008	1926.344	93.20	93.20	-16.35	-16.35
84	194	4434.992	-82.928	0.015	-0.008	-0.007	-1926.342	93.20	93.20	-16.35	-16.35
84	195	-4527.099	77.494	-0.013	0.005	-0.047	1280.710	79.93	79.92	7.09	7.09
85	195	4527.080	-77.495	0.013	-0.005	0.047	-1280.710	79.93	79.92	7.09	7.09
85	196	-4633.919	-73.613	-0.011	0.003	-0.093	1421.186	84.26	84.26	3.44	3.43
86	196	4633.895	73.615	0.011	-0.003	0.093	-1421.188	84.26	84.26	3.43	3.43
86	197	-5452.403	11.487	-0.012	0.005	0.069	1497.460	95.26	95.26	10.10	10.10
87	197	5452.403	-11.488	0.012	-0.005	-0.069	-1497.460	95.26	95.26	10.10	10.10
87	198	-6771.788	-159.983	0.035	-0.032	0.451	1789.775	116.76	116.77	14.98	14.98
88	198	6771.785	159.984	-0.035	0.032	-0.451	-1789.774	116.76	116.77	14.98	14.98
88	199	-6733.675	655.862	4.730	-0.003	2.365	1820.632	116.99	117.03	13.47	13.48
89	199	6791.074	405.667	-4.841	0.199	-2.365	-1820.609	117.65	117.69	14.12	14.13
89	210	-6741.807	94.093	-0.062	0.044	0.330	1200.325	103.34	103.35	35.08	35.09
90	210	6741.811	-94.093	0.062	-0.044	-0.330	-1200.326	103.34	103.35	35.08	35.09
90	211	-5453.405	-181.108	-0.038	0.026	-0.192	1769.298	101.31	101.30	0.69	0.68
91	211	5350.563	276.298	0.038	-0.026	0.192	-1648.274	97.45	97.45	3.71	3.71
91	212	-5434.307	110.853	-0.035	0.024	-0.342	2011.220	106.45	106.45	-7.92	-7.93
92	212	5434.304	-110.853	0.035	-0.024	0.342	-2011.218	106.45	106.45	-7.92	-7.93
92	213	-4744.831	81.019	-0.040	0.029	-0.742	1295.264	82.73	82.72	9.07	9.06
93	213	4744.933	-81.019	0.040	-0.029	0.742	-1295.262	82.73	82.72	9.07	9.06
93	214	-5680.476	-213.015	-0.032	0.022	-0.606	1596.726	100.07	100.05	9.26	9.25
94	214	5680.473	213.015	0.033	-0.022	0.606	-1596.727	100.07	100.05	9.26	9.25
94	215	-5702.664	-59.124	-0.033	0.022	-0.732	2192.659	113.54	113.52	-11.16	-11.17
95	215	5702.666	59.124	0.032	-0.022	0.732	-2192.659	113.54	113.52	-11.16	-11.17
95	216	-7025.611	-30.077	0.019	-0.017	-0.322	2473.287	134.81	134.81	-5.84	-5.85
96	216	7025.613	30.077	-0.019	0.017	0.322	-2473.286	134.81	134.81	-5.84	-5.85
96	217	-6967.087	733.068	-4.949	0.208	-8.410	2016.383	124.08	123.94	9.37	9.21
97	217	7024.089	172.119	4.285	-0.942	8.411	-2016.378	124.73	124.59	10.02	9.86
97	228	-6846.282	206.371	0.001	0.004	-0.012	1392.127	108.79	108.79	29.62	29.62
98	228	6846.279	-206.371	0.000	-0.004	0.012	-1392.127	108.79	108.79	29.62	29.62
98	229	-5568.739	59.637	0.009	-0.006	-0.163	1069.356	87.09	87.09	26.28	26.28
99	229	5880.297	141.949	-0.009	0.004	0.163	-877.944	86.39	86.39	36.46	36.46
99	230	-5890.750	8.414	0.009	-0.004	-0.135	1101.974	91.48	91.48	28.81	28.81
100	230	5890.749	-8.417	-0.009	0.004	0.136	-1101.974	91.48	91.48	28.81	28.81
100	231	-5051.300	224.214	0.023	-0.013	-0.276	820.732	75.69	75.69	29.02	29.01
101	231	5051.279	-224.213	-0.023	0.013	0.276	-820.732	75.69	75.69	29.02	29.01
101	232	-4993.438	167.338	0.023	-0.013	-0.207	74.991	58.49	58.49	54.23	54.23
102	232	4993.420	-167.338	-0.023	0.012	0.207	-74.995	58.49	58.49	54.23	54.23
102	233	-4889.129	18.889	0.023	-0.012	-0.138	7.850	55.82	55.81	55.37	55.37
103	233	4889.233	-18.889	-0.023	0.012	0.138	-7.851	55.82	55.81	55.37	55.37
103	234	-4860.490	234.448	0.023	-0.012	-0.069	-322.966	48.15	48.15	66.52	66.52
104	234	4860.466	-234.448	-0.023	0.013	0.069	322.966	48.15	48.15	66.52	66.52
104	235	-4342.587	305.407	-10.083	-43.082	-0.003	-1227.728	22.19	22.19	92.01	92.01

COMPROBACIÓN EN ROTURA

ESFUERZOS ISOSTATICOS FINALES

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NUDO	AXIL	MOMENTO	E=M/N	ANGULO	CORTANTE
1	5818.41	-1771.11	-0.304	3.849	-390.23
12	5879.55	-2795.32	-0.475	2.362	-242.23
13	5944.73	-3220.67	-0.542	0.729	-75.67
14	5978.16	-3422.28	-0.572	0.479	-50.00
15	6020.57	-3508.78	-0.583	-0.205	21.54
16	6133.99	-3076.05	-0.501	-3.699	395.66
17	6226.87	-1266.99	-0.203	-7.169	777.05
18	6270.92	1146.17	0.183	-7.852	854.82
19	6358.45	2893.79	0.455	-0.008	0.87
30	6246.03	411.20	0.066	6.766	-733.79
31	10460.69	-2828.96	-0.270	2.409	-439.48
32	5992.95	-2667.77	-0.445	3.863	-403.39
33	6100.16	-4069.24	-0.667	0.778	-82.67
34	6248.34	-3192.13	-0.511	-3.928	427.84
35	6296.44	-1347.71	-0.214	-5.050	554.23
36	6381.78	1140.76	0.179	-6.466	717.65
37	6411.71	2920.41	0.455	1.312	-146.74
48	6298.77	405.98	0.064	6.428	-703.45
49	10489.91	-2874.79	-0.274	2.512	-459.36
50	5975.05	-2682.66	-0.449	3.832	-399.00
51	6080.78	-4065.12	-0.669	0.761	-80.67
52	6230.54	-3191.74	-0.512	-3.919	425.68
53	6271.35	-1353.60	-0.216	-5.049	551.96
54	6359.66	1129.41	0.178	-6.481	716.89
55	6394.38	2911.55	0.455	1.310	-146.19
66	6285.03	401.91	0.064	6.431	-702.25
67	10513.68	-2857.95	-0.272	2.492	-456.84
68	5991.42	-2667.16	-0.445	3.849	-401.89
69	6098.55	-4068.35	-0.667	0.781	-83.05
70	6247.20	-3191.66	-0.511	-3.929	427.87
71	6296.59	-1347.72	-0.214	-5.050	554.22
72	6381.79	1140.76	0.179	-6.466	717.66
73	6411.34	2920.22	0.455	1.312	-146.74
84	6298.16	405.69	0.064	6.428	-703.44
85	10489.16	-2875.09	-0.274	2.512	-459.35
86	5975.05	-2682.66	-0.449	3.832	-399.00
87	6080.78	-4065.12	-0.669	0.761	-80.67
88	6230.54	-3191.74	-0.512	-3.919	425.68
89	6271.35	-1353.60	-0.216	-5.049	551.96
90	6359.66	1129.41	0.178	-6.481	716.89
91	6394.38	2911.55	0.455	1.310	-146.19
102	6285.03	401.91	0.064	6.431	-702.25
103	10513.68	-2857.95	-0.272	2.492	-456.84
104	5991.42	-2667.16	-0.445	3.849	-401.89
105	6098.55	-4068.35	-0.667	0.781	-83.05
106	6247.20	-3191.66	-0.511	-3.929	427.87
107	6296.59	-1347.72	-0.214	-5.050	554.22
108	6381.79	1140.76	0.179	-6.466	717.66
109	6411.34	2920.22	0.455	1.312	-146.74
120	6298.16	405.69	0.064	6.428	-703.44
121	10489.16	-2875.09	-0.274	2.512	-459.35
122	5975.05	-2682.66	-0.449	3.832	-399.00
123	6080.78	-4065.12	-0.669	0.761	-80.67
124	6230.54	-3191.74	-0.512	-3.919	425.68
125	6271.35	-1353.60	-0.216	-5.049	551.96
126	6359.66	1129.41	0.178	-6.481	716.89
127	6394.38	2911.55	0.455	1.310	-146.19
138	6285.03	401.91	0.064	6.431	-702.25
139	10513.68	-2857.95	-0.272	2.492	-456.84
140	5991.42	-2667.16	-0.445	3.849	-401.89
141	6098.55	-4068.35	-0.667	0.781	-83.05
142	6247.20	-3191.66	-0.511	-3.929	427.87
143	6296.59	-1347.72	-0.214	-5.050	554.22
144	6381.79	1140.76	0.179	-6.466	717.66
145	6411.34	2920.22	0.455	1.312	-146.74
156	6298.16	405.69	0.064	6.428	-703.44
157	10489.16	-2875.09	-0.274	2.512	-459.35
158	5975.05	-2682.66	-0.449	3.832	-399.00
159	6080.78	-4065.12	-0.669	0.761	-80.67
160	6230.54	-3191.74	-0.512	-3.919	425.68
161	6271.35	-1353.60	-0.216	-5.049	551.96
162	6359.66	1129.41	0.178	-6.481	716.89
163	6394.38	2911.55	0.455	1.310	-146.19
174	6285.03	401.91	0.064	6.431	-702.25
175	10513.68	-2857.95	-0.272	2.492	-456.84
176	5991.42	-2667.16	-0.445	3.849	-401.89
177	6098.55	-4068.35	-0.667	0.781	-83.05
178	6247.20	-3191.66	-0.511	-3.929	427.87
179	6296.59	-1347.72	-0.214	-5.050	554.22
180	6381.79	1140.76	0.179	-6.466	717.66
181	6411.34	2920.22	0.455	1.312	-146.74
192	6298.16	405.69	0.064	6.428	-703.44
193	10492.32	-2873.81	-0.274	2.511	-459.27
194	5978.35	-2681.67	-0.449	3.834	-399.42
195	6084.14	-4066.24	-0.668	0.763	-80.94
196	6234.08	-3192.23	-0.512	-3.920	426.07
197	6274.93	-1352.72	-0.216	-5.049	552.28
198	6363.30	1131.28	0.178	-6.479	717.02
199	6398.11	2913.46	0.455	1.310	-146.28
210	6288.81	403.18	0.064	6.429	-702.52
211	10519.88	-2799.49	-0.266	2.476	-454.14
212	6000.40	-2607.61	-0.435	3.898	-407.60
213	6107.86	-4042.16	-0.662	0.838	-89.26
214	6260.06	-3161.32	-0.505	-3.994	435.86
215	6291.20	-1301.31	-0.207	-4.929	540.58
216	6389.63	1173.10	0.184	-6.856	761.38
217	6393.60	2919.73	0.457	3.040	-338.66
228	6305.94	443.65	0.070	8.078	-882.92
229	9474.78	-1844.74	-0.195	3.372	-556.85
230	4951.71	-1211.14	-0.245	2.681	-231.57
231	4974.80	-2010.78	-0.404	4.191	-362.97
232	4901.20	-2896.72	-0.591	1.086	-92.83
233	4788.81	-2345.12	-0.490	-3.802	317.41
234	4760.92	-1390.76	-0.292	-3.482	288.98
235	4721.56	-661.66	-0.140	-2.717	223.78

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

HOJA ____ DE ____

PROYECTO RIERA FEMOSA. ROTURA

FECHA ____

- COMPROBACION A ROTURA

CENTRO DE VANO

	F_x (t)	M_z (mt)
Isostático	- 6090,8	- 4065,1
Envolvente	- 4271,4	3047,5
		7112,6 mt

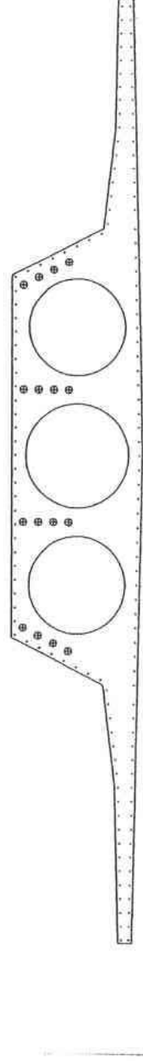
VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 20 EXTREMO 2 (NUDO 51)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1431	-6375.547	82.081	-0.952	0.699	73.467	-732.217	1.00
1432	-2934.642	72.551	-0.940	0.650	64.795	632.609	1.00
1433	-4587.440	-45.875	0.096	-0.044	-0.182	827.637	1.00
1434	-5128.190	208.960	-0.082	0.055	0.195	848.517	1.00
1435	-5444.190	107.728	-32.999	-130.446	-5.656	366.413	1.00
1436	-4271.436	55.634	32.486	130.813	41.248	1342.099	1.00
1437	-6026.561	72.452	-21.007	-139.806	-27.755	-121.499	1.00
1438	-3783.867	90.471	20.509	140.160	62.376	660.708	1.00
1439	-5169.811	20.445	5.142	23.388	-335.792	-64.643	1.00
1440	-4640.620	38.974	-5.570	-23.071	370.820	274.086	1.00
1441	-5444.190	107.827	-0.010	0.016	0.408	-3068.199	1.00
1442	-4271.436	69.037	0.015	0.001	-0.007	3047.493	1.00

CENTRO DE VANO-ELU

ESCALA 1/100



CARACTERISTICAS DE LA SECCION 1 A 0.000

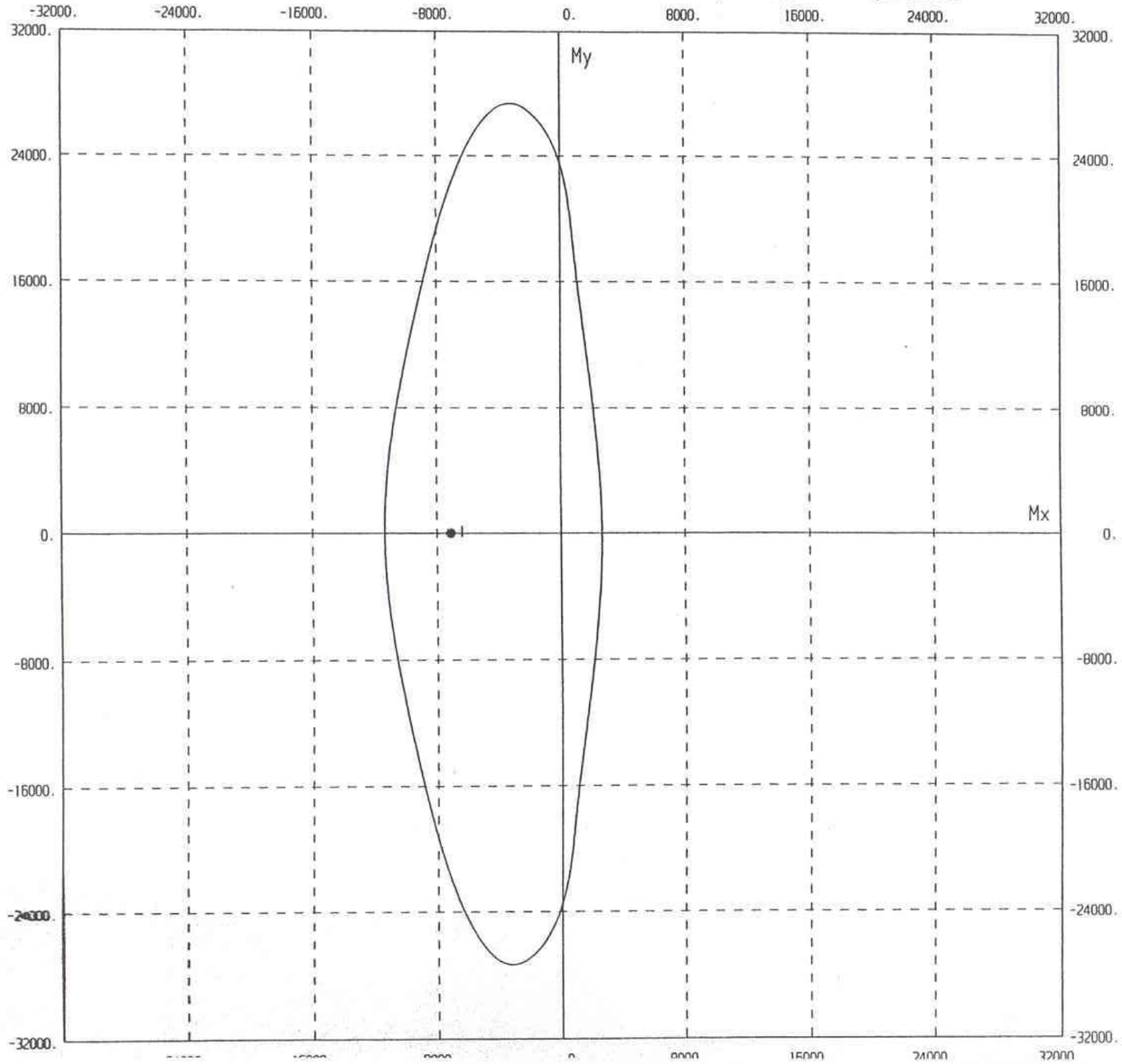
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v	0.741480
VP	1.158520
I	3.340826
R.G.	0.616590

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7.000000	
7.000000	
80.539932	
3.027437	

CENTRO DE VANO-ELU

SECCION 1 A 0.00

coef.hor.= 1.500 fck = 4000.
coef.orn.= 1.150 fyk = 51000.
coef.pre.= 1.150 fp01k=158500.



CENTRO DE VANO-ELU
secc horm

COEFICIENTES
MINORACION HORMIGON 1.500
MINORACION ARMADURA 1.150
MINORACION PRETENSADO 1.150
MINORACION ACERO EST. 1.100

punt

1	-7.0000	-0.1400
2	0.0000	0.0000
3	-7.0000	-0.3400
4	-4.7000	-0.3940
5	-3.2800	-0.5684
6	-2.6000	-1.9000
7	2.6000	-1.9000
8	3.2800	-0.5684
9	4.7000	-0.3940
10	7.0000	-0.3400
11	7.0000	-0.1400
12	-1.8500	-0.9500
13	0.0000	-0.9500
14	1.8500	-0.9500
15	-3.2800	-0.1156
16	-3.0749	-0.1115
17	-2.8699	-0.1074
18	-2.6648	-0.1033
19	-2.4598	-0.0992
20	-2.2547	-0.0951
21	-2.0496	-0.0910
22	-1.8446	-0.0869
23	-1.6395	-0.0828
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32	0.2041	-0.0541
33	0.4091	-0.0582
34	0.6142	-0.0623
35	0.8192	-0.0664
36	1.0243	-0.0705
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38	1.4344	-0.0787
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73	2.3717	-1.8500
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81	-3.2061	-0.6032
82	2.6603	-1.6719
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85	2.9332	-1.1375
86	3.0242	-0.9594
87	3.1151	-0.7813
88	3.2061	-0.6032
89	-3.3507	-0.5093
90	-3.5507	-0.4848
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92	-3.9506	-0.4357
93	-4.1506	-0.4111
94	-4.3505	-0.3865
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108     -3.7506     -0.1250
109     -3.9506     -0.1290
110     -4.1506     -0.1330
111     -4.3505     -0.1370
112     -4.5505     -0.1410
113     -4.7504     -0.1450
114     -4.9504     -0.1490
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125      3.7506     -0.1250
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127      4.1506     -0.1330
128      4.3505     -0.1370
129      4.5505     -0.1410
130      4.7504     -0.1450
131      4.9504     -0.1490
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133      5.3503     -0.1570
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135      5.7502     -0.1650
136      5.9502     -0.1690
137      6.1502     -0.1730
138      6.3501     -0.1770
139      6.5501     -0.1810
140      6.7500     -0.1850
141      3.3507     -0.5093
142      3.5507     -0.4848
143      3.7506     -0.4602
144      3.9506     -0.4357
145      4.1506     -0.4111
146      4.3505     -0.3865
147      4.5505     -0.3620
148      4.7506     -0.3428
149      4.9506     -0.3381
150      5.1505     -0.3334
151      5.3504     -0.3287
152      5.5504     -0.3240
153      5.7503     -0.3193
154      5.9503     -0.3146
155      6.1502     -0.3099
156      6.3502     -0.3052
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calc

CARACTERISTICAS DE LA SECCION 1 A 0.000

AREA	8.787414	
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V	0.7415	7.0000
VP	1.1585	7.0000
I	3.34082556	80.53993225
R.G.	0.6166	3.0274

CONDICIONES DE AGOTAMIENTO DE LA SECCION

RESISTENCIA DEL HORMIGON	1	4000.
LIMITE ELASTICO DEL ACERO DE ARMAR		51000.
LIMITE ELASTICO DEL ACERO DE PRETENSAR		158500.

COMPROBACION DE AGOTAMIENTO DE LA SECCION

HIP.	N	Mx	My	Mxu	Myu	Fac.Seg.
1	-4271.	-7113.	0.	-11355.	0.	1.60

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

PROYECTO_____ HOJA____ DE ____
FECHA _____

CUARTO DE W7

	F_x (t)	M_z (mt)
Teórico	-6271,4	-1353,6
Envolvente	-5298,9	2822,9
		4176,5 mt

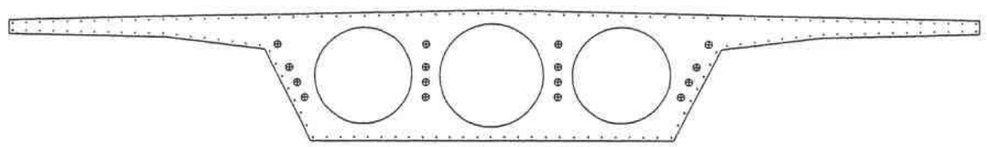
VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 22 EXTREMO 2 (NUDO 53)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1431	-6544.129	-81.930	-12.624	-38.303	20.860	149.231	1.00
1432	-3068.503	199.361	-11.445	-34.451	16.803	271.144	1.00
1433	-6427.411	-375.428	-0.025	-0.015	-1.065	162.867	1.00
1434	-4418.062	387.985	-0.068	0.052	-0.884	203.605	1.00
1435	-5614.881	53.885	-38.834	-42.883	-284.010	628.350	1.00
1436	-4418.063	228.582	32.486	23.749	293.015	1003.713	1.00
1437	-6074.838	-30.294	-25.525	-903.582	28.731	1567.300	1.00
1438	-4878.020	228.619	19.249	884.409	-18.840	850.130	1.00
1439	-5316.437	33.734	-19.041	497.315	-460.971	155.243	1.00
1440	-4811.311	34.279	12.876	-515.808	470.079	502.786	1.00
1441	-4734.066	-131.627	-0.012	0.020	0.077	-1969.274	1.00
1442	-5298.881	184.509	0.015	-0.004	0.473	2822.947	1.00

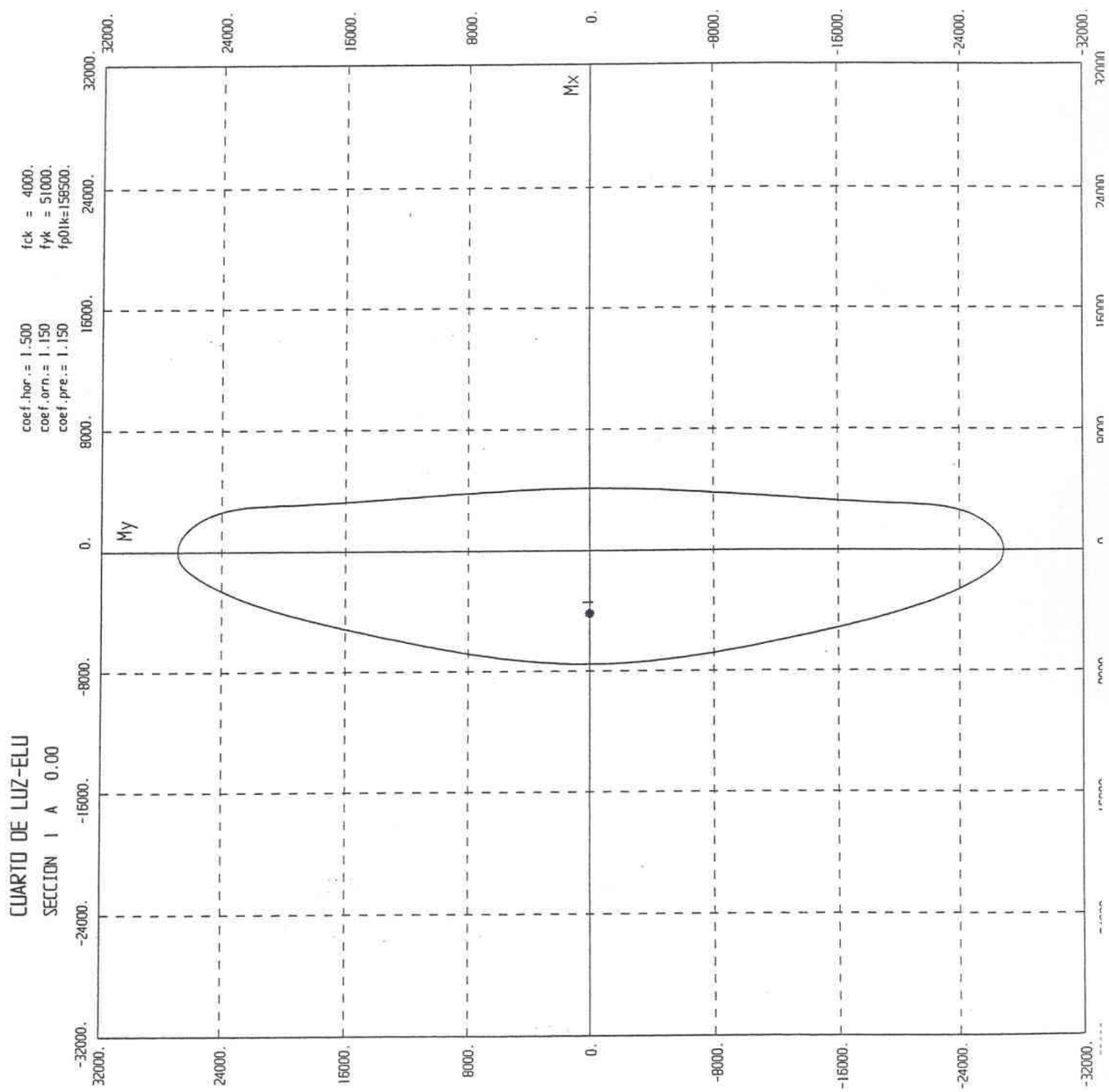
CUARTO DE LUZ-ELU

ESCALA 1/100



CARACTERISTICAS DE LA SECCION 1 A 0.000

AREA	8.787414	
CANTO	1.900000	14.000000
C.G.	-0.741480	0.000000
V	0.741480	7.000000
VP	1.158520	7.000000
I	3.340826	80.539932
R.G.	0.616590	3.027437



CUARTO DE LUZ-ELU
secc horm

COEFICIENTES
MINORACION HORMIGON 1.500
MINORACION ARMADURA 1.150
MINORACION PRETENSADO 1.150
MINORACION ACERO EST. 1.100

punt

1	-7.0000	-0.1400
2	0.0000	0.0000
3	-7.0000	-0.3400
4	-4.7000	-0.3940
5	-3.2800	-0.5684
6	-2.6000	-1.9000
7	2.6000	-1.9000
8	3.2800	-0.5684
9	4.7000	-0.3940
10	7.0000	-0.3400
11	7.0000	-0.1400
12	-1.8500	-0.9500
13	0.0000	-0.9500
14	1.8500	-0.9500
15	-3.2800	-0.1156
16	-3.0749	-0.1115
17	-2.8699	-0.1074
18	-2.6648	-0.1033
19	-2.4598	-0.0992
20	-2.2547	-0.0951
21	-2.0496	-0.0910
22	-1.8446	-0.0869
23	-1.6395	-0.0828
24	-1.4344	-0.0787
25	-1.2294	-0.0746
26	-1.0243	-0.0705
27	-0.8192	-0.0664
28	-0.6142	-0.0623
29	-0.4091	-0.0582
30	-0.2041	-0.0541
31	0.0010	-0.0500
32	0.2041	-0.0541
33	0.4091	-0.0582
34	0.6142	-0.0623
35	0.8192	-0.0664
36	1.0243	-0.0705
37	1.2294	-0.0746
38	1.4344	-0.0787
39	1.6395	-0.0828
40	1.8446	-0.0869
41	2.0496	-0.0910
42	2.2547	-0.0951
43	2.4598	-0.0992
44	2.6648	-0.1033
45	2.8699	-0.1074
46	3.0749	-0.1115
47	3.2800	-0.1156
48	-2.5694	-1.8500
49	-2.3717	-1.8500
50	-2.1741	-1.8500
51	-1.9765	-1.8500
52	-1.7788	-1.8500
53	-1.5812	-1.8500
54	-1.3835	-1.8500
55	-1.1859	-1.8500
56	-0.9882	-1.8500
57	-0.7906	-1.8500
58	-0.5929	-1.8500
59	-0.3953	-1.8500
60	-0.1976	-1.8500
61	0.0000	-1.8500
62	0.1976	-1.8500
63	0.3953	-1.8500
64	0.5929	-1.8500
65	0.7906	-1.8500
66	0.9882	-1.8500
67	1.1859	-1.8500
68	1.3835	-1.8500
69	1.5812	-1.8500
70	1.7788	-1.8500
71	1.9765	-1.8500
72	2.1741	-1.8500
73	2.3717	-1.8500
74	2.5694	-1.8500
75	-2.6603	-1.6719
76	-2.7513	-1.4938
77	-2.8423	-1.3156
78	-2.9332	-1.1375
79	-3.0242	-0.9594
80	-3.1151	-0.7813
81	-3.2061	-0.6032
82	2.6603	-1.6719
83	2.7513	-1.4938
84	2.8423	-1.3156
85	2.9332	-1.1375
86	3.0242	-0.9594
87	3.1151	-0.7813
88	3.2061	-0.6032
89	-3.3507	-0.5093
90	-3.5507	-0.4848
91	-3.7506	-0.4602
92	-3.9506	-0.4357
93	-4.1506	-0.4111
94	-4.3505	-0.3865
95	-4.5505	-0.3620
96	-4.7506	-0.3428
97	-4.9506	-0.3381
98	-5.1505	-0.3334
99	-5.3504	-0.3287
100	-5.5504	-0.3240
101	-5.7503	-0.3193

```
102     -5.9503     -0.3146
103     -6.1502     -0.3099
104     -6.3502     -0.3052
105     -6.5501     -0.3005
106     -6.7501     -0.2959
107     -3.5507     -0.1210
108     -3.7506     -0.1250
109     -3.9506     -0.1290
110     -4.1506     -0.1330
111     -4.3505     -0.1370
112     -4.5505     -0.1410
113     -4.7504     -0.1450
114     -4.9504     -0.1490
115     -5.1504     -0.1530
116     -5.3503     -0.1570
117     -5.5503     -0.1610
118     -5.7502     -0.1650
119     -5.9502     -0.1690
120     -6.1502     -0.1730
121     -6.3501     -0.1770
122     -6.5501     -0.1810
123     -6.7500     -0.1850
124      3.5507     -0.1210
125      3.7506     -0.1250
126      3.9506     -0.1290
127      4.1506     -0.1330
128      4.3505     -0.1370
129      4.5505     -0.1410
130      4.7504     -0.1450
131      4.9504     -0.1490
132      5.1504     -0.1530
133      5.3503     -0.1570
134      5.5503     -0.1610
135      5.7502     -0.1650
136      5.9502     -0.1690
137      6.1502     -0.1730
138      6.3501     -0.1770
139      6.5501     -0.1810
140      6.7500     -0.1850
141      3.3507     -0.5093
142      3.5507     -0.4848
143      3.7506     -0.4602
144      3.9506     -0.4357
145      4.1506     -0.4111
146      4.3505     -0.3865
147      4.5505     -0.3620
148      4.7506     -0.3428
149      4.9506     -0.3381
150      5.1505     -0.3334
151      5.3504     -0.3287
152      5.5504     -0.3240
153      5.7503     -0.3193
154      5.9503     -0.3146
155      6.1502     -0.3099
156      6.3502     -0.3052
157      6.5501     -0.3005
158      6.7501     -0.2959
159      6.9500     -0.1890
160      6.9500     -0.2912
161     -6.9500     -0.1890
162     -6.9500     -0.2912
163     -3.09291    -0.495
164     -2.92388    -0.826
165     -2.81153    -1.046
166     -2.69919    -1.266
167     -0.95       -0.495
168     -0.95       -0.826
169     -0.95       -1.046
170     -0.95       -1.266
171      0.95       -0.495
172      0.95       -0.826
173      0.95       -1.046
174      0.95       -1.266
175      3.09291    -0.495
176      2.92388    -0.826
177      2.81153    -1.046
178      2.69919    -1.266
horm       7.00    4000.00
   2   1   3   4   5   6   7   8   9  10  11
hc    12    0.7000
hc    13    0.7500
hc    14    0.7000
arma      51000.
  15    0.000201
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  21    0.000201
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  23    0.000201
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  25    0.000201
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  43    0.000201
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44	0.000201
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157	0.000113	
158	0.000113	
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160	0.000314	
161	0.000314	
162	0.000314	
pret	158500.	126200.
163	0.003600	
164	0.003600	
165	0.003600	
166	0.003600	
167	0.003600	
168	0.003600	
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171	0.003600	
172	0.003600	
173	0.003600	
174	0.003600	
175	0.003600	
176	0.003600	
177	0.003600	
178	0.003600	
calc		

CARACTERISTICAS DE LA SECCION 1 A 0.000

AREA	8.787414	
CANTO	1.9000	14.0000
C.G.	-0.7415	0.0000
V	0.7415	7.0000
VP	1.1585	7.0000
I	3.34082556	80.53993225
R.G.	0.6166	3.0274

CONDICIONES DE AGOTAMIENTO DE LA SECCION

RESISTENCIA DEL HORMIGON	1	4000.
LIMITE ELASTICO DEL ACERO DE ARMAR		51000.
LIMITE ELASTICO DEL ACERO DE PRETENSAR		158500.

COMPROBACION DE AGOTAMIENTO DE LA SECCION

HIP.	N	Mx	My	Mxu	Myu	Fac.Seg.
1	-5299.	-4177.	0.	-7541.	0.	1.81

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

PROYECTO_____ HOJA____ DE ____
FECHA _____

SECCION APOYO

	F_x (t)	M_z (mt)
Isostático	-6394,4	2911,6
Envolvente	-4541,5	-5793,6
		-8705,2 mt

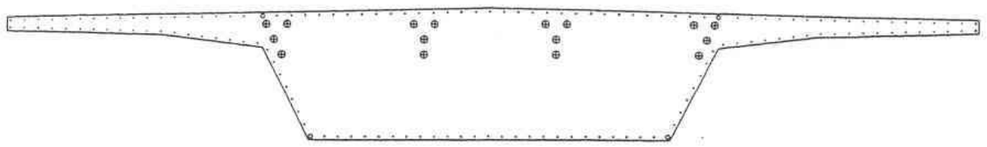
VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 24 EXTREMO 2 (NUDO 55)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1431	-6685.651	1084.843	-24.295	-77.305	-122.201	-1056.404	1.00
1432	-3181.465	1354.999	-21.949	-69.553	-112.597	-3669.272	1.00
1433	-5669.990	576.816	-0.022	-0.013	-1.460	1213.486	1.00
1434	-5442.511	1758.483	-0.072	0.051	-1.105	-4840.530	1.00
1435	-5758.512	1331.212	-44.670	44.973	-607.589	-2052.086	1.00
1436	-4541.467	1545.059	32.486	-83.608	544.783	-3561.169	1.00
1437	-6218.469	1247.033	-31.361	-1785.368	-191.702	-460.745	1.00
1438	-5001.423	1545.095	19.249	1746.693	130.338	-3715.034	1.00
1439	-4275.090	1015.275	-30.837	758.391	-669.177	-2056.318	1.00
1440	-6119.683	1201.406	19.030	-795.733	608.642	-1757.375	1.00
1441	-4541.467	1720.372	-0.081	0.060	-1.575	-5793.608	1.00
1442	-6571.042	661.288	-0.049	-0.012	-1.272	1997.165	1.00

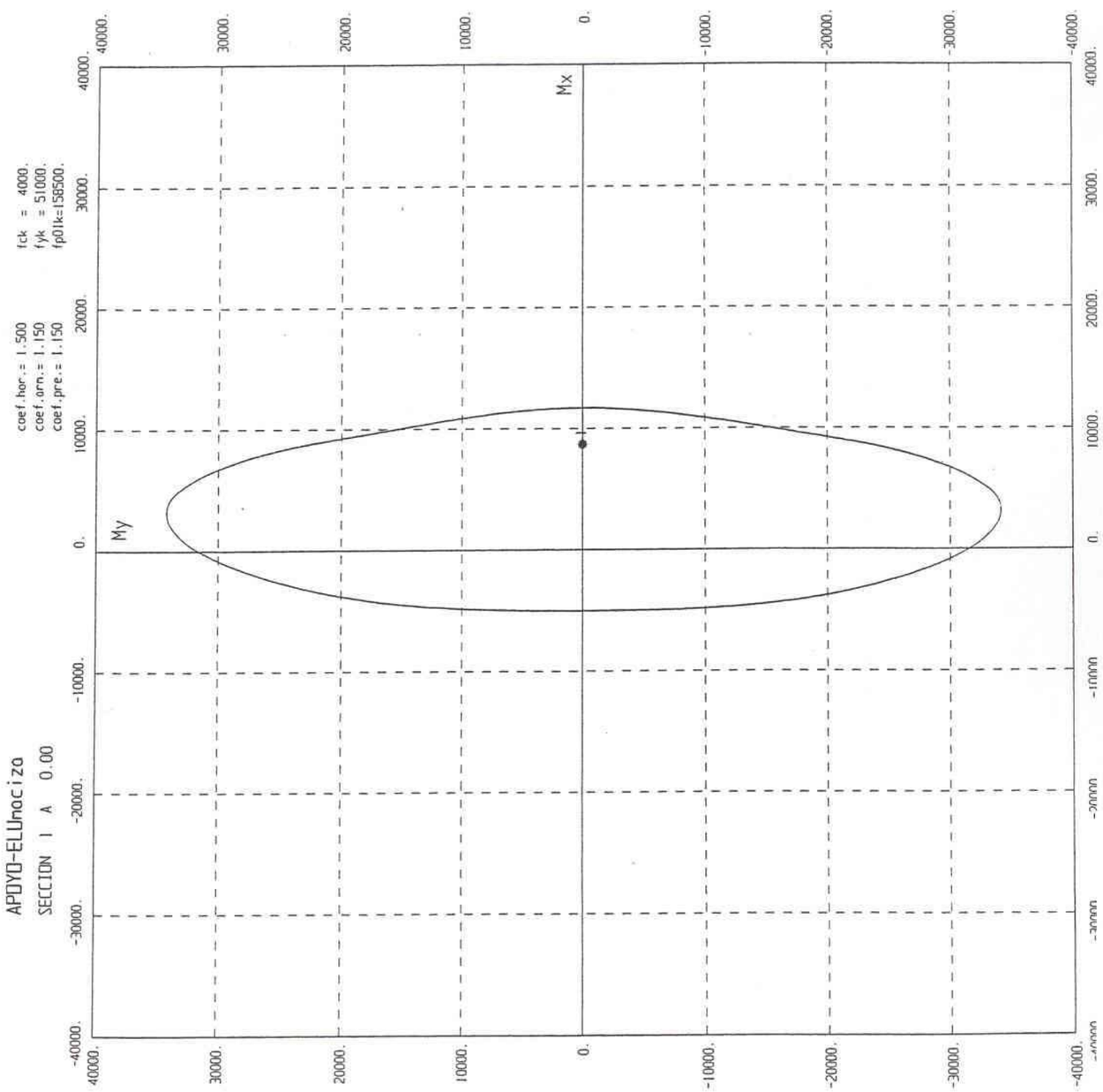
APOYO-ELUmaciza

ESCALA 1/100



CARACTERISTICAS DE LA SECCION I A 0.000

AREA	13.633320	
CANTO	1.900000	14.000000
C.G.	-0.815598	0.000000
V	0.815598	7.000000
VP	1.084402	7.000000
I	4.102288	91.702652
R.G.	0.548545	2.593523



APOYO-ELUmaciza
secc horm

COEFICIENTES
MINORACION HORMIGON 1.500
MINORACION ARMADURA 1.150
MINORACION PRETENSADO 1.150
MINORACION ACERO EST. 1.100

punt

1	-7.0000	-0.1400
2	0.0000	0.0000
3	-7.0000	-0.3400
4	-4.7000	-0.3940
5	-3.2800	-0.5684
6	-2.6000	-1.9000
7	2.6000	-1.9000
8	3.2800	-0.5684
9	4.7000	-0.3940
10	7.0000	-0.3400
11	7.0000	-0.1400
15	-3.28000	-0.11561
16	-3.0749	-0.1115
17	-2.8699	-0.1074
18	-2.6648	-0.1033
19	-2.4598	-0.0992
20	-2.2547	-0.0951
21	-2.0496	-0.0910
22	-1.8446	-0.0869
23	-1.6395	-0.0828
24	-1.4344	-0.0787
25	-1.2294	-0.0746
26	-1.0243	-0.0705
27	-0.8192	-0.0664
28	-0.6142	-0.0623
29	-0.4091	-0.0582
30	-0.2041	-0.0541
31	0.0010	-0.0500
32	0.2041	-0.0541
33	0.4091	-0.0582
34	0.6142	-0.0623
35	0.8192	-0.0664
36	1.0243	-0.0705
37	1.2294	-0.0746
38	1.4344	-0.0787
39	1.6395	-0.0828
40	1.8446	-0.0869
41	2.0496	-0.0910
42	2.2547	-0.0951
43	2.4598	-0.0992
44	2.6648	-0.1033
45	2.8699	-0.1074
46	3.0749	-0.1115
47	3.2800	-0.11561
48	-2.56939	-1.85000
49	-2.3717	-1.8500
50	-2.1741	-1.8500
51	-1.9765	-1.8500
52	-1.7788	-1.8500
53	-1.5812	-1.8500
54	-1.3835	-1.8500
55	-1.1859	-1.8500
56	-0.9882	-1.8500
57	-0.7906	-1.8500
58	-0.5929	-1.8500
59	-0.3953	-1.8500
60	-0.1976	-1.8500
61	0.0000	-1.8500
62	0.1976	-1.8500
63	0.3953	-1.8500
64	0.5929	-1.8500
65	0.7906	-1.8500
66	0.9882	-1.8500
67	1.1859	-1.8500
68	1.3835	-1.8500
69	1.5812	-1.8500
70	1.7788	-1.8500
71	1.9765	-1.8500
72	2.1741	-1.8500
73	2.3717	-1.8500
74	2.56939	-1.85000
75	-2.6603	-1.6719
76	-2.7513	-1.4938
77	-2.8423	-1.3156
78	-2.9332	-1.1375
79	-3.0242	-0.9594
80	-3.1151	-0.7813
81	-3.2061	-0.6032
82	2.6603	-1.6719
83	2.7513	-1.4938
84	2.8423	-1.3156
85	2.9332	-1.1375
86	3.0242	-0.9594
87	3.1151	-0.7813
88	3.2061	-0.6032
89	-3.3507	-0.5093
90	-3.5507	-0.4848
91	-3.7506	-0.4602
92	-3.9506	-0.4357
93	-4.1506	-0.4111
94	-4.3505	-0.3865
95	-4.5505	-0.3620
96	-4.7506	-0.3428
97	-4.9506	-0.3381
98	-5.1505	-0.3334
99	-5.3504	-0.3287
100	-5.5504	-0.3240
101	-5.7503	-0.3193
102	-5.9503	-0.3146
103	-6.1502	-0.3099
104	-6.3502	-0.3052

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105     -6.5501     -0.3005
106     -6.7501     -0.2959
107     -3.5507     -0.1210
108     -3.7506     -0.1250
109     -3.9506     -0.1290
110     -4.1506     -0.1330
111     -4.3505     -0.1370
112     -4.5505     -0.1410
113     -4.7504     -0.1450
114     -4.9504     -0.1490
115     -5.1504     -0.1530
116     -5.3503     -0.1570
117     -5.5503     -0.1610
118     -5.7502     -0.1650
119     -5.9502     -0.1690
120     -6.1502     -0.1730
121     -6.3501     -0.1770
122     -6.5501     -0.1810
123     -6.7500     -0.1850
124      3.5507     -0.1210
125      3.7506     -0.1250
126      3.9506     -0.1290
127      4.1506     -0.1330
128      4.3505     -0.1370
129      4.5505     -0.1410
130      4.7504     -0.1450
131      4.9504     -0.1490
132      5.1504     -0.1530
133      5.3503     -0.1570
134      5.5503     -0.1610
135      5.7502     -0.1650
136      5.9502     -0.1690
137      6.1502     -0.1730
138      6.3501     -0.1770
139      6.5501     -0.1810
140      6.7500     -0.1850
141      3.3507     -0.5093
142      3.5507     -0.4848
143      3.7506     -0.4602
144      3.9506     -0.4357
145      4.1506     -0.4111
146      4.3505     -0.3865
147      4.5505     -0.3620
148      4.7506     -0.3428
149      4.9506     -0.3381
150      5.1505     -0.3334
151      5.3504     -0.3287
152      5.5504     -0.3240
153      5.7503     -0.3193
154      5.9503     -0.3146
155      6.1502     -0.3099
156      6.3502     -0.3052
157      6.5501     -0.3005
158      6.7501     -0.2959
159      6.9500     -0.1890
160      6.9500     -0.2912
161     -6.9500     -0.1890
162     -6.9500     -0.2912
163     -3.2282     -0.2300
164     -2.9282     -0.2300
165     -3.1159     -0.4500
166     -3.0035     -0.6700
167     -1.1000     -0.2300
168     -0.8000     -0.2300
169     -0.9500     -0.4500
170     -0.9500     -0.6700
171      0.8000     -0.2300
172      1.1000     -0.2300
173      0.9500     -0.4500
174      0.9500     -0.6700
175      2.9282     -0.2300
176      3.2282     -0.2300
177      3.1159     -0.4500
178      3.0035     -0.6700
horm       7.00    4000.00
  2   1   3   4   5   6   7   8   9  10  11
arma     51000.
  15    0.003254
  16    0.000314
  17    0.000314
  18    0.000314
  19    0.000314
  20    0.000314
  21    0.000314
  22    0.000314
  23    0.000314
  24    0.000314
  25    0.000314
  26    0.000314
  27    0.000314
  28    0.000314
  29    0.000314
  30    0.000314
  31    0.000314
  32    0.000314
  33    0.000314
  34    0.000314
  35    0.000314
  36    0.000314
  37    0.000314
  38    0.000314
  39    0.000314
  40    0.000314
  41    0.000314
  42    0.000314
  43    0.000314
  44    0.000314
  45    0.000314
  46    0.000314
  47    0.003254
  48    0.003254
 49    0.000314
```

50	0.000314
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70	0.000314
71	0.000314
72	0.000314
73	0.000314
74	0.003254
75	0.000201
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79	0.000201
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157	0.000113
158	0.000113
159	0.000314
160	0.000314
161	0.000314

162	0.000314	
pret	158500.	126200.
163	0.003600	
164	0.003600	
165	0.003600	
166	0.003600	
167	0.003600	
168	0.003600	
169	0.003600	
170	0.003600	
171	0.003600	
172	0.003600	
173	0.003600	
174	0.003600	
175	0.003600	
176	0.003600	
177	0.003600	
178	0.003600	
calc		

CARACTERISTICAS DE LA SECCION 1 A 0.000

AREA	13.633320	
CANTO	1.9000	14.0000
C.G.	-0.8156	0.0000
V	0.8156	7.0000
VP	1.0844	7.0000
I	4.10228825	91.70265198
R.G.	0.5485	2.5935

CONDICIONES DE AGOTAMIENTO DE LA SECCION

RESISTENCIA DEL HORMIGON	1	4000.
LIMITE ELASTICO DEL ACERO DE ARMAR		51000.
LIMITE ELASTICO DEL ACERO DE PRETENSAR		158500.

COMPROBACION DE AGOTAMIENTO DE LA SECCION

HIP.	N	Mx	My	Mxu	Myu	Fac.Seg.
1	-4542.	8705.	0.	11683.	0.	1.34

ARMADURA DE CORTANTE-TORSIÓN

CALCULO DE LA ARMADURA DE CORTANTE-TORSIÓN

BO = ANCHO NETO DE ALMAS = 0.40 * 4 = 1.60m

D = CANTO UTIL = 1.85 M

Ae = 9.46 M^2

He = 0.20 M

U = 15.1 m

L1 = 14.0 m

H1 = 0.20 M

L2 = 4.86 M

H2 = 0.20 m

2. EJE Y PARA ARMAR

VUELOS SUPERIORES:
A = 1.081 m^2 S_j = 1.081 * $\overbrace{0.477}^{Y_{cuelo}}$ = 0.516 m^3
V_j = 0.477 m

R_j: Reacción de anclaje del vuelo

VUELO: 16 J = 16 Ø12 = 16 * 1.13 = 18.08
17 K = 17 Ø12 = 17 * 1.13 = 19.21
2 Ø20 = 2 * 3.14 = 6.28
} 43.57 cm^2

CAJÓN: 206 = 20 Ø25 en esquinas = 20 * 4.90 = 98.00 cm^2
8I + 8I int = 16 * 2.01 = 32.16 cm^2
23 I inf = 23 * 2.01 = 46.23 cm^2
36 H sup = 36 * 3.14 = 113.04 cm^2
} 289.43 cm^2

VUELO: 16 J
17 K
2 Ø20
} 43.57 cm^2

PRETENSADO: 12 * 46.5 cm^2 = 558 cm^2

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HOJA ____ DE ____

PROYECTO _____ FECHA _____

TENSION ROTURA $A_S = 5.1 \frac{t}{cm^2}$

TENSION ROTURA $A_p = \frac{Protun}{Ap} = \frac{628}{46.5} = 13.5 \frac{t}{cm^2}$

$A_{TOTAL} = (43.57 * 2 + 289.43) * 5.1 + 558 * 13.5 = 9453.5\ t$

$R_j = \frac{43.57 * 5.1}{9453.5} = 0.024$

$S_j = 0.516\ m^3 \quad V_j = 0.477\ m \quad R_j = 0.024$

HIPOTESIS EN ROTURA A CONSIDERAR ⟶ 431 a 442

```
dato 104 1 1.15 1.5 1. 0 0
1 a 104
 8.787  80.540  3.341
                      0.741 1.159 0.741 1.159
                      7.000 7.000 2.600 2.600
1.600 1.850 9.460 0.200 15.100
14.00 0.200 4.860 0.200  2.
0.516 0.477 0.024
0.516 0.477 0.024
0.    0.    0.
secc  8 16 24 32 40 48 56 64 72 80 88 96 104
arma 400. 5100.
hipo 83 1431 a 1442
barr 1 a 32 81 a 104
fin
```

BARRA 16 NUDO 37 HIPO 437 ELU

FX = -5492.99 MX = -1718.53
FY = 1522.72 MY = 296.43
FZ = -32.73 MZ = -3389.61

CORTANTE

1. AGOTAMIENTO POR COMPRESION OBLICUA DEL ALMA.

$$V_{u1} = K \cdot f_{1cd} \cdot b_0 \cdot d \cdot \frac{\cot g\theta + \cot g\alpha}{1 + \cot g^2\theta}$$

- $f_{1cd} = 0.60\, f_{cd} = 0.60 \frac{4000}{1.50} = 1600\ t/m^2$
- $b_0 = 4 \times 0.4 + 0.10 \times 2 = 1.60 + 0.20 = 1.80\ m$
- $K = \frac{5}{3}\left(1 + \frac{\sigma'_{cd}}{f_{cd}}\right) \not> 1.00$

$$\sigma'_{cd} = \frac{N_d}{A_c} = -\frac{5492.99}{8.787} = -591.0\ t/m^2$$

$$K = \frac{5}{3}\left(1 + \frac{-591.0}{\frac{4000}{1.50}}\right) = 1.297 \not> 1.00 \quad K = 1.00$$

- $\alpha = 90° \Rightarrow \cot g\,\alpha = 0$
- θ será tal que $0.5 \le \cot g\,\theta \le 2.0$

$$\cot g\,\theta_e = \sqrt{1 - \frac{\sigma_{cd}}{f_{ct,m}}} = \sqrt{1 + \frac{591.0}{350}} = 1.640$$

Tegiremos $\cot g\,\theta = 1.640 \rightarrow \theta = 31.378°$

- $d = 1.85\ m$

$$V_{u1} = 1 \times 1600 \times 1.80 \times 1.85 \times \frac{1.640}{1 + 1.640^2} = 2368\ t$$

2. AGOTAMIENTO POR TRACCION EN EL ALMA

$$V_{u2} = V_{cu} + V_{su}$$

$$V_{su} = z \operatorname{sen}\alpha (\operatorname{cotg}\alpha + \operatorname{cotg}\theta) \Sigma A_\alpha f_{y\alpha,d}$$

$f_{y\alpha,d} = \bar{\sigma}_{s,d} \neq 40\ MPa = 40000\ t/m^2$

$z = 0.9d = 0.9 \times 1.85 = 1.665\ m$

$$V_{cu} = \left[0.10 \xi (100\, \rho_l\, f_{ck})^{\frac{1}{3}} - 0.15\, \sigma'_{cd}\right] b_0\, d\, \beta$$

- $\xi = 1 + \sqrt{\frac{200}{d}} = 1 + \sqrt{\frac{200}{1850}} = 1.329$
- $\rho_l = \frac{A_s + A_p \frac{f_{yp}}{f_{yd}}}{b_0 d} = \frac{0.03224 + 0.0576 \frac{158500}{51000/1.15}}{1.8 \times 1.85} \neq 0.02$

$\rho_l = 0.02$

$A_s = 0.03224\ m^2$ $\quad f_{yd} = \frac{51000}{1.15}$

- $f_{ck} = 40\ MPa$
- $\sigma'_{cd} = -591.0 = -5.91\ MPa$
- $\sigma_{yd} = 0 \Rightarrow \operatorname{cotg}\theta_e = 1.640$
- $\beta = \frac{2\operatorname{cotg}\theta - 1}{2\operatorname{cotg}\theta_e - 1} = 1$

$V_{cu} = [0.10 \times 1.329\ (100 \times 0.02 \times 40)^{\frac{1}{3}} + 0.15 \times 5.91] 1.8 \times 1.85 \times 1$

$V_{cu} = 4.86\ MN = 486\ t$

$V_{su} = 1468 - 486 = 982\ t = \frac{1.665}{z} 1.640 \cdot \Sigma A_\alpha \cdot f_{y\alpha d}$

$z = 0.9d = 0.9 \times 1.85 = 1.665$

$\Sigma A_\alpha = \frac{982}{1.665 \times 1.640 \times 40000} \times 10^4 = \underline{89.9\ cm^2/m}$ armadura transversal

3. ARMADURAS LONGITUDINAL DE CORTANTE.

$$\Delta T = V_{rd} \operatorname{cotg}\theta - \frac{V_{su}}{2} (\operatorname{cotg}\theta + \operatorname{cotg}\alpha)$$

$$\Delta T = 1523 \times 1.640 - \frac{1036}{2} 1.640 = 1648\ t$$

$$1648 = A_s \frac{51000}{1.15}$$

$$A_s = \frac{1648 \times 1.15 \times 10^4}{51000} = 372\ cm^2$$

ΔT = incremento de tracción respecto a la producida por Md.

TORSION

$A_e = 9.46\ m^2$
$u = 15.10\ m^2$
$h_0 = 0.30$
$c = 0.05$

$$T_{u1} = \alpha\, f_{1cd}\, A_e\, h_e\, \frac{\cot g\,\theta}{1+\cot g^2\theta}$$

$f_{1cd} = 0.60\, f_{cd} = 0.60 * \frac{4000}{1.50} = 1600\ t/m^2$

$\alpha = 1.20$

$\theta \Rightarrow 0.4 \leq \cot g\,\theta \leq 2.5 \quad \cot g\,\theta = 1.640$

$A_e = 9.46\ m^2$

$$T_{u1} = 1.20 * 1600 * 9.46 * 0.30\ \frac{1.640}{1+1.640^2} = 2422^{tm} > 1719^{tm}$$

$$T_{u2} = \frac{2 A_e\, A_t}{s_t}\, f_{yt,1}\, \cot g\,\theta$$

$$\frac{A_t}{s_t} = \frac{T_{u2}}{2A_e}\,\frac{10^4}{f_{yt,1}\cot g\theta} = \frac{1719}{2*9.46} * \frac{10^4}{40000*1.640} = \underline{\underline{13.85\ cm^2/m}}$$

$f_{yt,1} = \sigma_{sd} = 40000$

$\cot g\,\theta = 1 \quad A_e = 9.46\ m^2$

$$T_{u2} = 2 * 9.46 * 13.85 * 10^{-4} * 40000 * 1.640 = 1719^t$$

$$T_{u3} = \frac{2A_e}{u_e}\, A_l\, f_{yl,1}\, \cot g\,\theta \qquad A_l = \frac{T_{u3} * u}{2 A_e\, f_{yl,1}}\, \cot g\,\theta$$

$$T_{u3} = \frac{2 * 9.46}{15.1} * A_l * 40000 * 0.610 = 1719^t$$

$A_l = 0.0562\ m^2 = 562\ cm^2$

TORSION + CORTANTE

$$\left(\frac{V_{rd}}{V_{u1}}\right)^{\beta} + \left(\frac{T_d}{T_{u1}}\right)^{\beta} \leq 1$$

$$\beta = 2\left(1 - \frac{h_e}{b}\right) = 2\left(1 - \frac{0.20}{1.60}\right) = 1.75$$

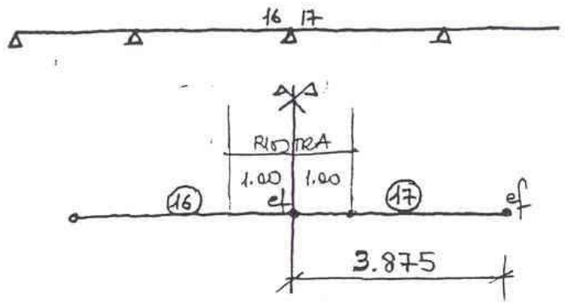
$$\left(\frac{1523}{2368}\right)^{1.75} + \left(\frac{1719}{2422}\right)^{1.75} = 0.643 + 0.710$$

NO ENTRA EN EL EJE DE APOYO.

Se va a comprobar a continuación en borde de pistas, para lo cual se interpolarán esfuerzos en ELU.

ESTADO LIMITE DE AGOTAMIENTO FRENTE A CORTANTE.

EN BORDE DE RIOSTRA SOBRE APOYOS.-



HIPO 437 b16 ef	FX = -5493 FY = +1523 FZ = -33	MX = -1719 MY = +296 MZ = -3390
HIPO 437 b17 ef	FX = -5486 FY = +276 FZ = -21	MX = -1349 MY = -313 MZ = +228

VALORES DE ESFUERZOS INTERPOLADOS A X=1.00 EN BORDE DE RIOSTRA.

FX = -5491

FY = +1201

MX = -1624 tm

MZ = -2456 tm

$V_{rd} \leq V_{u1}$

$V_{rd} \leq V_{u2}$

AGOTAMIENTO POR COMPRESION OBLICUA DEL ALMA.

$$V_{u1} = K f_{1cd} b_o d \frac{\cot g\theta + \cot g\alpha}{1+\cot g^2\theta}$$

- $f_{1cd} = 0.60 f_{cd} = 0.60 * \frac{4000}{1.50} = 1600\ t/m^2$
- $b_o = 4 * 0.4 + 0.20 = 1.60 + 0.20 = 1.80\ m$
- $K = \frac{5}{3}\left(1 + \frac{\sigma'_{cd}}{f_{cd}}\right) \not> 1.00$

$$\sigma'_{cd} = \frac{N_d}{A_c} = -\frac{5491}{8,787} = -625\ t/m^2$$

$$K = \frac{5}{3}\left(1 + \frac{-625}{\frac{4000}{1.50}}\right) = 1.276 \not> 1.00$$

- $\alpha = 90° \Rightarrow \cot g\alpha = 0$
- θ será tal que $0.5 \leq \cot g\theta \leq 2,0$

  Elegimos $\cot g\theta = 1 \rightarrow \theta = 45°$

$$V_{u1} = 1.00 * 1600 * 1.80 * 1.85 * \frac{1+0}{1+1} = 2664^t$$

AGOTAMIENTO POR TRACCIÓN EN EL ALMA.

$V_{u2} = V_{cu} + V_{su}$

$$V_{su} = z \operatorname{sen}\alpha (\cot g\alpha + \cot g\theta) \sum A_\alpha f_{y\alpha,d}$$

A_α

$f_{y\alpha,d} = \sigma_{s,d} \not< 40\ MPa = 40000\ t/m^2$

$z = 0,9d = 0.9 * 1.85 = 1.665\ m$

$$V_{cu} = [0.10 \xi (100 \rho_l f_{ck})^{1/3} - 0.15 \sigma'_{cd}] b_o d/\beta$$

- $\xi = 1 + \sqrt{\frac{200}{d}} = 1 + \sqrt{\frac{200}{1850}} = 1.329$
- $\rho_l = \frac{A_s + A_p \frac{f_{0p}}{f_{0d}}}{b_o d} = \frac{0.03224 + 0.0576 * \frac{158500}{\sqrt{1000}/1.15}}{1.8 * 1.85} \not> 0.02$

$A_s = 0,03224\ m^2$ $\quad f_{yd} = \frac{\sqrt{1000}}{1.15}$

34H	$= 34 * 3.14 =$	106.8
28G	$= 28 * 4.90 =$	137.2
23I	$= 23 * 2.01 =$	46.2
16I	$= 16 * 2.01 =$	32.2
		322.4

vuelo
16 * 2K
16 * 2J
4 ϕ20

$A_p = 16 * 0.0036 = 0.0576\ m^2$

$f_{yp} = 158.500$

- $f_{ck} = 40\ MPa$
- $\sigma'_{cd} = -625 \frac{t}{m^2} = -6.25\ MPa$

$$\sigma_{yd}=0 \rightarrow \cot g\,\theta_e=\sqrt{1-\frac{\sigma_{xd}}{f_{ct,M}}}=\sqrt{1+\frac{625}{350}}=\underline{1.669}$$

$$\sigma_{xd}=-\frac{5491}{8.787}=-625$$

$$f_{ct,M}=0.30\sqrt[3]{f_{ck}^2}=0.30\sqrt[3]{40^2}=3.5\,MPa=350\,t/m^2$$

si $\cot g\,\theta=1$ cumple $\quad 0.5\le\cot g\,\theta\le\cot g\,\theta_e \quad \beta=\frac{2\cot g\,\theta-1}{2\cot g\,\theta_e-1}$

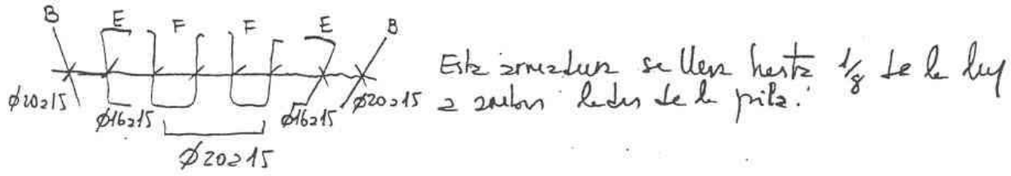
$$\beta=\frac{2*1-1}{2*1.669-1}=0.428$$

$$V_{cu}=\left[0.10*1.329\,(100*0.02*40)^{\frac{1}{3}}+0.15*6.25\right]1.8*1.85*0.428$$

$$V_{cu}=215\,t \qquad z=0.9d=0.9*1.85=1.665\,m.$$

$$V_{su}=1201^t-215^t=986^t=\frac{1.665}{z}\,\overline{\Sigma A_\alpha\cdot f_{y\alpha,d}}$$

$$\Sigma A_\alpha=\frac{986}{1.665*40000}*10^4=\underline{148\,cm^2/m}\ \text{cruzan transversal.}$$



Este cruzan se llevan hasta 1/8 de la luz a cada lado de la pila.

$$6\,\phi 20\,a\,15 = 6.67*3.14*6 = 125.7$$
$$2\,\phi 16\,a\,15 = 6.67*2.01*2 = 26.8$$
$$152.5\,cm^2.\ \text{o.k.}$$

ARMADURA LONGITUDINAL CORTANTE

$$\Delta T=V_{id}\cot g\,\theta-\frac{V_{su}}{2}(\cot g\,\theta+\cot g\,\alpha)=1226-\frac{1032}{2}=710^t$$

$$A_{lc}=\frac{710}{40000}*10^4=177.5\,cm^2$$

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PROYECTO
HOJA ___ DE ___
FECHA

ESTADO LIMITE DE AGOTAMIENTO POR TORSION.

$A_e=9.46\,m^2$
$u=15.10\,m$
$h_0=0.30\,m$ $\qquad h_e\le\frac{A}{u}\begin{cases}\Delta h_0\\ <2c\end{cases}$
$c=0.05\,m.$

$$\boxed{T_{u1}=\alpha f_{1cd}\,A_e\,h_e\,\frac{\cot g\,\theta}{1+\cot g^2\theta}}$$

$$f_{1cd}=0.60\,f_{cd}=0.60*\frac{4000}{1.50}=1600\,t/m^2$$
$\alpha=1.20$
$\theta \Rightarrow \quad 0.4\le\cot g\,\theta\le 2.5$
$A_e=9.46\,m^2$

$$T_{u1}=1.20*1600*9.46*0.30*\frac{1}{1+1}=2724^{tm}>T_d=1624^{tm}$$

$$\boxed{T_{u2}=\frac{2A_e\,A_t}{s_t}f_{yt,d}\cot g\,\theta}$$

$$\frac{A_t}{s_t}=\frac{T_{u2}}{2A_e}\frac{10^4}{f_{yt,d}\cot g\,\theta}=\frac{1624}{2*9.46}*\frac{10^4}{40.000*1}=21.5\,cm^2/m \rightarrow c\,\phi 20\,a\,15+\phi\phi a\,1.$$
$$\frac{A_t}{s_t}=20.94\,cm^2$$

$f_{yt,d}=\sigma_{sd}=40\,000\,t/m^2$

$\cot g\,\theta=1 \qquad A_e=9.46\,m^2$

$$T_{u2}=2*9.46*20.94*10^{-4}*40000=1584\,t$$

$$T_{u3} = \frac{2A_e}{u_e} A_l f_{yl,d} f_{y\theta}$$

$A_e = 9.46\ m^2$

$u_e = 15.1$

$f_{yl,d} = \sigma_{sd} = 40\,000$

$f_{y\theta} = 1$

$$T_{u3} = \frac{2 * 9.46}{15.1} * A_l * 40000 * 1 = 1624^{tm}$$

$$A_l = 0.0324\ m^2 = \underline{\underline{324\ cm^2}}$$

TORSION + CORTANTE

$$\left(\frac{T_d}{T_{u1}}\right)^{\beta} + \left(\frac{V_{rd}}{V_{u1}}\right)^{\beta} \leq 1$$

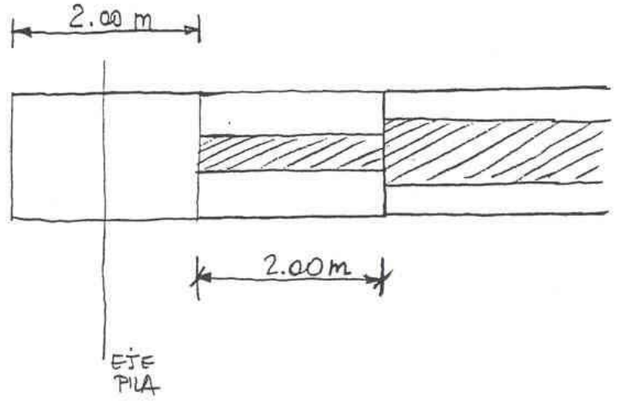
$$\beta = 2\left(1 - \frac{h_e}{b}\right) = 2\left(1 - \frac{0.30}{1.80}\right) = 1.67$$

$$\left(\frac{1624}{2724}\right)^{1.67} + \left(\frac{1201}{2664}\right)^{1.67} = 0.422 + 0.264 = \underline{\underline{0.69 < 1}}$$

Por tanto, se dispone aligeramientos de menor diámetro en una longitud de 2 metros.

1.20 1.30 1.20

$$\Delta PESO = (0.408407 * 2 + 0.439824) * \overline{2.5} = 3.14\ \frac{t}{ml}$$



VIADUCTO SOBRE LA RIERA FEMOSA

ARMADURA

		CORTANTE			TORSION							
SECC	VOL T	ZONA	TRANS	LONG	TRANS	LONG	UUE 1	UUE 2	UUE 3	UUE 4	RELACION	TOTAL TRANS
1	0.00	AB	0.37	0.00	0.92	13.99	0.85	0.85	0.00	0.00	0.13 0.04	2.23
	0.00	AB	4.75	0.00	0.83	12.59	10.70	10.70	0.00	0.00	0.13 0.04	6.42
	0.00	AB	29.83	0.00	0.00	0.01	23.46	23.46	0.00	0.00	0.33 0.00	29.83
	0.00	AB	20.32C	0.00	0.00	0.01	7.67	7.67	0.00	0.00	0.10 0.00	0.00
	0.00	AB	10.36	0.00	17.49	264.14	13.17	13.17	0.00	0.00	0.17 0.82	45.34
	0.00	AB	7.36	0.00	17.96	271.15	12.46	12.46	0.00	0.00	0.17 0.84 *	43.28
	0.00	AB	9.42	0.00	18.27	275.85	13.46	13.46	0.00	0.00	0.19 0.85 *	45.96
	0.00	AB	13.31	0.00	18.73	282.86	14.39	14.39	0.00	0.00	0.18 0.87 *	50.78
	0.00	AB	7.36	0.00	17.72	267.53	12.46	12.46	0.00	0.00	0.17 0.83	42.80
	0.00	AB	10.36	0.00	17.25	260.52	13.17	13.17	0.00	0.00	0.17 0.81	44.06
	0.00	AB	0.83	0.00	0.93	13.99	0.87	0.87	0.00	0.00	0.13 0.04	2.69
	0.00	AB	5.78	0.00	0.83	12.59	11.09	11.09	0.00	0.00	0.14 0.04	7.45
12	0.00	AB	20.32C	0.00	0.74	11.18	5.86	5.86	0.00	0.00	0.08 0.03	1.48
	0.00	C	20.32C	53.65	0.67	10.07	5.40	5.40	0.00	0.00	0.07 0.03	1.33
	0.00	AB	16.64	0.00	0.00	0.01	16.61	16.61	0.00	0.00	0.23 0.00	16.64
	0.00	AB	20.32C	0.00	0.00	0.01	8.19	8.19	0.00	0.00	0.11 0.00	0.00
	0.00	AB	20.32C	0.00	13.49	203.69	7.21	7.21	0.00	0.00	0.09 0.63	26.98
	0.00	AB	20.32C	0.00	13.86	209.30	8.09	8.09	0.00	0.00	0.11 0.65	27.72
	0.00	AB	20.32C	0.00	13.90	209.96	8.71	8.71	0.00	0.00	0.12 0.65	27.81
	0.00	AB	20.32C	0.00	14.28	215.57	8.06	8.06	0.00	0.00	0.10 0.67	28.55
	0.00	AB	20.32C	0.00	13.23	199.75	8.19	8.19	0.00	0.00	0.11 0.62	26.46
	0.00	AB	20.32C	0.00	12.86	194.14	5.83	5.83	0.00	0.00	0.08 0.60	25.71
	0.00	AB	20.32C	0.00	0.00	0.01	3.76	3.76	0.00	0.00	0.05 0.00	0.00
	0.00	C	17.37	88.62	0.00	0.01	12.18	12.18	0.00	0.00	0.15 0.00	17.37
13	0.00	AB	20.32C	0.00	0.55	8.37	5.45	5.45	0.00	0.00	0.08 0.03	1.11
	0.00	C	20.32C	36.54	0.50	7.54	1.55	1.55	0.00	0.00	0.02 0.02	1.00
	0.00	AB	5.83	0.00	0.00	0.01	11.76	11.76	0.00	0.00	0.16 0.00	5.83
	0.00	AB	20.32C	0.00	0.00	0.01	5.95	5.95	0.00	0.00	0.08 0.00	0.00
	0.00	AB	20.32C	0.00	9.74	147.02	2.86	2.86	0.00	0.00	0.04 0.45	19.47
	0.00	AB	20.32C	0.00	10.01	151.22	6.52	6.52	0.00	0.00	0.09 0.47	20.03
	0.00	AB	20.32C	0.00	9.79	147.86	6.76	6.76	0.00	0.00	0.09 0.46	19.58
	0.00	C	20.32C	53.88	10.07	152.06	3.33	3.33	0.00	0.00	0.04 0.47	20.14
	0.00	AB	20.32C	0.00	4.96	74.84	3.09	3.09	0.00	0.00	0.04 0.23	9.91
	0.00	AB	20.32C	0.00	4.68	70.65	3.89	3.89	0.00	0.00	0.05 0.22	9.36
	0.00	AB	20.32C	0.00	0.00	0.01	1.47	1.47	0.00	0.00	0.02 0.00	0.00
	0.00	C	4.23	65.67	0.00	0.01	7.24	7.24	0.00	0.00	0.09 0.00	4.23
14	0.00	AB	20.32C	0.00	0.37	5.56	0.14	0.14	0.00	0.00	0.00 0.02	0.74
	0.00	C	1.76	57.98	0.33	5.01	6.30	6.30	0.00	0.00	0.08 0.02	2.42
	0.00	AB	20.32C	0.00	0.00	0.00	4.73	4.73	0.00	0.00	0.07 0.00	0.00
	0.00	AB	2.19	0.00	0.00	0.01	9.78	9.78	0.00	0.00	0.12 0.00	2.19
	0.00	AB	20.32C	0.00	5.89	88.94	6.04	6.04	0.00	0.00	0.08 0.27	11.78
	0.00	AB	20.32C	0.00	6.08	91.74	0.33	0.33	0.00	0.00	0.00 0.28	12.15
	0.00	AB	20.32C	0.00	5.90	89.11	0.33	0.33	0.00	0.00	0.00 0.28	11.80
	0.00	AB	20.32C	0.00	6.09	91.90	5.81	5.81	0.00	0.00	0.07 0.28	12.17
	0.00	AB	20.32C	0.00	2.72	41.06	2.95	2.95	0.00	0.00	0.04 0.13	5.44

UCTO SOBRE LA RIERA FEMOSA

ARMADURA

		CORTANTE		TORSION							
VOL T	ZONA	TRANS	LONG	TRANS	LONG	VUE 1	VUE 2	VUE 3	VUE 4	RELACION	TOTAL TRANS
0.00	AB	20.32C	0.00	2.90	43.75	0.77	0.77	0.00	0.00	0.01 0.14	5.80
0.00	AB	20.32C	0.00	0.00	0.01	4.37	4.37	0.00	0.00	0.06 0.00	0.00
0.00	C	20.32C	43.18	0.00	0.01	2.15	2.15	0.00	0.00	0.03 0.00	0.00
0.00	AB	20.32C	0.00	0.18	2.75	4.04	4.04	0.00	0.00	0.06 0.01	0.36
0.00	AB	10.24	0.00	0.16	2.48	12.85	12.85	0.00	0.00	0.16 0.01	10.57
0.00	AB	20.32C	0.00	0.00	0.00	0.23	0.23	0.00	0.00	0.00 0.00	0.00
0.00	AB	15.39	0.00	0.00	0.01	15.22	15.22	0.00	0.00	0.19 0.00	15.39
0.00	AB	11.60	0.00	1.78	26.84	13.77	13.77	0.00	0.00	0.18 0.08	15.16
0.00	AB	20.32C	3.00	1.87	28.23	5.77	5.77	0.00	0.00	0.08 0.09	3.74
0.00	AB	20.32C	0.00	1.79	27.00	5.77	5.77	0.00	0.00	0.08 0.08	3.58
0.00	AB	11.07	0.00	1.88	28.39	13.54	13.54	0.00	0.00	0.17 0.09	14.83
0.00	AB	5.30	0.00	0.49	7.41	11.11	11.11	0.00	0.00	0.14 0.02	6.28
0.00	AB	20.32C	0.00	0.58	8.75	5.21	5.21	0.00	0.00	0.09 0.03	1.16
0.00	AB	20.32C	0.00	0.00	0.01	0.52	0.52	0.00	0.00	0.08 0.00	0.00
0.00	C	11.76	79.59	0.00	0.01	10.10	10.10	0.00	0.00	0.13 0.00	11.76
0.00	AB	20.32C	0.00	0.00	0.06	3.19	3.19	0.00	0.00	0.05 0.00	0.01
0.00	AB	4.91	0.00	0.00	0.05	1.01	1.01	0.00	0.00	0.14 0.00	4.91
0.00	AB	2.50	0.00	0.00	0.00	10.15	10.15	0.00	0.00	0.14 0.00	2.50
0.00	AB	11.38	0.00	0.00	0.01	13.61	13.61	0.00	0.00	0.17 0.00	11.38
0.00	AB	7.20	0.00	2.33	35.24	11.94	11.94	0.00	0.00	0.15 0.11	11.87
0.00	AB	20.32C	0.00	2.33	35.25	0.09	0.09	0.00	0.00	0.00 0.11	4.67
0.00	AB	20.32C	0.00	3.05	46.08	3.86	3.86	0.00	0.00	0.05 0.14	6.10
0.00	AB	20.32C	0.00	3.05	46.05	0.64	0.64	0.00	0.00	0.09 0.14	6.10
0.00	AB	20.32C	0.00	1.98	29.91	7.30	7.30	0.00	0.00	0.09 0.09	3.96
0.00	AB	20.32C	0.00	1.98	29.93	0.17	0.17	0.00	0.00	0.00 0.09	3.96
0.00	AB	20.32C	0.00	0.00	0.01	0.41	0.41	0.00	0.00	0.06 0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.01	6.24	6.24	0.00	0.00	0.08 0.00	0.00
0.00	AB	3.50	0.00	0.19	2.87	1.00	1.00	0.00	0.00	0.15 0.01	3.88
0.00	AB	20.32C	0.00	0.17	2.58	0.80	0.80	0.00	0.00	0.11 0.01	0.34
0.00	AB	22.53	0.00	0.00	0.00	20.34	20.34	0.00	0.00	0.29 0.00	22.53
0.00	AB	6.91	0.00	0.00	0.01	1.10	1.10	0.00	0.00	0.15 0.00	6.91
0.00	AB	2.34	0.00	6.35	95.94	0.92	0.92	0.00	0.00	0.13 0.30	15.04
0.00	AB	20.32C	0.00	6.45	97.35	5.87	5.87	0.00	0.00	0.08 0.30	12.39
0.00	AB	20.32C	0.00	7.29	109.37	7.61	7.61	0.00	0.00	0.11 0.34	14.49
0.00	AB	20.32C	0.00	7.15	107.95	0.74	0.74	0.00	0.00	0.10 0.33	14.30
0.00	AB	2.38	0.00	6.45	97.38	0.92	0.92	0.00	0.00	0.13 0.30	15.28
0.00	AB	20.32C	0.00	6.54	98.79	5.87	5.87	0.00	0.00	0.08 0.31	13.08
0.00	AB	20.32C	0.00	0.00	0.01	0.49	0.49	0.00	0.00	0.07 0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.00	0.10	0.10	0.00	0.00	0.00 0.00	0.00
0.00	AB	20.32C	0.00	0.38	5.68	0.65	0.65	0.00	0.00	0.10 0.02	0.75
0.00	AB	15.35	0.00	0.34	5.10	1.39	1.39	0.00	0.00	0.19 0.02	16.03
0.00	AB	20.59	0.00	0.00	0.00	1.81	1.81	0.00	0.00	0.28 0.00	20.59
0.00	AB	23.25	0.00	0.00	0.01	1.73	1.73	0.00	0.00	0.24 0.00	23.25
0.00	AB	20.02	0.00	10.37	156.64	1.63	1.63	0.00	0.00	0.23 0.48	40.76
0.00	AB	20.32C	0.00	10.56	159.46	0.06	0.06	0.00	0.00	0.01 0.49	21.12

VIADUCTO SOBRE LA RIERA FEMOSA

ARMADURA

			CORTANTE		TORSION							
SECC	VOL T	ZONA	TRANS	LONG	TRANS	LONG	VUE 1	VUE 2	VUE 3	VUE 4	RELACION	TOTAL TRANS
	0.00	AB	20.32C	0.00	11.45	172.88	0.22	0.22	0.00	0.00	0.03 0.53	22.90
	0.00	AB	15.41	0.00	11.26	170.05	1.99	1.99	0.00	0.00	0.29 0.53	37.93
	0.00	AB	20.06	0.00	10.56	159.48	1.63	1.63	0.00	0.00	0.23 0.49	41.18
	0.00	AB	20.32C	0.00	10.75	162.30	0.06	0.06	0.00	0.00	0.01 0.50	21.50
	0.00	AB	20.32C	0.00	0.00	0.01	0.37	0.37	0.00	0.00	0.05 0.00	0.00
	0.00	AB	20.32C	0.00	0.00	0.00	0.36	0.36	0.00	0.00	0.05 0.00	0.00
19	0.00	AB	42.56	0.00	0.56	8.49	2.89	2.89	0.00	0.00	0.45 0.03	43.69
	0.00	C	119.80	239.91	0.51	7.63	4.46	4.46	0.00	0.00	0.60 0.02	120.81
	0.00	AB	13.59	0.00	0.00	0.00	1.48	1.48	0.00	0.00	0.23 0.00	13.59
	0.00	C	124.43	313.18	0.00	0.02	5.19	5.19	0.00	0.00	0.74 0.00	124.43
	0.00	C	126.17	295.06	14.39	217.34	5.08	5.08	0.00	0.00	0.71 0.67 *	156.96
	0.00	AB	59.49	0.00	14.67	221.57	3.62	3.62	0.00	0.00	0.55 0.68 *	88.84
	0.00	AB	56.03	0.00	15.66	236.39	3.46	3.46	0.00	0.00	0.53 0.73 *	87.34
	0.00	C	121.62	284.41	15.37	232.16	4.89	4.89	0.00	0.00	0.68 0.72 *	152.37
	0.00	C	126.21	295.16	14.39	217.34	5.08	5.08	0.00	0.00	0.71 0.67 *	155.00
	0.00	AB	59.48	0.00	14.67	221.56	3.62	3.62	0.00	0.00	0.55 0.68 *	88.83
	0.00	C	124.25	312.74	0.00	0.04	5.19	5.19	0.00	0.00	0.74 0.00	124.26
	0.00	AB	13.59	0.00	0.00	0.02	1.48	1.48	0.00	0.00	0.23 0.00	13.59
19	0.00	AB	48.93	0.00	1.04	15.73	3.20	3.20	0.00	0.00	0.50 0.05	51.01
	0.00	C	114.31	233.43	0.94	14.14	4.30	4.30	0.00	0.00	0.58 0.04	116.18
	0.00	C	123.36	357.39	0.00	0.01	5.52	5.52	0.00	0.00	0.82 0.00	123.36
	0.00	AB	15.14	0.00	0.00	0.00	1.52	1.52	0.00	0.00	0.23 0.00	15.14
	0.00	AB	67.56	0.00	0.93	14.05	3.92	3.92	0.00	0.00	0.59 0.04	69.92
	0.00	C	120.13	306.27	0.41	6.20	5.05	5.05	0.00	0.00	0.72 0.02	120.95
	0.00	AB	93.77	0.00	22.57	340.79	4.90	4.90	0.00	0.00	0.71 1.05 *	138.91
	0.00	AB	62.76	0.00	23.09	348.65	3.79	3.79	0.00	0.00	0.58 1.08 *	108.94
	0.00	C	126.83	300.71	21.02	317.45	5.14	5.14	0.00	0.00	0.72 0.98 *	168.88
	0.00	AB	66.71	0.00	21.58	325.30	3.97	3.97	0.00	0.00	0.60 1.01 *	109.80
	0.00	C	129.52	330.19	0.00	0.01	5.44	5.44	0.00	0.00	0.78 0.00	129.52
	0.00	AB	14.57	0.00	0.00	0.00	1.53	1.53	0.00	0.00	0.24 0.00	14.57
30	0.00	AB	20.32C	0.00	0.80	12.92	0.12	0.12	0.00	0.00	0.02 0.04	1.59
	0.00	AB	12.50	0.00	0.72	10.81	1.29	1.29	0.00	0.00	0.17 0.03	13.93
	0.00	AB	29.43	0.00	0.00	0.02	2.05	2.05	0.00	0.00	0.29 0.00	29.43
	0.00	AB	13.31	0.00	0.00	0.01	15.68	15.68	0.00	0.00	0.22 0.00	13.31
	0.00	AB	20.32C	0.00	0.50	7.48	0.41	0.41	0.00	0.00	0.06 0.02	0.99
	0.00	AB	19.75	0.00	0.10	1.49	1.65	1.65	0.00	0.00	0.23 0.00	19.95
	0.00	AB	15.77	0.00	16.90	255.24	1.51	1.51	0.00	0.00	0.22 0.79 *	49.58
	0.00	AB	20.32C	0.00	17.30	261.24	0.27	0.27	0.00	0.00	0.04 0.81	34.60
	0.00	AB	22.79	0.00	15.83	238.99	1.74	1.74	0.00	0.00	0.24 0.74	58.44
	0.00	AB	20.32C	0.00	16.22	244.98	0.96	0.96	0.00	0.00	0.07 0.76	32.45
	0.00	AB	28.89	0.00	0.00	0.01	1.96	1.96	0.00	0.00	0.27 0.00	28.89
	0.00	AB	13.31	0.00	0.00	0.00	15.68	15.68	0.00	0.00	0.22 0.00	13.31
31	0.00	AB	20.32C	0.00	0.55	8.32	7.56	7.56	0.00	0.00	0.11 0.03	1.10
	0.00	AB	18.10	0.00	0.49	7.47	1.48	1.48	0.00	0.00	0.20 0.02	19.09
	0.00	AB	32.52	0.00	0.00	0.02	2.15	2.15	0.00	0.00	0.30 0.00	32.52

ARMADURA

		CORTANTE		TORSION							
VOL T	ZONA	TRANS	LONG	TRANS	LONG	UUE 1	UUE 2	UUE 3	UUE 4	RELACION	TOTAL TRANS
0.00	AB	20.32C	0.00	0.00	0.01	3.23	3.23	0.00	0.00	0.05 0.00	0.00
0.00	AB	4.92	0.00	0.18	2.72	11.23	11.23	0.00	0.00	0.15 0.01	5.28
0.00	AB	24.02	0.00	0.45	6.86	19.36	19.36	0.00	0.00	0.25 0.02	24.93
0.00	AB	19.80	0.00	11.48	173.31	17.83	17.83	0.00	0.00	0.24 0.54	42.75
0.00	AB	1.79	0.00	11.75	177.46	9.76	9.76	0.00	0.00	0.14 0.55	25.29
0.00	AB	27.16	0.00	10.40	157.07	1.89	1.89	0.00	0.00	0.26 0.49	47.96
0.00	AB	7.21	0.00	10.68	161.20	12.21	12.21	0.00	0.00	0.16 0.50	28.56
0.00	AB	20.32C	0.00	0.00	0.01	0.47	0.47	0.00	0.00	0.06 0.00	0.00
0.00	C	33.49	131.87	0.00	0.01	19.05	19.05	0.00	0.00	0.26 0.00	33.49
0.00	AB	20.32C	0.00	0.31	4.61	7.17	7.17	0.00	0.00	0.10 0.01	0.61
0.00	AB	20.32C	0.00	0.27	4.14	0.45	0.45	0.00	0.00	0.01 0.01	0.55
0.00	C	20.32C	59.58	0.00	0.02	3.73	3.73	0.00	0.00	0.05 0.00	0.00
0.00	AB	10.95	0.00	0.00	0.00	14.40	14.40	0.00	0.00	0.20 0.00	10.95
0.00	AB	20.32C	0.00	0.86	12.92	5.53	5.53	0.00	0.00	0.08 0.04	1.71
0.00	AB	20.32C	0.00	1.01	15.21	0.62	0.62	0.00	0.00	0.01 0.05	2.01
0.00	AB	20.32C	0.00	6.11	92.29	1.13	1.13	0.00	0.00	0.02 0.29	12.22
0.00	AB	20.32C	0.00	6.26	94.59	7.21	7.21	0.00	0.00	0.10 0.29	12.53
0.00	AB	20.32C	0.00	4.99	75.14	1.28	1.28	0.00	0.00	0.02 0.23	9.95
0.00	AB	20.32C	0.00	5.13	77.42	4.25	4.25	0.00	0.00	0.06 0.24	10.25
0.00	AB	2.28	0.00	0.00	0.00	0.93	0.93	0.00	0.00	0.14 0.00	2.28
0.00	C	20.32C	51.90	0.00	0.01	1.08	1.08	0.00	0.00	0.01 0.00	0.00
0.00	AB	20.32C	0.00	0.06	0.90	3.99	3.99	0.00	0.00	0.06 0.00	0.12
0.00	AB	20.32C	0.00	0.05	0.80	2.65	2.65	0.00	0.00	0.03 0.00	0.11
0.00	AB	20.32C	0.00	0.00	0.01	0.43	0.43	0.00	0.00	0.01 0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.01	7.67	7.67	0.00	0.00	0.11 0.00	0.00
0.00	AB	20.32C	0.00	1.50	22.66	4.39	4.39	0.00	0.00	0.06 0.07	3.00
0.00	AB	20.32C	0.00	1.53	23.10	2.43	2.43	0.00	0.00	0.03 0.07	3.06
0.00	AB	20.32C	0.00	1.68	25.43	2.55	2.55	0.00	0.00	0.03 0.08	3.37
0.00	AB	20.32C	0.00	1.71	25.86	4.23	4.23	0.00	0.00	0.06 0.08	3.43
0.00	AB	20.32C	0.00	0.14	2.10	1.98	1.98	0.00	0.00	0.03 0.01	0.28
0.00	AB	20.32C	0.00	0.17	2.53	2.77	2.77	0.00	0.00	0.04 0.01	0.34
0.00	AB	20.32C	0.00	0.00	0.00	5.11	5.11	0.00	0.00	0.07 0.00	0.00
0.00	C	20.32C	52.26	0.00	0.01	2.34	2.34	0.00	0.00	0.03 0.00	0.00
0.00	AB	20.32C	0.00	0.19	2.80	6.16	6.16	0.00	0.00	0.09 0.01	0.37
0.00	AB	20.32C	0.00	0.17	2.53	0.53	0.53	0.00	0.00	0.01 0.01	0.34
0.00	AB	9.83	0.00	0.00	0.01	1.25	1.25	0.00	0.00	0.18 0.00	9.83
0.00	AB	20.32C	0.00	0.00	0.00	4.59	4.59	0.00	0.00	0.06 0.00	0.00
0.00	AB	20.32C	0.00	1.35	20.44	3.75	3.75	0.00	0.00	0.05 0.06	2.71
0.00	AB	20.32C	0.00	1.26	19.02	0.53	0.53	0.00	0.00	0.01 0.06	2.52
0.00	AB	20.32C	0.00	5.50	82.99	1.98	1.98	0.00	0.00	0.03 0.26	10.99
0.00	AB	20.32C	0.00	5.40	81.56	5.22	5.22	0.00	0.00	0.07 0.25	10.80
0.00	AB	20.32C	0.00	4.84	73.06	1.87	1.87	0.00	0.00	0.02 0.23	9.68
0.00	AB	20.32C	0.00	4.93	74.47	1.56	1.56	0.00	0.00	0.02 0.23	9.86
0.00	AB	20.32C	0.00	0.00	0.00	0.76	0.76	0.00	0.00	0.11 0.00	0.00
0.00	C	20.32C	42.82	0.00	0.01	0.02	0.02	0.00	0.00	0.00 0.00	0.00
0.00	AB	20.32C	0.00	0.43	6.51	2.19	2.19	0.00	0.00	0.03 0.02	0.86

ARMADURA

			CORTANTE		TORSION							
SECC	VOL T	ZONA	TRANS	LONG	TRANS	LONG	UUE 1	UUE 2	UUE 3	UUE 4	RELACION	TOTAL TRANS
	0.00	AB	20.32C	0.00	0.39	5.87	0.67	0.67	0.00	0.00	0.09 0.02	0.78
	0.00	AB	8.91	0.00	0.00	0.01	1.21	1.21	0.00	0.00	0.18 0.00	8.91
	0.00	AB	10.83	0.00	0.00	0.00	14.06	14.06	0.00	0.00	0.19 0.00	10.83
	0.00	AB	20.32C	0.00	1.20	18.15	2.25	2.25	0.00	0.00	0.03 0.06	2.40
	0.00	AB	20.32C	0.00	0.99	14.89	8.65	8.65	0.00	0.00	0.12 0.05	1.97
	0.00	AB	20.32C	0.00	10.99	165.92	7.41	7.41	0.00	0.00	0.10 0.51	21.98
	0.00	AB	20.32C	0.00	10.77	162.65	0.95	0.95	0.00	0.00	0.01 0.50	21.54
	0.00	AB	4.84	0.00	9.72	146.78	1.02	1.02	0.00	0.00	0.14 0.45	24.28
	0.00	AB	20.32C	0.00	9.94	150.05	6.47	6.47	0.00	0.00	0.09 0.46	19.87
	0.00	AB	20.32C	0.00	0.00	0.00	0.34	0.34	0.00	0.00	0.05 0.00	0.00
	0.00	C	20.32C	77.31	0.00	0.01	6.16	6.16	0.00	0.00	0.08 0.00	0.00
36	0.00	AB	20.32C	0.00	0.68	10.21	0.04	0.04	0.00	0.00	0.01 0.03	1.35
	0.00	AB	12.47	0.00	0.61	9.20	1.29	1.29	0.00	0.00	0.18 0.03	13.68
	0.00	AB	10.92	0.00	0.00	0.01	1.30	1.30	0.00	0.00	0.19 0.00	10.92
	0.00	AB	30.48	0.00	0.00	0.00	2.11	2.11	0.00	0.00	0.30 0.00	30.48
	0.00	AB	20.32C	0.00	1.05	15.87	0.64	0.64	0.00	0.00	0.10 0.05	2.10
	0.00	AB	17.33	0.00	0.71	10.75	1.56	1.56	0.00	0.00	0.22 0.03	18.75
	0.00	AB	15.10	0.00	16.54	249.70	1.44	1.44	0.00	0.00	0.20 0.77	48.17
	0.00	AB	20.32C	0.00	16.20	244.57	0.52	0.52	0.00	0.00	0.08 0.76	32.39
	0.00	AB	3.06	0.00	9.18	138.59	0.96	0.96	0.00	0.00	0.14 0.43	21.41
	0.00	AB	20.32C	0.00	9.51	143.54	0.45	0.45	0.00	0.00	0.07 0.44	19.01
	0.00	AB	23.47	0.00	0.00	0.00	1.81	1.81	0.00	0.00	0.26 0.00	23.47
	0.00	AB	20.32C	0.00	0.00	0.01	0.12	0.12	0.00	0.00	0.02 0.00	0.00
37	0.00	AB	61.32	0.00	0.92	13.92	3.81	3.81	0.00	0.00	0.59 0.04	63.16
	0.00	C	123.69	252.14	0.83	12.54	4.65	4.65	0.00	0.00	0.63 0.04	125.35
	0.00	AB	29.57	0.00	0.00	0.00	2.06	2.06	0.00	0.00	0.29 0.00	29.57
	0.00	C	133.40	389.06	0.00	0.00	5.99	5.99	0.00	0.00	0.89 0.00	133.40
	0.00	AB	65.13	0.00	1.49	22.52	3.82	3.82	0.00	0.00	0.57 0.07	68.12
	0.00	C	126.59	324.85	0.48	6.61	5.33	5.33	0.00	0.00	0.76 0.02	127.47
	0.00	AB	107.98	0.00	22.00	333.48	5.22	5.22	0.00	0.00	0.73 1.03 *	152.15
	0.00	AB	81.94	0.00	21.62	326.50	4.48	4.48	0.00	0.00	0.66 1.01 *	125.18
	0.00	AB	59.88	0.00	9.55	144.27	3.52	3.52	0.00	0.00	0.52 0.45	78.99
	0.00	AB	75.12	0.00	10.00	151.01	4.09	4.09	0.00	0.00	0.60 0.47 *	95.12
	0.00	C	139.38	357.67	0.00	0.00	5.87	5.87	0.00	0.00	0.84 0.00	139.38
	0.00	AB	32.98	0.00	0.00	0.01	2.26	2.26	0.00	0.00	0.33 0.00	32.98
37	0.00	AB	39.99	0.00	0.99	14.96	2.78	2.78	0.00	0.00	0.43 0.05	41.97
	0.00	C	101.42	216.56	0.89	13.46	3.90	3.90	0.00	0.00	0.53 0.04	103.20
	0.00	C	121.51	315.87	0.00	0.01	5.15	5.15	0.00	0.00	0.74 0.00	121.51
	0.00	AB	5.44	0.00	0.00	0.00	1.07	1.07	0.00	0.00	0.16 0.00	5.44
	0.00	AB	56.83	0.00	0.79	11.85	3.45	3.45	0.00	0.00	0.52 0.04	58.40
	0.00	C	109.41	284.42	1.28	19.39	4.64	4.64	0.00	0.00	0.67 0.06	111.97
	0.00	AB	58.69	0.00	22.33	337.11	3.46	3.46	0.00	0.00	0.51 1.04 *	163.34
	0.00	AB	86.19	0.00	22.82	344.60	4.36	4.36	0.00	0.00	0.61 1.06 *	131.87
	0.00	AB	38.40	0.00	9.38	141.70	2.56	2.56	0.00	0.00	0.38 0.44	57.17
	0.00	AB	51.14	0.00	9.86	148.93	3.06	3.06	0.00	0.00	0.45 0.46	70.87
	0.00	C	120.09	312.18	0.00	0.01	5.09	5.09	0.00	0.00	0.73 0.00	120.09

UCTO SOBRE LA RIERA FEMOSA

ARMADURA

		CORTANTE		TORSION							
VOL I	ZONA	TRANS	LONG	TRANS	LONG	VUE 1	VUE 2	VUE 3	VUE 4	RELACION	TOTAL TRANS
0.00	AB	5.49	0.00	0.00	0.00	1.07	1.07	0.00	0.00	0.16 0.00	5.49
0.00	AB	20.32C	0.00	0.75	11.25	0.06	0.06	0.00	0.00	0.01 0.03	1.49
0.00	AB	14.32	0.00	0.67	10.13	1.36	1.36	0.00	0.00	0.18 0.03	15.66
0.00	AB	33.29	0.00	0.00	0.01	2.23	2.23	0.00	0.00	0.32 0.00	33.29
0.00	AB	11.27	0.00	0.00	0.00	1.32	1.32	0.00	0.00	0.19 0.00	11.27
0.00	AB	20.32C	0.00	0.82	12.45	0.55	0.55	0.00	0.00	0.08 0.04	1.65
0.00	AB	22.39	0.00	1.20	18.07	1.77	1.77	0.00	0.00	0.25 0.06	24.78
0.00	AB	20.32C	0.00	16.67	251.64	0.55	0.55	0.00	0.00	0.08 0.78	33.33
0.00	AB	16.22	0.00	17.04	257.28	1.49	1.49	0.00	0.00	0.21 0.80	50.30
0.00	AB	20.32C	0.00	8.73	131.68	0.41	0.41	0.00	0.00	0.06 0.41	17.47
0.00	AB	20.32C	0.00	9.09	137.32	0.48	0.48	0.00	0.00	0.07 0.42	18.19
0.00	AB	26.39	0.00	0.00	0.01	1.94	1.94	0.00	0.00	0.28 0.00	26.39
0.00	AB	20.32C	0.00	0.00	0.01	0.10	0.10	0.00	0.00	0.01 0.00	0.00
0.00	AB	20.32C	0.00	0.50	7.54	8.19	8.19	0.00	0.00	0.12 0.02	1.00
0.00	AB	17.26	0.00	0.45	6.79	1.46	1.46	0.00	0.00	0.19 0.02	18.16
0.00	AB	33.91	0.00	0.00	0.01	23.75	23.75	0.00	0.00	0.31 0.00	33.91
0.00	AB	20.32C	0.00	0.00	0.00	0.28	0.28	0.00	0.00	0.04 0.00	0.00
0.00	AB	5.08	0.00	1.10	16.58	11.31	11.31	0.00	0.00	0.16 0.05	7.28
0.00	AB	24.09	0.00	1.35	20.36	19.45	19.45	0.00	0.00	0.26 0.06	26.79
0.00	AB	5.39	0.00	11.24	169.72	11.37	11.37	0.00	0.00	0.15 0.52	27.87
0.00	AB	17.85	0.00	11.49	173.50	16.42	16.42	0.00	0.00	0.21 0.54	40.83
0.00	AB	1.99	0.00	5.83	88.09	9.82	9.82	0.00	0.00	0.13 0.27	13.66
0.00	AB	4.72	0.00	6.08	91.74	11.01	11.01	0.00	0.00	0.15 0.28	16.87
0.00	AB	20.32C	0.00	0.00	0.01	0.54	0.54	0.00	0.00	0.08 0.00	0.00
0.00	C	31.40	128.75	0.00	0.00	18.29	18.29	0.00	0.00	0.25 0.00	31.40
0.00	AB	20.32C	0.00	0.25	3.84	6.11	6.11	0.00	0.00	0.09 0.01	0.51
0.00	AB	20.32C	0.00	0.23	3.46	0.39	0.39	0.00	0.00	0.00 0.01	0.46
0.00	C	20.32C	64.62	0.00	0.01	4.79	4.79	0.00	0.00	0.06 0.00	0.00
0.00	AB	10.80	0.00	0.00	0.00	13.78	13.78	0.00	0.00	0.18 0.00	10.80
0.00	AB	20.32C	0.00	1.37	20.72	5.02	5.02	0.00	0.00	0.07 0.06	2.74
0.00	AB	20.32C	0.00	1.50	22.64	1.08	1.08	0.00	0.00	0.01 0.07	3.00
0.00	AB	20.32C	0.00	5.88	88.77	5.16	5.16	0.00	0.00	0.07 0.27	11.76
0.00	AB	20.32C	0.00	6.01	90.70	2.16	2.16	0.00	0.00	0.03 0.28	12.01
0.00	AB	20.32C	0.00	2.57	38.85	3.66	3.66	0.00	0.00	0.05 0.12	5.15
0.00	AB	20.32C	0.00	2.70	40.71	4.81	4.81	0.00	0.00	0.06 0.13	5.39
0.00	AB	20.32C	0.00	0.00	0.00	0.80	0.80	0.00	0.00	0.12 0.00	0.00
0.00	C	20.32C	53.81	0.00	0.00	1.41	1.41	0.00	0.00	0.02 0.00	0.00
0.00	AB	20.32C	0.00	0.01	0.13	3.02	3.02	0.00	0.00	0.04 0.00	0.02
0.00	AB	20.32C	0.00	0.01	0.12	2.67	2.67	0.00	0.00	0.03 0.00	0.02
0.00	AB	20.32C	0.00	0.00	0.01	1.69	1.69	0.00	0.00	0.02 0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.01	7.68	7.68	0.00	0.00	0.11 0.00	0.00
0.00	AB	20.32C	0.00	1.64	24.79	3.96	3.96	0.00	0.00	0.05 0.08	3.28
0.00	AB	20.32C	0.00	1.65	24.86	2.05	2.05	0.00	0.00	0.03 0.08	3.29
0.00	AB	20.32C	0.00	1.76	26.57	2.66	2.66	0.00	0.00	0.04 0.08	3.52
0.00	AB	20.32C	0.00	1.76	26.63	3.33	3.33	0.00	0.00	0.04 0.08	3.53

VIADUCTO SOBRE LA RIERA FEMOSA

ARMADURA

			CORTANTE		TORSION							
SECC	VOL I	ZONA	TRANS	LONG	TRANS	LONG	VUE 1	VUE 2	VUE 3	VUE 4	RELACION	TOTAL TRANS
	0.00	AB	20.32C	0.00	0.29	4.44	0.75	0.75	0.00	0.00	0.01 0.01	0.59
	0.00	AB	20.32C	0.00	0.29	4.38	1.43	1.43	0.00	0.00	0.02 0.01	0.58
	0.00	AB	20.32C	0.00	0.00	0.00	0.37	0.37	0.00	0.00	0.05 0.00	0.00
	0.00	C	20.32C	53.73	0.00	0.00	2.54	2.54	0.00	0.00	0.03 0.00	0.00
52	0.00	AB	20.32C	0.00	0.24	3.57	6.99	6.99	0.00	0.00	0.10 0.01	0.47
	0.00	AB	20.32C	0.00	0.21	3.21	0.40	0.40	0.00	0.00	0.01 0.01	0.43
	0.00	AB	10.40	0.00	0.00	0.00	14.22	14.22	0.00	0.00	0.20 0.00	10.40
	0.00	AB	20.32C	0.00	0.00	0.01	4.48	4.48	0.00	0.00	0.06 0.00	0.00
	0.00	AB	20.32C	0.00	1.09	16.50	4.02	4.02	0.00	0.00	0.06 0.05	2.16
	0.00	AB	20.32C	0.00	0.97	14.71	0.78	0.78	0.00	0.00	0.01 0.05	1.95
	0.00	AB	20.32C	0.00	5.89	89.91	7.32	7.32	0.00	0.00	0.10 0.27	11.78
	0.00	AB	20.32C	0.00	5.77	87.12	0.98	0.98	0.00	0.00	0.01 0.27	11.58
	0.00	AB	20.32C	0.00	3.00	45.26	3.29	3.29	0.00	0.00	0.05 0.14	6.00
	0.00	AB	20.32C	0.00	3.11	46.99	4.06	4.06	0.00	0.00	0.05 0.15	6.22
	0.00	AB	20.32C	0.00	0.00	0.00	0.80	0.80	0.00	0.00	0.12 0.00	0.00
	0.00	C	20.32C	60.43	0.00	0.00	2.35	2.35	0.00	0.00	0.03 0.00	0.00
53	0.00	AB	20.32C	0.00	0.48	7.28	3.01	3.01	0.00	0.00	0.09 0.02	0.96
	0.00	AB	20.32C	0.00	0.43	6.55	0.68	0.68	0.00	0.00	0.09 0.02	0.87
	0.00	AB	9.57	0.00	0.00	0.00	13.81	13.81	0.00	0.00	0.20 0.00	9.57
	0.00	AB	11.96	0.00	0.00	0.01	1.33	1.33	0.00	0.00	0.19 0.00	11.96
	0.00	AB	20.32C	0.00	0.54	8.15	1.98	1.98	0.00	0.00	0.03 0.03	1.08
	0.00	AB	20.32C	0.00	0.30	4.51	8.41	8.41	0.00	0.00	0.11 0.01	0.60
	0.00	AB	20.32C	0.00	11.37	171.79	1.11	1.11	0.00	0.00	0.02 0.53	22.79
	0.00	AB	20.32C	0.00	11.13	168.06	8.41	8.41	0.00	0.00	0.11 0.52	22.26
	0.00	AB	20.32C	0.00	6.26	94.50	1.24	1.24	0.00	0.00	0.02 0.29	12.52
	0.00	AB	20.32C	0.00	6.49	98.02	1.26	1.26	0.00	0.00	0.02 0.30	12.98
	0.00	AB	20.32C	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.07 0.00	0.00
	0.00	C	0.45	80.52	0.00	0.00	6.78	6.78	0.00	0.00	0.09 0.00	0.45
54	0.00	AB	29.32C	0.00	0.73	10.98	0.04	0.04	0.00	0.00	0.01 0.03	1.45
	0.00	AB	12.61	0.00	0.65	9.83	1.30	1.30	0.00	0.00	0.18 0.03	13.92
	0.00	AB	11.48	0.00	0.00	0.00	14.81	14.81	0.00	0.00	0.21 0.00	11.48
	0.00	AB	30.88	0.00	0.00	0.01	2.13	2.13	0.00	0.00	0.30 0.00	30.88
	0.00	AB	20.32C	0.00	0.01	0.20	0.61	0.61	0.00	0.00	0.09 0.00	0.03
	0.00	AB	16.58	0.00	0.38	5.69	1.53	1.53	0.00	0.00	0.22 0.02	17.33
	0.00	AB	20.32C	0.00	16.92	255.48	0.32	0.32	0.00	0.00	0.05 0.79	33.84
	0.00	AB	16.04	0.00	16.56	249.99	1.53	1.53	0.00	0.00	0.22 0.77	49.15
	0.00	AB	20.32C	0.00	9.17	138.43	0.41	0.41	0.00	0.00	0.06 0.43	18.34
	0.00	AB	20.32C	0.00	9.52	143.74	0.50	0.50	0.00	0.00	0.07 0.44	19.04
	0.00	AB	24.13	0.00	0.00	0.01	1.85	1.85	0.00	0.00	0.26 0.00	24.13
	0.00	AB	20.32C	0.00	0.00	0.01	0.15	0.15	0.00	0.00	0.00 0.00	0.00
55	0.00	AB	59.44	0.00	0.97	14.69	3.72	3.72	0.00	0.00	0.58 0.05	61.39
	0.00	C	122.99	254.14	0.88	13.22	4.65	4.65	0.00	0.00	0.63 0.04	124.74
	0.00	AB	25.11	0.00	0.00	0.00	1.98	1.98	0.00	0.00	0.30 0.00	25.11
	0.00	C	133.74	393.62	0.00	0.01	6.04	6.04	0.00	0.00	0.90 0.00	133.74
	0.00	AB	81.19	0.00	0.57	8.55	4.57	4.57	0.00	0.00	0.69 0.03	82.32

ARMADURA

VOL T	ZONA	CORTANTE TRANS	CORTANTE LONG	TORSION TRANS	TORSION LONG	UE 1	UE 2	UE 3	UE 4	RELACION		TOTAL TRANS
0.00	C	125.17	324.67	1.05	15.89	5.30	5.30	0.00	0.00	0.76	0.05	127.28
0.00	AB	72.83	0.00	22.47	339.26	4.28	4.28	0.00	0.00	0.65	1.05 *	117.76
0.00	C	121.08	335.65	21.98	331.91	5.30	5.30	0.00	0.00	0.77	1.03 *	165.04
0.00	AB	63.96	0.00	9.54	144.11	3.48	3.48	0.00	0.00	0.49	0.45	83.05
0.00	AB	69.94	0.00	10.01	151.21	4.12	4.12	0.00	0.00	0.63	0.47 *	89.96
0.00	C	139.38	361.51	0.00	0.01	5.90	5.90	0.00	0.00	0.85	0.00	139.38
0.00	AB	29.78	0.00	0.00	0.00	2.27	2.27	0.00	0.00	0.35	0.00	29.78
0.00	AB	39.67	0.00	0.99	14.89	2.77	2.77	0.00	0.00	0.43	0.05	41.65
0.00	C	101.35	217.97	0.89	13.46	3.91	3.91	0.00	0.00	0.53	0.04	103.13
0.00	C	121.22	318.46	0.00	0.01	5.17	5.17	0.00	0.00	0.74	0.00	121.23
0.00	AB	5.18	0.00	0.00	0.06	1.08	1.08	0.00	0.00	0.17	0.00	5.19
0.00	C	105.39	276.86	0.78	11.83	4.49	4.49	0.00	0.00	0.65	0.04	106.96
0.00	AB	59.93	0.00	1.28	19.31	3.60	3.60	0.00	0.00	0.54	0.06	62.49
0.00	AB	58.41	0.00	22.32	336.98	3.45	3.45	0.00	0.00	0.51	1.04 *	103.05
0.00	AB	85.52	0.00	22.81	344.47	4.35	4.35	0.00	0.00	0.61	1.06 *	131.15
0.00	AB	41.62	0.00	9.36	141.33	2.57	2.57	0.00	0.00	0.36	0.44	60.34
0.00	AB	47.60	0.00	9.84	148.55	3.08	3.08	0.00	0.00	0.47	0.46	67.28
0.00	C	119.90	314.99	0.00	0.01	5.11	5.11	0.00	0.00	0.74	0.00	119.90
0.00	AB	5.18	0.00	0.00	0.07	1.08	1.08	0.00	0.00	0.17	0.00	5.19
0.00	AB	20.32C	0.00	0.74	11.18	0.05	0.05	0.00	0.00	0.01	0.03	1.48
0.00	AB	14.56	0.00	0.67	10.12	1.38	1.38	0.00	0.00	0.19	0.03	15.90
0.00	AB	33.50	0.00	0.00	0.01	2.24	2.24	0.00	0.00	0.32	0.00	33.51
0.00	AB	9.78	0.00	0.00	0.06	13.93	13.93	0.00	0.00	0.20	0.00	9.79
0.00	AB	18.82	0.00	0.82	12.45	1.62	1.62	0.00	0.00	0.23	0.04	20.47
0.00	AB	20.32C	0.00	1.20	18.07	0.70	0.70	0.00	0.00	0.10	0.06	2.39
0.00	AB	20.32C	0.00	16.66	251.54	0.55	0.55	0.00	0.00	0.08	0.78	33.32
0.00	AB	15.99	0.00	17.03	257.17	1.48	1.48	0.00	0.00	0.21	0.79 *	50.05
0.00	AB	20.32C	0.00	8.71	131.52	0.42	0.42	0.00	0.00	0.06	0.41	17.42
0.00	AB	20.32C	0.00	9.07	136.95	0.50	0.50	0.00	0.00	0.08	0.42	18.14
0.00	AB	26.75	0.00	0.00	0.01	1.96	1.96	0.00	0.00	0.28	0.00	26.75
0.00	AB	20.32C	0.00	0.00	0.01	0.89	0.89	0.00	0.00	0.01	0.00	0.00
0.00	AB	20.32C	0.00	0.50	7.48	8.14	8.14	0.00	0.00	0.12	0.02	0.99
0.00	AB	17.54	0.00	0.45	6.79	1.47	1.47	0.00	0.00	0.20	0.02	18.44
0.00	AB	34.15	0.00	0.00	0.01	2.24	2.24	0.00	0.00	0.32	0.00	34.15
0.00	AB	20.32C	0.00	0.00	0.06	2.82	2.82	0.00	0.00	0.04	0.00	0.01
0.00	AB	20.48	0.00	1.10	16.58	17.94	17.94	0.00	0.00	0.24	0.05	22.68
0.00	AB	8.56	0.00	1.35	20.36	12.99	12.99	0.00	0.00	0.18	0.06	11.26
0.00	AB	5.39	0.00	11.23	169.61	11.39	11.39	0.00	0.00	0.15	0.52	27.86
0.00	AB	17.65	0.00	11.48	173.39	16.40	16.40	0.00	0.00	0.21	0.54	40.62
0.00	AB	2.34	0.00	5.81	87.72	0.92	0.92	0.00	0.00	0.13	0.27	13.96
0.00	AB	4.85	0.00	6.65	91.36	11.27	11.27	0.00	0.00	0.16	0.28	16.95
0.00	AB	20.32C	0.00	0.00	0.00	0.40	0.40	0.00	0.00	0.06	0.00	0.00
0.00	C	31.03	128.87	0.00	0.00	18.18	18.18	0.00	0.00	0.25	0.00	31.03
0.00	AB	20.32C	0.00	0.25	3.77	6.36	6.36	0.00	0.00	0.09	0.01	0.50
0.00	AB	20.32C	0.00	0.23	3.45	0.37	0.37	0.00	0.00	0.00	0.01	0.46

VIADUCTO SOBRE LA RIERA FEMOSA

ARMADURA

SECC	VOL T	ZONA	CORTANTE TRANS	CORTANTE LONG	TORSION TRANS	TORSION LONG	UE 1	UE 2	UE 3	UE 4	RELACION		TOTAL TRANS
	0.00	AB	20.32C	0.00	0.00	0.01	4.84	4.84	0.00	0.00	0.06	0.00	0.00
	0.00	AB	9.60	0.00	0.00	0.06	13.76	13.76	0.00	0.00	0.20	0.00	9.61
	0.00	AB	20.32C	0.00	1.37	20.72	0.61	0.61	0.00	0.00	0.01	0.06	2.74
	0.00	AB	20.32C	0.00	1.50	22.64	3.54	3.54	0.00	0.00	0.05	0.07	3.00
	0.00	AB	20.32C	0.00	5.87	88.68	5.34	5.34	0.00	0.00	0.07	0.27	11.75
	0.00	AB	20.32C	0.00	6.00	90.61	2.35	2.35	0.00	0.00	0.03	0.28	12.00
	0.00	AB	20.32C	0.00	2.55	38.48	3.75	3.75	0.00	0.00	0.05	0.12	5.10
	0.00	AB	20.32C	0.00	2.67	40.34	4.75	4.75	0.00	0.00	0.07	0.12	5.34
	0.00	AB	20.32C	0.00	0.00	0.00	0.79	0.79	0.00	0.00	0.12	0.00	0.00
	0.00	C	20.32C	55.86	0.00	0.00	1.72	1.72	0.00	0.00	0.02	0.00	0.00
69	0.00	AB	20.32C	0.00	0.00	0.06	3.25	3.25	0.00	0.00	0.05	0.00	0.01
	0.00	AB	20.32C	0.00	0.01	0.12	2.63	2.63	0.00	0.00	0.03	0.00	0.02
	0.00	AB	20.32C	0.00	0.00	0.01	1.75	1.75	0.00	0.00	0.02	0.00	0.00
	0.00	AB	20.32C	0.00	0.00	0.01	7.92	7.92	0.00	0.00	0.11	0.00	0.00
	0.00	AB	20.32C	0.00	1.65	24.86	3.71	3.71	0.00	0.00	0.05	0.08	3.29
	0.00	AB	20.32C	0.00	1.65	24.86	2.46	2.46	0.00	0.00	0.03	0.06	3.29
	0.00	AB	20.32C	0.00	1.77	26.70	2.79	2.79	0.00	0.00	0.04	0.08	3.54
	0.00	AB	20.32C	0.00	1.77	26.76	3.34	3.34	0.00	0.00	0.05	0.08	3.54
	0.00	AB	20.32C	0.00	0.25	3.83	0.83	0.83	0.00	0.00	0.01	0.01	0.51
	0.00	AB	20.32C	0.00	0.25	3.77	1.36	1.36	0.00	0.00	0.02	0.01	0.50
	0.00	AB	20.32C	0.00	0.00	0.00	0.36	0.36	0.00	0.00	0.05	0.00	0.00
	0.00	C	20.32C	55.89	0.00	0.00	2.86	2.86	0.00	0.00	0.04	0.00	0.00
70	0.00	AB	20.32C	0.00	0.24	3.64	6.92	6.92	0.00	0.00	0.10	0.01	0.48
	0.00	AB	20.32C	0.00	0.21	3.22	0.57	0.57	0.00	0.00	0.01	0.01	0.43
	0.00	AB	11.74	0.00	0.00	0.06	1.34	1.34	0.00	0.00	0.19	0.00	11.75
	0.00	AB	20.32C	0.00	0.00	0.01	4.61	4.61	0.00	0.00	0.06	0.00	0.00
	0.00	AB	20.32C	0.00	1.09	16.50	0.74	0.74	0.00	0.00	0.01	0.05	2.19
	0.00	AB	20.32C	0.00	0.97	14.71	5.69	5.69	0.00	0.00	0.08	0.05	1.95
	0.00	AB	20.32C	0.00	5.91	89.21	7.36	7.36	0.00	0.00	0.10	0.28	11.82
	0.00	AB	20.32C	0.00	5.79	87.41	0.99	0.99	0.00	0.00	0.01	0.27	11.58
	0.00	AB	20.32C	0.00	2.99	45.22	3.34	3.34	0.00	0.00	0.04	0.14	5.99
	0.00	AB	20.32C	0.00	3.11	46.94	4.28	4.28	0.00	0.00	0.06	0.15	6.22
	0.00	AB	0.02	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.12	0.00	0.02
	0.00	C	20.32C	60.56	0.00	0.00	2.22	2.22	0.00	0.00	0.03	0.00	0.00
71	0.00	AB	20.32C	0.00	0.49	7.35	2.95	2.95	0.00	0.00	0.04	0.02	0.97
	0.00	AB	20.32C	0.00	0.43	6.55	0.67	0.67	0.00	0.00	0.09	0.02	0.87
	0.00	AB	10.82	0.00	0.00	0.06	1.30	1.30	0.00	0.00	0.19	0.00	10.83
	0.00	AB	12.15	0.00	0.00	0.01	14.40	14.40	0.00	0.00	0.19	0.00	12.15
	0.00	AB	2.29	0.00	0.54	8.15	9.93	9.93	0.00	0.00	0.13	0.03	3.37
	0.00	AB	20.32C	0.00	0.30	4.51	0.31	0.31	0.00	0.00	0.00	0.01	0.60
	0.00	AB	20.32C	0.00	11.39	171.98	1.15	1.15	0.00	0.00	0.02	0.53	22.78
	0.00	AB	20.32C	0.00	11.15	168.34	8.40	8.40	0.00	0.00	0.11	0.52	22.30
	0.00	AB	20.32C	0.00	6.26	94.45	0.11	0.11	0.00	0.00	0.02	0.29	12.51
	0.00	AB	20.32C	0.00	6.49	97.97	1.08	1.08	0.00	0.00	0.02	0.30	12.98
	0.00	AB	20.32C	0.00	0.00	0.00	0.48	0.48	0.00	0.00	0.07	0.00	0.00
	0.00	C	0.73	31.74	0.00	0.00	6.91	6.91	0.00	0.00	0.10	0.00	0.73

UCTO SOBRE LA RIERA FEMOSA

ARMADURA

VOL I	ZONA	CORTANTE TRANS	CORTANTE LONG	TORSION TRANS	TORSION LONG	UUE 1	UUE 2	UUE 3	UUE 4	RELACION		TOTAL TRANS
0.00	AB	20.32C	0.00	0.00	0.00	0.37	0.37	0.00	0.00	0.06	0.00	0.00
0.00	AB	12.18	0.00	0.65	9.89	1.29	1.29	0.00	0.00	0.18	0.03	13.49
0.00	AB	12.81	0.00	0.00	0.06	1.39	1.39	0.00	0.00	0.20	0.00	12.82
0.00	AB	31.03	0.00	0.00	0.01	2.15	2.15	0.00	0.00	0.31	0.00	31.03
0.00	AB	19.90	0.00	0.01	0.20	1.67	1.67	0.00	0.00	0.24	0.00	19.92
0.00	AB	20.32C	0.00	0.38	5.69	0.46	0.46	0.00	0.00	0.07	0.02	0.75
0.00	AB	20.32C	0.00	16.94	255.76	0.33	0.33	0.00	0.00	0.05	0.79	33.88
0.00	AB	16.01	0.00	16.57	250.26	1.53	1.53	0.00	0.00	0.22	0.77	99.15
0.00	AB	20.32C	0.00	9.16	138.38	0.42	0.42	0.00	0.00	0.06	0.43	18.33
0.00	AB	20.32C	0.00	9.52	143.69	0.48	0.48	0.00	0.00	0.07	0.44	19.03
0.00	AB	24.30	0.00	0.00	0.01	1.86	1.86	0.00	0.00	0.27	0.00	24.30
0.00	AB	20.32C	0.00	0.00	0.01	0.03	0.03	0.00	0.00	0.00	0.00	0.00
0.00	AB	70.57	0.00	0.00	0.00	4.28	4.28	0.00	0.00	0.67	0.00	70.57
0.00	C	121.66	256.00	0.68	13.22	4.64	4.64	0.00	0.00	0.63	0.04	123.41
0.00	AB	28.07	0.00	0.00	0.06	1.98	1.98	0.00	0.00	0.28	0.00	28.08
0.00	C	133.20	397.34	0.00	0.01	6.05	6.05	0.00	0.00	0.90	0.00	133.20
0.00	C	127.77	336.37	0.57	8.54	5.45	5.45	0.00	0.00	0.79	0.03	128.90
0.00	AB	77.65	0.00	1.05	15.89	4.42	4.42	0.00	0.00	0.67	0.05	79.76
0.00	AB	72.63	0.00	22.49	339.54	4.29	4.29	0.00	0.00	0.66	1.05 *	117.61
0.00	C	120.41	338.49	22.00	332.19	5.31	5.31	0.00	0.00	0.78	1.03 *	164.41
0.00	AB	63.36	0.00	9.54	144.06	3.47	3.47	0.00	0.00	0.49	0.45	82.44
0.00	AB	69.60	0.00	10.01	151.16	4.13	4.13	0.00	0.00	0.63	0.47 *	89.62
0.00	C	138.79	365.39	0.00	0.01	5.92	5.92	0.00	0.00	0.85	0.00	138.79
0.00	AB	32.94	0.00	0.00	0.06	2.27	2.27	0.00	0.00	0.33	0.00	32.94
0.00	AB	50.95	0.00	0.00	0.00	3.29	3.29	0.00	0.00	0.51	0.00	50.95
0.00	C	92.22	234.26	0.88	13.29	3.87	3.87	0.00	0.00	0.55	0.04	93.98
0.00	C	115.11	329.95	0.00	0.01	5.13	5.13	0.00	0.00	0.76	0.00	115.11
0.00	AB	4.64	0.00	0.00	0.00	1.05	1.05	0.00	0.00	0.16	0.00	4.64
0.00	AB	41.12	0.00	8.29	125.10	2.80	2.80	0.00	0.00	0.43	0.39	57.69
0.00	AB	32.44	0.00	8.76	132.24	2.26	2.26	0.00	0.00	0.33	0.41	49.96
0.00	AB	82.53	0.00	22.26	336.17	4.46	4.46	0.00	0.00	0.65	1.04 *	127.06
0.00	AB	72.96	0.00	22.75	343.56	4.24	4.24	0.00	0.00	0.64	1.06 *	118.47
0.00	AB	40.34	0.00	9.81	148.09	2.62	2.62	0.00	0.00	0.38	0.46	60.15
0.00	AB	48.48	0.00	10.28	155.22	3.15	3.15	0.00	0.00	0.48	0.48	69.00
0.00	C	113.85	326.33	0.00	0.01	5.07	5.07	0.00	0.00	0.75	0.00	113.85
0.00	AB	9.70	0.00	0.00	0.00	1.30	1.30	0.00	0.00	0.20	0.00	9.70
0.00	AB	20.32C	0.00	0.00	0.00	0.44	0.44	0.00	0.00	0.07	0.00	0.00
0.00	AB	12.09	0.00	0.66	9.95	1.33	1.33	0.00	0.00	0.19	0.03	13.41
0.00	AB	31.06	0.00	0.00	0.01	2.20	2.20	0.00	0.00	0.32	0.00	31.06
0.00	AB	11.00	0.00	0.00	0.00	1.34	1.34	0.00	0.00	0.20	0.00	11.00
0.00	AB	20.32C	0.00	6.24	94.16	0.08	0.08	0.00	0.00	0.01	0.29	12.47
0.00	AB	20.32C	0.00	6.59	99.51	0.02	0.02	0.00	0.00	0.00	0.31	13.18
0.00	AB	17.50	0.00	16.61	250.32	1.59	1.59	0.00	0.00	0.23	0.78 *	50.72
0.00	AB	5.78	0.00	16.98	256.35	1.10	1.10	0.00	0.00	0.17	0.79	39.74
0.00	AB	20.32C	0.00	9.16	138.28	0.46	0.46	0.00	0.00	0.07	0.43	18.32

VIADUCTO SOBRE LA RIERA FEMOSA

ARMADURA

SECC	VOL I	ZONA	CORTANTE TRANS	CORTANTE LONG	TORSION TRANS	TORSION LONG	UUE 1	UUE 2	UUE 3	UUE 4	RELACION		TOTAL TRANS
	0.00	AB	20.32C	0.00	9.51	143.62	0.56	0.56	0.00	0.00	0.09	0.44	19.02
	0.00	AB	24.61	0.00	0.00	0.01	1.91	1.91	0.00	0.00	0.28	0.00	24.61
	0.00	AB	20.32C	0.00	0.00	0.01	0.73	0.73	0.00	0.00	0.01	0.00	0.00
193	0.00	AB	3.86	0.00	0.00	0.00	10.82	10.82	0.00	0.00	0.15	0.00	3.86
	0.00	AB	14.62	0.00	0.44	6.62	1.42	1.42	0.00	0.00	0.20	0.02	15.50
	0.00	AB	31.56	0.00	0.00	0.01	23.47	23.47	0.00	0.00	0.32	0.00	31.56
	0.00	AB	20.32C	0.00	0.00	0.00	3.27	3.27	0.00	0.00	0.05	0.00	0.00
	0.00	AB	20.32C	0.00	4.41	66.54	8.24	8.24	0.00	0.00	0.12	0.21	9.81
	0.00	AB	20.32C	0.00	4.64	70.09	0.63	0.63	0.00	0.00	0.09	0.22	9.28
	0.00	AB	18.99	0.00	11.18	168.89	17.57	17.57	0.00	0.00	0.24	0.52	41.36
	0.00	AB	11.72	0.00	11.43	172.57	14.56	14.56	0.00	0.00	0.20	0.53	34.58
	0.00	AB	3.80	0.00	6.25	94.40	10.68	10.68	0.00	0.00	0.15	0.29	16.31
	0.00	AB	5.65	0.00	6.49	97.95	11.62	11.62	0.00	0.00	0.16	0.30	18.62
	0.00	AB	20.32C	0.00	0.00	0.00	0.41	0.41	0.00	0.00	0.06	0.00	0.00
	0.00	C	28.16	128.55	0.00	0.00	17.33	17.33	0.00	0.00	0.24	0.00	28.16
194	0.00	AB	20.32C	0.00	0.00	0.00	4.93	4.93	0.00	0.00	0.07	0.00	0.00
	0.00	AB	20.32C	0.00	0.22	3.29	0.75	0.75	0.00	0.00	0.01	0.01	0.43
	0.00	AB	20.32C	0.00	0.00	0.00	4.50	4.50	0.00	0.00	0.06	0.00	0.00
	0.00	AB	10.56	0.00	0.00	0.00	14.03	14.03	0.00	0.00	0.19	0.00	10.56
	0.00	AB	20.32C	0.00	2.58	38.91	6.28	6.28	0.00	0.00	0.09	0.12	5.15
	0.00	AB	20.32C	0.00	2.69	40.68	5.11	5.11	0.00	0.00	0.07	0.13	5.39
	0.00	AB	20.32C	0.00	5.83	88.03	1.02	1.02	0.00	0.00	0.01	0.27	11.66
	0.00	AB	20.32C	0.00	5.95	89.87	4.76	4.76	0.00	0.00	0.07	0.28	11.90
	0.00	AB	20.32C	0.00	2.99	45.16	2.81	2.81	0.00	0.00	0.04	0.14	5.98
	0.00	AB	20.32C	0.00	3.11	46.93	4.22	4.22	0.00	0.00	0.06	0.15	6.22
	0.00	AB	20.32C	0.00	0.00	0.00	0.78	0.78	0.00	0.00	0.12	0.00	0.00
	0.00	C	20.32C	63.17	0.00	0.00	2.39	2.39	0.00	0.00	0.03	0.00	0.00
195	0.00	AB	20.32C	0.00	0.00	0.00	3.27	3.27	0.00	0.00	0.05	0.00	0.00
	0.00	AB	20.32C	0.00	0.00	0.05	3.02	3.02	0.00	0.00	0.04	0.00	0.01
	0.00	AB	20.32C	0.00	0.00	0.01	1.46	1.46	0.00	0.00	0.02	0.00	0.00
	0.00	AB	20.32C	0.00	0.00	0.01	8.07	8.07	0.00	0.00	0.11	0.00	0.00
	0.00	AB	20.32C	0.00	0.75	11.28	3.21	3.21	0.00	0.00	0.05	0.03	1.49
	0.00	AB	20.32C	0.00	0.75	11.26	1.92	1.92	0.00	0.00	0.03	0.03	1.49
	0.00	AB	20.32C	0.00	1.81	27.26	2.48	2.48	0.00	0.00	0.03	0.08	3.61
	0.00	AB	20.32C	0.00	1.80	27.24	4.17	4.17	0.00	0.00	0.06	0.08	3.61
	0.00	AB	20.32C	0.00	0.37	5.66	4.69	4.69	0.00	0.00	0.06	0.02	0.75
	0.00	AB	20.32C	0.00	0.37	5.64	5.63	5.63	0.00	0.00	0.08	0.02	0.75
	0.00	AB	20.32C	0.00	0.00	0.00	2.66	2.66	0.00	0.00	0.04	0.00	0.00
	0.00	C	20.32C	62.99	0.00	0.00	3.38	3.38	0.00	0.00	0.05	0.00	0.00
196	0.00	AB	20.32C	0.00	0.00	0.00	5.32	5.32	0.00	0.00	0.08	0.00	0.00
	0.00	AB	20.32C	0.00	0.22	3.39	0.07	0.07	0.00	0.00	0.00	0.01	0.45
	0.00	AB	10.39	0.00	0.00	0.00	14.18	14.18	0.00	0.00	0.20	0.00	10.39
	0.00	AB	20.32C	0.00	0.00	0.01	4.74	4.74	0.00	0.00	0.06	0.00	0.00
	0.00	AB	20.32C	0.00	0.96	14.52	6.79	6.79	0.00	0.00	0.10	0.04	1.92
	0.00	AB	20.32C	0.00	1.08	16.34	7.22	7.22	0.00	0.00	0.10	0.05	2.16

ARMADURA

VOL T	ZONA	CORTANTE TRANS	CORTANTE LONG	TORSION TRANS	TORSION LONG	VUE 1	VUE 2	VUE 3	VUE 4	RELACION		TOTAL TRANS
0.00	AB	20.32C	0.00	6.02	90.93	2.24	2.24	0.00	0.00	0.03	0.28	12.04
0.00	AB	20.32C	0.00	5.90	89.04	2.79	2.79	0.00	0.00	0.04	0.28	11.79
0.00	AB	20.32C	0.00	2.46	37.13	4.16	4.16	0.00	0.00	0.06	0.11	4.92
0.00	AB	20.32C	0.00	2.58	38.94	4.68	4.68	0.00	0.00	0.07	0.12	5.16
0.00	AB	0.00	0.00	0.00	0.00	0.83	0.83	0.00	0.00	0.13	0.00	0.00
0.00	C	20.32C	51.90	0.00	0.00	0.65	0.65	0.00	0.00	0.01	0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.00	0.09	0.09	0.00	0.00	0.00	0.00	0.00
0.00	AB	20.32C	0.00	0.45	6.72	0.72	0.72	0.00	0.00	0.10	0.02	0.89
0.00	AB	9.56	0.00	0.00	0.00	13.76	13.76	0.00	0.00	0.20	0.00	9.56
0.00	AB	11.93	0.00	0.00	0.01	14.53	14.53	0.00	0.00	0.20	0.00	11.93
0.00	AB	20.32C	0.00	2.67	40.36	2.79	2.79	0.00	0.00	0.04	0.12	5.35
0.00	AB	20.32C	0.00	2.91	43.97	0.40	0.40	0.00	0.00	0.06	0.14	5.82
0.00	AB	20.32C	0.00	11.50	173.63	7.15	7.15	0.00	0.00	0.10	0.54	23.00
0.00	AB	20.32C	0.00	11.25	169.89	5.95	5.95	0.00	0.00	0.08	0.53	22.50
0.00	AB	20.32C	0.00	5.72	86.37	4.02	4.02	0.00	0.00	0.06	0.27	11.44
0.00	AB	20.32C	0.00	5.96	89.97	0.65	0.65	0.00	0.00	0.01	0.28	11.92
0.00	AB	20.32C	0.00	0.00	0.00	0.35	0.35	0.00	0.00	0.05	0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.00	7.74	7.74	0.00	0.00	0.11	0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.00	0.38	0.38	0.00	0.00	0.06	0.00	0.00
0.00	AB	12.05	0.00	0.67	10.06	1.34	1.34	0.00	0.00	0.19	0.03	13.38
0.00	AB	11.49	0.00	0.00	0.00	1.38	1.38	0.00	0.00	0.21	0.00	11.49
0.00	AB	29.95	0.00	0.00	0.01	2.16	2.16	0.00	0.00	0.32	0.00	29.95
0.00	AB	20.32C	0.00	4.38	66.19	0.02	0.02	0.00	0.00	0.00	0.20	8.77
0.00	AB	20.32C	0.00	4.79	71.59	0.25	0.25	0.00	0.00	0.04	0.22	9.48
0.00	AB	13.05	0.00	17.05	257.41	1.41	1.41	0.00	0.00	0.21	0.80 *	47.14
0.00	AB	8.28	0.00	16.68	251.82	1.22	1.22	0.00	0.00	0.19	0.78	41.63
0.00	AB	0.24	0.00	8.62	130.20	0.84	0.84	0.00	0.00	0.12	0.40	17.49
0.00	AB	20.32C	0.00	8.98	135.60	0.44	0.44	0.00	0.00	0.07	0.42	17.96
0.00	AB	23.41	0.00	0.00	0.01	1.87	1.87	0.00	0.00	0.27	0.00	23.41
0.00	AB	20.32C	0.00	0.00	0.01	0.51	0.51	0.00	0.00	0.01	0.00	0.00
0.00	AB	71.98	0.00	0.00	0.00	4.28	4.28	0.00	0.00	0.66	0.00	71.98
0.00	C	110.82	286.02	0.89	13.39	4.68	4.68	0.00	0.00	0.67	0.04	112.60
0.00	AB	25.31	0.00	0.00	0.00	1.98	1.98	0.00	0.00	0.29	0.00	25.31
0.00	C	128.82	413.71	0.00	0.01	6.07	6.07	0.00	0.00	0.92	0.00	128.82
0.00	AB	64.03	0.00	7.38	111.50	3.88	3.88	0.00	0.00	0.59	0.34	78.80
0.00	AB	50.37	0.00	7.86	118.69	3.06	3.06	0.00	0.00	0.45	0.37	66.09
0.00	AB	97.23	0.00	22.60	341.19	5.19	5.19	0.00	0.00	0.77	1.05 *	142.43
0.00	AB	96.63	0.00	22.10	333.74	5.41	5.41	0.00	0.00	0.83	1.03 *	140.83
0.00	AB	71.86	0.00	9.00	135.88	4.06	4.06	0.00	0.00	0.60	0.42 *	89.85
0.00	AB	69.41	0.00	9.48	143.07	4.08	4.08	0.00	0.00	0.62	0.44 *	88.36
0.00	C	133.16	381.10	0.00	0.01	5.93	5.93	0.00	0.00	0.87	0.00	133.16
0.00	AB	27.02	0.00	0.00	0.00	2.10	2.10	0.00	0.00	0.32	0.00	27.02
0.00	AB	54.43	0.00	0.00	0.00	3.45	3.45	0.00	0.00	0.53	0.00	54.43
0.00	C	93.74	244.75	0.83	12.54	3.98	3.98	0.00	0.00	0.57	0.04	95.40
0.00	C	115.89	335.55	0.00	0.00	5.19	5.19	0.00	0.00	0.77	0.00	115.89

VIADUCTO SOBRE LA RIERA FEMOSA

ARMADURA

SECC	VOL T	ZONA	CORTANTE TRANS	CORTANTE LONG	TORSION TRANS	TORSION LONG	VUE 1	VUE 2	VUE 3	VUE 4	RELACION		TOTAL TRANS
	0.00	AB	9.62	0.00	0.00	0.05	1.28	1.28	0.00	0.00	0.19	0.00	9.63
	0.00	AB	47.86	0.00	8.19	123.62	2.99	2.99	0.00	0.00	0.44	0.38	64.24
	0.00	AB	31.94	0.00	8.63	130.36	2.34	2.34	0.00	0.00	0.36	0.40	49.20
	0.00	AB	58.47	0.00	21.95	331.38	3.63	3.63	0.00	0.00	0.56	1.02 *	102.36
	0.00	AB	81.33	0.00	22.41	338.36	4.50	4.50	0.00	0.00	0.67	1.05 *	126.15
	0.00	AB	57.04	0.00	9.81	148.15	3.41	3.41	0.00	0.00	0.51	0.46	76.66
	0.00	AB	51.87	0.00	10.26	154.89	3.27	3.27	0.00	0.00	0.50	0.48	72.39
	0.00	C	114.38	331.16	0.00	0.00	5.12	5.12	0.00	0.00	0.76	0.00	114.38
	0.00	AB	12.07	0.00	0.00	0.06	1.40	1.40	0.00	0.00	0.21	0.00	12.08
210	0.00	AB	20.32C	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.09	0.00	0.00
	0.00	AB	14.76	0.00	0.61	9.21	1.45	1.45	0.00	0.00	0.21	0.03	15.98
	0.00	AB	32.30	0.00	0.00	0.00	2.26	2.26	0.00	0.00	0.33	0.00	32.30
	0.00	AB	5.79	0.00	0.00	0.05	1.10	1.10	0.00	0.00	0.12	0.00	5.80
	0.00	AB	20.32C	0.00	6.13	92.63	0.55	0.55	0.00	0.00	0.08	0.29	12.27
	0.00	AB	20.32C	0.00	6.46	97.58	0.21	0.21	0.00	0.00	0.03	0.30	12.92
	0.00	AB	20.32C	0.00	16.29	246.03	0.72	0.72	0.00	0.00	0.11	0.76	32.59
	0.00	AB	17.83	0.00	16.63	251.16	1.63	1.63	0.00	0.00	0.24	0.78 *	51.10
	0.00	AB	5.89	0.00	9.49	143.29	1.09	1.09	0.00	0.00	0.16	0.44	24.87
	0.00	AB	20.32C	0.00	9.82	148.23	0.69	0.69	0.00	0.00	0.10	0.46	19.63
	0.00	AB	25.66	0.00	0.00	0.00	1.97	1.97	0.00	0.00	0.29	0.00	25.67
	0.00	AB	20.32C	0.00	0.00	0.01	3.19	3.19	0.00	0.00	0.05	0.00	0.00
211	0.00	AB	6.83	0.00	0.00	0.00	12.34	12.34	0.00	0.00	0.18	0.00	6.83
	0.00	AB	16.76	0.00	0.39	5.87	1.53	1.53	0.00	0.00	0.22	0.02	17.54
	0.00	AB	32.06	0.00	0.00	0.00	23.98	23.98	0.00	0.00	0.33	0.00	32.06
	0.00	AB	20.32C	0.00	0.00	0.05	0.90	0.90	0.00	0.00	0.01	0.00	0.01
	0.00	AB	3.97	0.00	4.30	65.00	1.01	1.01	0.00	0.00	0.15	0.20	12.58
	0.00	AB	20.32C	0.00	4.51	68.16	6.77	6.27	0.00	0.00	0.10	0.21	9.03
	0.00	AB	8.27	0.00	10.87	164.11	13.04	13.04	0.00	0.00	0.18	0.51	30.01
	0.00	AB	18.72	0.00	11.08	167.38	17.75	17.75	0.00	0.00	0.24	0.52	40.89
	0.00	AB	12.94	0.00	6.23	94.05	15.03	15.03	0.00	0.00	0.21	0.29	25.40
	0.00	AB	0.63	0.00	6.44	97.20	9.20	9.20	0.00	0.00	0.13	0.30	13.51
	0.00	AB	20.32C	0.00	0.00	0.00	0.56	0.56	0.00	0.00	0.08	0.00	0.00
	0.00	C	31.15	135.31	0.00	0.01	18.55	18.55	0.00	0.00	0.26	0.00	31.15
212	0.00	AB	20.32C	0.00	0.00	0.00	3.66	3.66	0.00	0.00	0.05	0.00	0.00
	0.00	AB	20.32C	0.00	0.17	2.54	0.19	0.19	0.00	0.00	0.00	0.01	0.34
	0.00	AB	20.32C	0.00	0.00	0.06	4.97	4.97	0.00	0.00	0.07	0.00	0.01
	0.00	AB	6.07	0.00	0.00	0.05	11.91	11.91	0.00	0.00	0.17	0.00	6.09
	0.00	AB	20.32C	0.00	2.48	37.38	3.22	3.22	0.00	0.00	0.04	0.12	4.95
	0.00	AB	20.32C	0.00	2.57	38.74	6.05	6.05	0.00	0.00	0.09	0.12	5.13
	0.00	AB	20.32C	0.00	5.50	83.06	3.69	3.69	0.00	0.00	0.05	0.26	11.00
	0.00	AB	20.32C	0.00	5.60	84.49	0.98	0.98	0.00	0.00	0.01	0.26	11.19
	0.00	AB	20.32C	0.00	2.97	44.81	0.46	0.46	0.00	0.00	0.01	0.14	5.94
	0.00	AB	20.32C	0.00	3.06	46.17	5.00	5.00	0.00	0.00	0.07	0.14	6.12
	0.00	AB	20.32C	0.00	0.00	0.00	0.49	0.49	0.00	0.00	0.07	0.00	0.00
	0.00	C	20.32C	58.52	0.00	0.01	0.90	0.90	0.00	0.00	0.01	0.00	0.00
213	0.00	AB	20.32C	0.00	0.00	0.00	2.31	2.31	0.00	0.00	0.03	0.00	0.00

UCTO SOBRE LA RIERA FEMOSA

ARMADURA

	VOL T	ZONA	CORTANTE TRANS	CORTANTE LONG	TORSION TRANS	TORSION LONG	VUE 1	VUE 2	VUE 3	VUE 4	RELACION		TOTAL TRANS
	0.00	AB	20.32C	0.00	0.05	0.80	2.32	2.72	0.00	0.00	0.03	0.00	0.11
	0.00	AB	20.32C	0.00	0.00	0.06	1.51	1.51	0.00	0.00	0.02	0.00	0.01
	0.00	AB	20.32C	0.00	0.00	3.01	6.31	6.31	0.00	0.00	0.09	0.00	0.00
	0.00	AB	20.32C	0.00	0.65	9.75	2.07	2.07	0.00	0.00	0.03	0.03	1.29
	0.00	AB	20.32C	0.00	0.62	9.33	1.52	1.52	0.00	0.00	0.02	0.03	1.24
	0.00	AB	20.32C	0.00	1.79	27.00	2.38	2.38	0.00	0.00	0.03	0.08	3.59
	0.00	AB	20.32C	0.00	1.77	26.66	2.80	2.80	0.00	0.00	0.04	0.08	3.53
	0.00	AB	20.32C	0.00	0.53	8.07	1.34	1.34	0.00	0.00	0.02	0.02	1.07
	0.00	AB	20.32C	0.00	0.56	8.51	1.48	1.48	0.00	0.00	0.02	0.03	1.13
	0.00	AB	20.32C	0.00	0.00	0.00	1.09	1.09	0.00	0.00	0.02	0.00	0.00
	0.00	C	20.32C	69.87	0.00	0.01	3.27	3.27	0.00	0.00	0.05	0.00	0.00
	0.00	AB	1.18	0.00	0.00	0.00	9.50	9.50	0.00	0.00	0.14	0.00	1.18
	0.00	AB	20.32C	0.00	0.27	4.13	3.26	3.26	0.00	0.00	0.04	0.01	0.55
	0.00	AB	17.87	0.00	0.00	0.06	18.08	18.08	0.00	0.00	0.26	0.00	17.68
	0.00	AB	20.32C	0.00	0.00	0.01	0.81	0.81	0.00	0.00	0.01	0.00	0.00
	0.00	AB	20.32C	0.00	1.04	15.65	8.07	8.07	0.00	0.00	0.11	0.05	2.07
	0.00	AB	9.02	0.00	1.18	17.97	13.47	13.47	0.00	0.00	0.19	0.06	11.38
	0.00	AB	3.67	0.00	6.30	93.07	10.76	10.76	0.00	0.00	0.15	0.29	16.27
	0.00	AB	20.32C	0.00	6.14	92.77	3.71	3.71	0.00	0.00	0.05	0.29	12.29
	0.00	AB	20.32C	0.00	5.90	89.10	3.75	3.75	0.00	0.00	0.05	0.28	11.80
	0.00	AB	2.65	0.00	6.05	91.39	10.24	10.24	0.00	0.00	0.15	0.28	14.76
	0.00	AB	4.01	0.00	0.00	0.00	1.01	1.01	0.00	0.00	0.15	0.00	4.01
	0.00	C	20.32C	79.59	0.00	0.01	5.33	5.33	0.00	0.00	0.08	0.00	0.00
	0.00	AB	20.32C	0.00	0.00	0.00	3.36	3.36	0.00	0.00	0.05	0.00	0.00
	0.00	AB	20.32C	0.00	0.49	7.47	0.47	0.47	0.00	0.00	0.07	0.02	0.99
	0.00	AB	15.64	0.00	0.00	0.06	16.94	16.94	0.00	0.00	0.24	0.00	15.63
	0.00	AB	4.84	0.00	0.00	0.01	11.22	11.22	0.00	0.00	0.16	0.00	4.84
	0.00	AB	20.32C	0.00	2.75	41.49	2.79	2.79	0.00	0.00	0.04	0.13	5.50
	0.00	AB	3.19	0.00	3.01	45.49	10.51	10.51	0.00	0.00	0.15	0.14	9.22
	0.00	AB	20.32C	0.00	11.78	177.82	3.81	3.81	0.00	0.00	0.05	0.55	23.59
	0.00	AB	20.32C	0.00	11.50	173.67	6.32	6.32	0.00	0.00	0.09	0.54	23.00
	0.00	AB	20.32C	0.00	5.86	88.48	1.06	1.06	0.00	0.00	0.01	0.27	11.72
	0.00	AB	20.32C	0.00	10.58	159.72	1.84	1.84	0.00	0.00	0.03	0.49	21.16
	0.00	AB	20.32C	0.00	0.00	0.00	0.81	0.81	0.00	0.00	0.12	0.00	0.00
	0.00	C	20.32C	76.28	0.00	0.01	4.53	4.53	0.00	0.00	0.06	0.00	0.00
	0.00	AB	20.32C	0.00	0.00	0.00	0.76	0.76	0.00	0.00	0.12	0.00	0.00
	0.00	AB	18.59	0.00	0.72	10.80	1.63	1.63	0.00	0.00	0.24	0.03	20.02
	0.00	AB	3.04	0.00	0.00	0.06	10.45	10.45	0.00	0.00	0.15	0.00	3.05
	0.00	AB	35.93	0.00	0.00	0.01	2.45	2.45	0.00	0.00	0.36	0.00	35.93
	0.00	AB	20.32C	0.00	4.46	67.32	0.66	0.66	0.00	0.00	0.10	0.21	9.92
	0.00	AB	20.32C	0.00	4.84	73.12	0.21	0.21	0.00	0.00	0.03	0.23	9.68
	0.00	AB	20.32C	0.00	17.32	261.60	8.26	8.26	0.00	0.00	0.12	0.81	34.65
	0.00	AB	24.62	0.00	16.93	255.59	1.93	1.93	0.00	0.00	0.29	0.79 *	58.47
	0.00	AB	28.84	0.00	15.73	237.51	2.12	2.12	0.00	0.00	0.31	0.73 *	60.30
	0.00	AB	20.32C	0.00	9.50	143.51	0.29	0.29	0.00	0.00	0.04	0.44	19.01
	0.00	AB	30.31	0.00	0.00	0.01	2.19	2.19	0.00	0.00	0.33	0.00	30.31

VIADUCTO SOBRE LA RIERA FEMOSA

ARMADURA

SECC	VOL T	ZONA	CORTANTE TRANS	CORTANTE LONG	TORSION TRANS	TORSION LONG	VUE 1	VUE 2	VUE 3	VUE 4	RELACION		TOTAL TRANS
	0.00	AB	20.32C	0.00	0.00	0.01	4.63	4.63	0.00	0.00	0.07	0.00	0.00
217	0.00	AB	76.98	0.00	0.00	0.00	4.51	4.51	0.00	0.00	0.69	0.00	14.98
	0.00	AB	94.08	0.00	0.99	14.14	4.86	4.86	0.00	0.00	0.70	0.04	95.95
	0.00	AB	30.95	0.00	0.00	0.06	2.23	2.23	0.00	0.00	0.33	0.00	50.96
	0.00	AB	113.64	0.00	0.00	0.01	6.21	6.21	0.00	0.00	0.93	0.00	113.64
	0.00	AB	70.71	0.00	7.96	112.63	4.01	4.01	0.00	0.00	0.59	0.35	65.62
	0.00	AB	53.69	0.00	7.96	120.22	3.37	3.37	0.00	0.00	0.51	0.37	60.61
	0.00	AB	79.06	0.00	22.87	345.38	4.58	4.58	0.00	0.00	0.70	1.07 *	124.80
	0.00	C	125.07	359.72	22.35	337.52	5.56	5.58	0.00	0.00	0.82	1.04 *	169.77
	0.00	C	129.31	371.93	20.63	311.56	5.77	5.77	0.00	0.00	0.85	0.96 *	170.58
	0.00	AB	58.81	0.00	9.61	145.18	3.62	3.62	0.00	0.00	0.55	0.45 *	78.04
	0.00	C	137.40	397.58	0.00	0.01	6.15	6.15	0.00	0.00	0.91	0.00	137.40
	0.00	AB	30.97	0.00	0.00	0.06	2.31	2.31	0.00	0.00	0.35	0.00	30.99
217	0.00	AB	36.94	0.00	0.00	0.01	2.60	2.60	0.00	0.00	0.40	0.00	36.94
	0.00	AB	58.09	0.00	0.53	7.95	3.33	3.33	0.00	0.00	0.48	0.02	59.15
	0.00	C	93.95	274.98	0.00	0.02	4.23	4.23	0.00	0.00	0.63	0.00	93.95
	0.00	AB	20.32C	0.00	0.00	0.00	0.59	0.59	0.00	0.00	0.09	0.00	0.00
	0.00	AB	18.06	0.00	7.40	111.27	1.69	1.69	0.00	0.00	0.26	0.33	32.86
	0.00	AB	40.73	0.00	7.12	107.51	2.67	2.67	0.00	0.00	0.40	0.33	54.97
	0.00	AB	66.74	0.00	16.16	243.95	3.84	3.84	0.00	0.00	0.57	0.75 *	99.05
	0.00	AB	35.40	0.00	16.45	248.36	2.52	2.52	0.00	0.00	0.39	0.77 *	68.30
	0.00	C	88.32	256.97	14.98	226.15	3.96	3.96	0.00	0.00	0.59	0.70 *	118.28
	0.00	AB	17.98	0.00	2.89	118.38	1.68	1.68	0.00	0.00	0.26	0.37	33.65
	0.00	C	98.17	256.05	0.00	0.02	3.97	3.97	0.00	0.00	0.59	0.00	98.17
	0.00	AB	20.32C	0.00	0.02	0.26	0.64	0.64	0.00	0.00	0.10	0.00	0.03
228	0.00	AB	20.32C	0.00	0.00	0.01	0.29	0.29	0.00	0.00	0.04	0.00	0.00
	0.00	AB	10.87	0.00	0.36	5.42	1.30	1.30	0.00	0.00	0.19	0.02	11.59
	0.00	AB	23.49	0.00	0.00	0.02	1.88	1.88	0.00	0.00	0.28	0.00	23.49
	0.00	AB	11.09	0.00	0.02	0.26	14.49	14.49	0.00	0.00	0.21	0.00	11.12
	0.00	AB	20.32C	0.00	7.17	108.19	0.30	0.30	0.00	0.00	0.05	0.33	14.33
	0.00	AB	20.32C	0.00	6.97	105.29	0.78	0.78	0.00	0.00	0.12	0.33	13.95
	0.00	AB	15.76	0.00	11.83	178.68	1.54	1.54	0.00	0.00	0.23	0.55	39.43
	0.00	AB	20.32C	0.00	12.03	181.68	0.17	0.17	0.00	0.00	0.03	0.56	24.56
	0.00	AB	18.55	0.00	10.87	164.07	1.66	1.66	0.00	0.00	0.24	0.51	40.28
	0.00	AB	20.32C	0.00	7.31	110.40	0.31	0.31	0.00	0.00	0.05	0.38	14.62
	0.00	AB	20.32C	0.00	0.00	0.01	0.55	0.55	0.00	0.00	0.08	0.00	0.00
	0.00	AB	20.32C	0.00	0.00	0.00	0.99	0.99	0.00	0.00	0.01	0.00	0.00
229	0.00	AB	0.73	0.00	0.00	0.01	9.27	9.27	0.00	0.00	0.13	0.00	0.73
	0.00	AB	14.76	0.00	0.19	2.89	1.47	1.47	0.00	0.00	0.21	0.01	15.15
	0.00	AB	25.57	0.00	0.00	0.02	1.99	1.99	0.00	0.00	0.30	0.00	25.57
	0.00	AB	20.32C	0.00	0.02	0.26	4.55	4.55	0.00	0.00	0.07	0.00	0.03
	0.00	AB	20.32C	0.00	4.69	70.87	4.17	4.17	0.00	0.00	0.06	0.22	9.39
	0.00	AB	7.08	0.00	4.59	69.32	1.15	1.15	0.00	0.00	0.17	0.21	16.26
	0.00	AB	18.91	0.00	7.72	116.57	1.69	1.69	0.00	0.00	0.25	0.36	34.35
	0.00	AB	20.32C	0.00	7.83	118.17	7.53	7.53	0.00	0.00	0.11	0.37	15.65

UCTO SOBRE LA RIERA FEMOSA

ARMADURA

		CORTANTE		TORSION								
VOL T	ZONA	TRANS	LONG	TRANS	LONG	UUE 1	UUE 2	UUE 3	UUE 4	RELACION		TOTAL TRANS
0.00	AB	21.65	0.00	6.75	101.96	1.81	1.81	0.00	0.00	0.27	0.32	35.15
0.00	AB	20.32C	0.00	6.86	103.55	8.81	8.81	0.00	0.00	0.13	0.32	13.71
0.00	AB	20.32C	0.00	0.00	0.01	0.51	0.51	0.00	0.00	0.08	0.00	0.00
0.00	AB	7.17	0.00	0.00	0.00	12.59	12.59	0.00	0.00	0.16	0.00	7.17
0.00	AB	20.32C	0.00	0.00	0.01	3.29	3.29	0.00	0.00	0.05	0.00	0.00
0.00	AB	20.32C	0.00	0.02	0.36	8.20	8.20	0.00	0.00	0.11	0.00	0.05
0.00	AB	6.42	0.00	0.00	0.02	12.02	12.02	0.00	0.00	0.17	0.00	6.42
0.00	AB	20.32C	0.00	0.02	0.26	6.74	6.74	0.00	0.00	0.10	0.00	0.03
0.00	AB	20.32C	0.00	2.22	33.55	0.54	0.54	0.00	0.00	0.01	0.10	4.44
0.00	AB	20.32C	0.00	2.21	33.36	5.83	5.83	0.00	0.00	0.08	0.10	4.42
0.00	AB	0.52	0.00	3.63	54.80	9.14	9.14	0.00	0.00	0.13	0.17	7.26
0.00	AB	20.32C	0.00	3.64	54.99	1.00	1.00	0.00	0.00	0.01	0.17	7.28
0.00	AB	3.38	0.00	2.64	39.85	10.54	10.54	0.00	0.00	0.15	0.12	8.66
0.00	AB	20.32C	0.00	2.65	40.04	2.38	2.38	0.00	0.00	0.03	0.12	5.30
0.00	AB	20.32C	0.00	0.02	0.26	0.15	0.15	0.00	0.00	0.02	0.00	0.03
0.00	AB	20.32C	0.00	0.00	0.00	3.55	3.55	0.00	0.00	0.05	0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.01	8.60	8.60	0.00	0.00	0.12	0.00	0.00
0.00	AB	20.32C	0.00	0.14	2.17	3.69	3.69	0.00	0.00	0.05	0.01	0.29
0.00	AB	20.32C	0.00	0.00	0.02	1.85	1.85	0.00	0.00	0.03	0.00	0.00
0.00	AB	11.54	0.00	0.02	0.26	14.85	14.85	0.00	0.00	0.21	0.00	11.57
0.00	AB	4.39	0.00	0.25	3.78	11.16	11.16	0.00	0.00	0.16	0.01	4.89
0.00	AB	20.32C	0.00	0.17	2.61	5.53	5.53	0.00	0.00	0.08	0.01	0.35
0.00	AB	20.32C	0.00	2.22	33.55	5.76	5.76	0.00	0.00	0.08	0.10	4.44
0.00	AB	9.89	0.00	2.14	32.38	11.39	11.39	0.00	0.00	0.16	0.10	9.13
0.00	AB	20.32C	0.00	1.47	22.25	3.12	3.12	0.00	0.00	0.04	0.07	2.95
0.00	AB	2.09	0.00	1.55	23.47	9.97	9.97	0.00	0.00	0.14	0.07	5.19
0.00	AB	0.32	0.00	0.02	0.26	9.05	9.05	0.00	0.00	0.13	0.00	0.35
0.00	AB	20.32C	0.00	0.00	0.00	7.68	7.68	0.00	0.00	0.11	0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.01	4.51	4.51	0.00	0.00	0.06	0.00	0.00
0.00	AB	20.32C	0.00	0.31	4.70	3.22	3.22	0.00	0.00	0.04	0.01	0.62
0.00	AB	20.32C	0.00	0.02	0.26	0.68	0.68	0.00	0.00	0.01	0.00	0.03
0.00	AB	4.61	0.00	0.02	0.25	11.26	11.26	0.00	0.00	0.16	0.00	4.64
0.00	AB	20.32C	0.00	2.89	43.62	5.80	5.80	0.00	0.00	0.08	0.13	5.78
0.00	AB	20.32C	0.00	2.72	41.09	3.16	3.16	0.00	0.00	0.04	0.13	5.44
0.00	AB	20.32C	0.00	5.42	81.78	2.69	2.69	0.00	0.00	0.04	0.25	10.83
0.00	AB	20.32C	0.00	5.24	79.15	5.94	5.94	0.00	0.00	0.09	0.24	10.48
0.00	AB	20.32C	0.00	5.22	78.85	2.67	2.67	0.00	0.00	0.04	0.24	10.44
0.00	AB	20.32C	0.00	5.40	81.48	5.94	5.94	0.00	0.00	0.09	0.25	10.79
0.00	AB	20.32C	0.00	0.02	0.26	1.18	1.18	0.00	0.00	0.02	0.00	0.03
0.00	AB	20.32C	0.00	0.00	0.00	8.06	8.06	0.00	0.00	0.11	0.00	0.00
0.00	AB	20.32C	0.00	0.00	0.01	3.94	3.94	0.00	0.00	0.06	0.00	0.00
0.00	AB	20.32C	0.00	0.48	7.22	0.62	0.62	0.00	0.00	0.01	0.02	0.96
0.00	AB	4.98	0.00	0.02	0.26	11.44	11.44	0.00	0.00	0.16	0.00	5.01
0.00	AB	20.32C	0.00	0.00	0.00	4.70	4.70	0.00	0.00	0.07	0.00	0.00
0.00	AB	20.32C	0.00	5.45	82.30	3.92	3.92	0.00	0.00	0.06	0.25	10.90

VIADUCTO SOBRE LA RIERA FEMOSA

ARMADURA

			CORTANTE		TORSION								
SECC	VOL T	ZONA	TRANS	LONG	TRANS	LONG	UUE 1	UUE 2	UUE 3	UUE 4	RELACION		TOTAL TRANS
	0.00	AB	20.32C	0.00	5.19	78.42	2.95	2.95	0.00	0.00	0.04	0.24	10.39
	0.00	AB	20.32C	0.00	9.53	143.93	1.02	1.02	0.00	0.00	0.01	0.44	19.06
	0.00	AB	20.32C	0.00	9.26	139.90	1.95	1.95	0.00	0.00	0.03	0.43	18.53
	0.00	AB	20.32C	0.00	8.97	135.52	1.52	1.52	0.00	0.00	0.02	0.42	17.95
	0.00	AB	20.32C	0.00	9.24	139.55	2.43	2.43	0.00	0.00	0.03	0.43	18.48
	0.00	AB	4.24	0.00	0.02	0.26	11.05	11.05	0.00	0.00	0.16	0.00	4.27
	0.00	AB	20.32C	0.00	0.00	0.00	4.70	4.70	0.00	0.00	0.07	0.00	0.00
234	0.00	AB	20.32C	0.00	0.00	0.01	4.93	4.93	0.00	0.00	0.07	0.00	0.00
	0.00	AB	0.10	0.00	0.65	9.75	8.93	8.93	0.00	0.00	0.12	0.02	1.39
	0.00	AB	20.32C	0.00	0.02	0.26	6.35	6.35	0.00	0.00	0.09	0.00	0.03
	0.00	AB	15.23	0.00	0.00	0.00	16.22	16.22	0.00	0.00	0.22	0.00	15.23
	0.00	AB	20.32C	0.00	8.01	120.99	3.68	3.68	0.00	0.00	0.05	0.37	16.02
	0.00	AB	20.32C	0.00	7.67	115.74	5.82	5.82	0.00	0.00	0.08	0.36	15.33
	0.00	AB	2.40	0.00	13.74	207.44	10.04	10.04	0.00	0.00	0.14	0.64	29.88
	0.00	AB	20.32C	0.00	13.38	202.00	7.37	7.37	0.00	0.00	0.11	0.62	26.76
	0.00	AB	0.61	0.00	12.73	192.19	9.18	9.18	0.00	0.00	0.13	0.59	26.07
	0.00	AB	20.32C	0.00	13.09	197.63	6.51	6.51	0.00	0.00	0.09	0.61	26.18
	0.00	AB	20.32C	0.00	0.02	0.31	6.00	6.00	0.00	0.00	0.09	0.00	0.04
	0.00	AB	15.23	0.00	0.00	0.00	16.22	16.22	0.00	0.00	0.22	0.00	15.23
235	0.00	AB	20.32C	0.00	0.00	0.00	0.47	0.47	0.00	0.00	0.07	0.00	0.00
	0.00	AB	22.21	0.00	0.81	12.28	1.79	1.79	0.00	0.00	0.26	0.04	23.84
	0.00	AB	20.32C	0.00	0.02	0.26	0.02	0.02	0.00	0.00	0.00	0.00	0.03
	0.00	AB	42.42	0.00	0.00	0.00	2.84	2.84	0.00	0.00	0.43	0.00	42.42
	0.00	AB	6.23	0.00	9.34	141.06	1.13	1.13	0.00	0.00	0.17	0.44	24.92
	0.00	AB	11.62	0.00	8.90	134.46	1.35	1.35	0.00	0.00	0.20	0.42	29.43
	0.00	AB	28.06	0.00	17.94	270.95	2.09	2.09	0.00	0.00	0.31	0.84 *	63.95
	0.00	AB	19.43	0.00	17.49	264.11	1.75	1.75	0.00	0.00	0.27	0.82 *	54.41
	0.00	AB	2.12	0.00	9.56	144.33	0.93	0.93	0.00	0.00	0.14	0.45	21.28
	0.00	AB	2.12	0.00	9.11	137.50	0.93	0.93	0.00	0.00	0.14	0.42	20.33
	0.00	AB	20.32C	0.00	0.00	0.01	0.29	0.29	0.00	0.00	0.04	0.00	0.00
	0.00	AB	23.06	0.00	0.81	12.28	1.83	1.83	0.00	0.00	0.26	0.04	24.68

1251	FUER X MAX envolvente (ELS) (total)
1252	FUER X MIN envolvente (ELS) (total)
1253	FUER Y MAX envolvente (ELS) (total)
1254	FUER Y MIN envolvente (ELS) (total)
1255	FUER Z MAX envolvente (ELS) (total)
1256	FUER Z MIN envolvente (ELS) (total)
1257	MOME X MAX envolvente (ELS) (total)
1258	MOME X MIN envolvente (ELS) (total)
1259	MOME Y MAX envolvente (ELS) (total)
1260	MOME Y MIN envolvente (ELS) (total)
1261	MOME Z MAX envolvente (ELS) (total)
1262	MOME Z MIN envolvente (ELS) (total)

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 221 EXTREMO 2 (NUDO 4)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-746.408	-168.038	-0.057	0.668	0.059	0.001	1.00
1252	-200.857	-1288.767	-0.134	1.302	0.152	0.001	1.00
1253	-450.810	-1361.799	13.777	-56.166	-68.721	0.001	1.00
1254	-539.525	-37.886	12.404	-50.578	-61.853	0.000	1.00
1255	-490.415	-1035.040	-43.690	294.088	988.993	0.001	1.00
1256	-607.178	-421.766	50.374	-320.319	-1023.131	0.000	1.00
1257	-607.179	-421.766	41.887	-335.121	-998.322	0.000	1.00
1258	-490.416	-1035.040	-35.203	308.890	964.183	0.001	1.00
1259	-624.069	-421.766	48.981	-310.986	-1061.674	0.000	1.00
1260	-508.552	-1035.040	-42.287	284.684	1027.526	0.001	1.00
1261	-347.296	-728.402	-0.040	0.722	0.044	0.001	1.00
1262	-347.296	-728.402	-0.040	0.722	0.044	0.001	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 188 EXTREMO 2 (NUDO 20)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1496.014	0.000	0.000	0.000	0.022	0.009	1.00
1252	-409.256	0.000	0.000	0.000	-0.020	0.015	1.00
1253	-572.627	0.000	0.000	0.000	0.000	0.006	1.00
1254	-572.627	0.000	0.000	0.000	0.000	0.006	1.00
1255	-572.627	0.000	0.000	0.000	0.000	0.006	1.00
1256	-572.627	0.000	0.000	0.000	0.000	0.006	1.00
1257	-572.627	0.000	0.000	0.000	0.000	0.006	1.00
1258	-572.627	0.000	0.000	0.000	0.000	0.006	1.00
1259	-501.716	0.000	0.000	0.000	-0.023	0.009	1.00
1260	-1422.616	0.000	0.000	0.000	0.021	0.011	1.00
1261	-766.391	0.000	0.000	0.000	0.000	-0.009	1.00
1262	-782.249	0.000	0.000	0.000	0.000	0.028	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 189 EXTREMO 2 (NUDO 39)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1625.935	0.000	7.398	0.000	10.763	0.003	1.00
1252	-393.592	0.000	-15.411	0.000	-22.446	-0.011	1.00
1253	-579.336	0.000	-0.020	0.000	-0.028	-0.002	1.00
1254	-579.336	0.000	-0.020	0.000	-0.028	-0.002	1.00
1255	-1046.078	0.000	-37.605	0.000	-54.829	0.010	1.00
1256	-914.562	0.000	55.093	0.000	80.320	-0.002	1.00
1257	-579.336	0.000	-0.020	0.000	-0.028	-0.002	1.00
1258	-579.336	0.000	-0.020	0.000	-0.028	-0.002	1.00
1259	-1046.078	0.000	-37.605	0.000	-54.830	0.010	1.00
1260	-914.562	0.000	55.093	0.000	80.320	-0.002	1.00
1261	-817.139	0.000	-0.034	0.000	-0.054	-0.024	1.00
1262	-842.007	0.000	-0.004	0.000	-0.004	0.025	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 190 EXTREMO 2 (NUDO 38)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1606.427	0.000	0.000	0.000	0.030	0.003	1.00
1252	-374.113	0.000	0.000	0.000	-0.028	-0.011	1.00
1253	-579.347	0.000	0.000	0.000	0.000	-0.002	1.00
1254	-579.347	0.000	0.000	0.000	0.000	-0.002	1.00
1255	-579.347	0.000	0.000	0.000	0.000	-0.002	1.00
1256	-579.347	0.000	0.000	0.000	0.000	-0.002	1.00
1257	-579.347	0.000	0.000	0.000	0.000	-0.002	1.00
1258	-579.347	0.000	0.000	0.000	0.000	-0.002	1.00
1259	-430.324	0.000	0.000	0.000	-0.031	-0.002	1.00
1260	-1552.094	0.000	0.000	0.000	0.028	-0.002	1.00
1261	-817.158	0.000	0.000	0.000	0.000	-0.024	1.00
1262	-842.010	0.000	0.000	0.000	0.000	0.025	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 191 EXTREMO 2 (NUDO 57)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1624.701	0.000	7.625	0.000	11.093	0.000	1.00
1252	-382.791	0.000	-22.274	0.000	-32.447	0.012	1.00
1253	-579.997	0.000	-0.001	0.000	-0.001	-0.001	1.00
1254	-579.997	0.000	-0.001	0.000	-0.001	-0.001	1.00
1255	-1039.636	0.000	-40.261	0.000	-58.699	0.012	1.00
1256	-802.316	0.000	56.198	0.000	81.942	0.007	1.00
1257	-579.997	0.000	-0.001	0.000	-0.001	-0.001	1.00
1258	-579.997	0.000	-0.001	0.000	-0.001	-0.001	1.00
1259	-1039.636	0.000	-40.261	0.000	-58.699	0.012	1.00
1260	-803.637	0.000	56.200	0.000	81.944	0.007	1.00
1261	-823.517	0.000	0.006	0.000	0.007	-0.023	1.00
1262	-828.861	0.000	0.009	0.000	0.010	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 192 EXTREMO 2 (NUDO 56)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1604.882	0.000	0.000	0.000	0.031	0.000	1.00
1252	-363.047	0.000	0.000	0.000	-0.028	0.012	1.00
1253	-580.002	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-580.002	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-580.002	0.000	0.000	0.000	0.000	-0.001	1.00
1256	-580.002	0.000	0.000	0.000	0.000	-0.001	1.00
1257	-580.002	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-580.002	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-424.605	0.000	0.000	0.000	-0.032	0.000	1.00
1260	-1553.351	0.000	0.000	0.000	0.029	0.000	1.00
1261	-823.517	0.000	0.000	0.000	0.000	-0.023	1.00
1262	-828.870	0.000	0.000	0.000	0.000	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 193 EXTREMO 2 (NUDO 75)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1623.798	0.000	3.263	0.000	4.725	0.004	1.00
1252	-383.237	0.000	-19.205	0.000	-27.967	0.007	1.00
1253	-578.853	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-578.853	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-1039.190	0.000	-41.243	0.000	-60.137	0.007	1.00
1256	-802.001	0.000	56.729	0.000	82.715	0.007	1.00
1257	-578.853	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-578.853	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-1039.190	0.000	-41.243	0.000	-60.137	0.007	1.00
1260	-803.423	0.000	56.731	0.000	82.717	0.007	1.00
1261	-825.059	0.000	0.011	0.000	0.016	-0.024	1.00
1262	-826.567	0.000	0.010	0.000	0.019	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 194 EXTREMO 2 (NUDO 74)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1604.112	0.000	0.000	0.000	0.032	0.004	1.00
1252	-363.555	0.000	0.000	0.000	-0.029	0.007	1.00
1253	-578.852	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-578.852	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-578.852	0.000	0.000	0.000	0.000	-0.001	1.00
1256	-578.852	0.000	0.000	0.000	0.000	-0.001	1.00
1257	-578.852	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-578.852	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-426.780	0.000	0.000	0.000	-0.033	-0.001	1.00
1260	-1553.698	0.000	0.000	0.000	0.030	-0.001	1.00
1261	-825.049	0.000	0.000	0.000	0.000	-0.024	1.00
1262	-826.560	0.000	0.000	0.000	0.000	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 195 EXTREMO 2 (NUDO 93)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1625.303	0.000	3.829	0.000	5.550	0.005	1.00
1252	-380.143	0.000	-24.560	0.000	-35.780	0.008	1.00
1253	-579.061	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-579.061	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-1038.826	0.000	-41.981	0.000	-61.211	0.007	1.00
1256	-802.722	0.000	57.926	0.000	84.458	0.007	1.00
1257	-579.061	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-579.061	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-1038.826	0.000	-41.981	0.000	-61.211	0.007	1.00
1260	-804.118	0.000	57.928	0.000	84.460	0.007	1.00
1261	-825.644	0.000	0.007	0.000	0.016	-0.024	1.00
1262	-826.022	0.000	0.012	0.000	0.018	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 196 EXTREMO 2 (NUDO 92)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1605.416	0.000	0.000	0.000	0.033	0.005	1.00
1252	-360.288	0.000	0.000	0.000	-0.031	0.008	1.00
1253	-579.056	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-579.056	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-579.056	0.000	0.000	0.000	0.000	-0.001	1.00
1256	-579.056	0.000	0.000	0.000	0.000	-0.001	1.00
1257	-579.056	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-579.056	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-424.531	0.000	0.000	0.000	-0.034	-0.001	1.00
1260	-1554.733	0.000	0.000	0.000	0.031	-0.001	1.00
1261	-825.630	0.000	0.000	0.000	0.000	-0.024	1.00
1262	-826.020	0.000	0.000	0.000	0.000	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 197 EXTREMO 2 (NUDO 111)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1622.112	0.000	2.587	0.000	3.736	0.001	1.00
1252	-384.033	0.000	-20.378	0.000	-29.682	0.012	1.00
1253	-579.121	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-579.121	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-1038.311	0.000	-43.062	0.000	-62.793	0.007	1.00
1256	-803.011	0.000	58.733	0.000	85.637	0.007	1.00
1257	-579.121	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-579.121	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-1038.318	0.000	-43.063	0.000	-62.795	0.007	1.00
1260	-803.710	0.000	58.736	0.000	85.641	0.007	1.00
1261	-825.713	0.000	0.006	0.000	0.016	-0.024	1.00
1262	-825.971	0.000	0.009	0.000	0.017	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 198 EXTREMO 2 (NUDO 110)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1602.479	0.000	0.000	0.000	0.036	0.001	1.00
1252	-364.398	0.000	0.000	0.000	-0.033	0.012	1.00
1253	-579.124	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-579.124	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-579.124	0.000	0.000	0.000	0.000	-0.001	1.00
1256	-579.124	0.000	0.000	0.000	0.000	-0.001	1.00
1257	-579.124	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-579.124	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-428.897	0.000	0.000	0.000	-0.037	-0.001	1.00
1260	-1552.726	0.000	0.000	0.000	0.033	-0.001	1.00
1261	-825.708	0.000	0.000	0.000	0.000	-0.024	1.00
1262	-825.969	0.000	0.000	0.000	0.000	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 199 EXTREMO 2 (NUDO 129)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1616.856	0.000	-6.241	0.000	-9.150	-0.001	1.00
1252	-388.441	0.000	-12.285	0.000	-17.887	0.013	1.00
1253	-579.008	0.000	0.000	0.000	0.001	0.000	1.00
1254	-579.008	0.000	0.000	0.000	0.001	0.000	1.00
1255	-1038.746	0.000	-42.823	0.000	-62.448	0.007	1.00
1256	-802.621	0.000	57.684	0.000	84.101	0.007	1.00
1257	-579.008	0.000	0.000	0.000	0.001	0.000	1.00
1258	-579.008	0.000	0.000	0.000	0.001	0.000	1.00
1259	-1038.746	0.000	-42.823	0.000	-62.448	0.007	1.00
1260	-802.621	0.000	57.684	0.000	84.101	0.007	1.00
1261	-825.809	0.000	0.010	0.000	0.012	-0.024	1.00
1262	-825.702	0.000	0.009	0.000	0.016	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 200 EXTREMO 2 (NUDO 128)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1597.602	0.000	0.000	0.000	0.037	-0.001	1.00
1252	-369.219	0.000	0.000	0.000	-0.035	0.013	1.00
1253	-579.009	0.000	0.000	0.000	0.000	0.000	1.00
1254	-579.009	0.000	0.000	0.000	0.000	0.000	1.00
1255	-579.009	0.000	0.000	0.000	0.000	0.000	1.00
1256	-579.009	0.000	0.000	0.000	0.000	0.000	1.00
1257	-579.009	0.000	0.000	0.000	0.000	0.000	1.00
1258	-579.009	0.000	0.000	0.000	0.000	0.000	1.00
1259	-432.788	0.000	0.000	0.000	-0.038	0.000	1.00
1260	-1548.887	0.000	0.000	0.000	0.035	0.000	1.00
1261	-825.808	0.000	0.000	0.000	0.000	-0.024	1.00
1262	-825.698	0.000	0.000	0.000	0.000	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 201 EXTREMO 2 (NUDO 147)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1622.495	0.000	4.928	0.000	7.150	0.006	1.00
1252	-383.529	0.000	-21.984	0.000	-32.026	-0.008	1.00
1253	-578.892	0.000	0.000	0.000	0.001	-0.001	1.00
1254	-578.892	0.000	0.000	0.000	0.001	-0.001	1.00
1255	-1038.819	0.000	-42.634	0.000	-62.169	-0.008	1.00
1256	-802.960	0.000	58.636	0.000	85.493	-0.008	1.00
1257	-578.892	0.000	0.000	0.000	0.001	-0.001	1.00
1258	-578.892	0.000	0.000	0.000	0.001	-0.001	1.00
1259	-1038.819	0.000	-42.634	0.000	-62.169	-0.008	1.00
1260	-802.960	0.000	58.636	0.000	85.493	-0.008	1.00
1261	-825.860	0.000	0.007	0.000	0.016	-0.024	1.00
1262	-825.631	0.000	0.011	0.000	0.013	0.029	1.00

ESFUERZOS EN LA BARRA 202 EXTREMO 2 (NUDO 146)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1602.684	0.000	0.000	0.000	0.037	0.006	1.00
1252	-363.776	0.000	0.000	0.000	-0.034	-0.008	1.00
1253	-578.889	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-578.889	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-578.889	0.000	0.000	0.000	0.000	-0.001	1.00
1256	-578.889	0.000	0.000	0.000	0.000	-0.001	1.00
1257	-578.889	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-578.889	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-427.311	0.000	0.000	0.000	-0.038	-0.001	1.00
1260	-1553.488	0.000	0.000	0.000	0.034	-0.001	1.00
1261	-825.848	0.000	0.000	0.000	0.000	-0.024	1.00
1262	-825.621	0.000	0.000	0.000	0.000	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 203 EXTREMO 2 (NUDO 165)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1623.951	0.000	2.780	0.000	4.015	0.001	1.00
1252	-384.302	0.000	-19.884	0.000	-28.955	-0.001	1.00
1253	-580.003	0.000	0.001	0.000	0.002	0.000	1.00
1254	-580.003	0.000	0.001	0.000	0.002	0.000	1.00
1255	-1039.559	0.000	-42.414	0.000	-61.840	-0.008	1.00
1256	-803.835	0.000	58.143	0.000	84.771	-0.008	1.00
1257	-580.003	0.000	0.001	0.000	0.002	0.000	1.00
1258	-580.003	0.000	0.001	0.000	0.002	0.000	1.00
1259	-1039.561	0.000	-42.415	0.000	-61.841	-0.006	1.00
1260	-804.546	0.000	58.144	0.000	84.773	-0.008	1.00
1261	-827.635	0.000	0.012	0.000	0.022	-0.023	1.00
1262	-825.530	0.000	0.007	0.000	0.013	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 204 EXTREMO 2 (NUDO 164)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1604.185	0.000	0.000	0.000	0.036	0.001	1.00
1252	-364.552	0.000	0.000	0.000	-0.034	-0.001	1.00
1253	-580.009	0.000	0.000	0.000	0.000	0.000	1.00
1254	-580.009	0.000	0.000	0.000	0.000	0.000	1.00
1255	-580.009	0.000	0.000	0.000	0.000	0.000	1.00
1256	-580.009	0.000	0.000	0.000	0.000	0.000	1.00
1257	-580.009	0.000	0.000	0.000	0.000	0.000	1.00
1258	-580.009	0.000	0.000	0.000	0.000	0.000	1.00
1259	-428.561	0.000	0.000	0.000	-0.037	0.000	1.00
1260	-1554.358	0.000	0.000	0.000	0.034	0.000	1.00
1261	-827.634	0.000	0.000	0.000	0.000	-0.023	1.00
1262	-825.538	0.000	0.000	0.000	0.000	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 205 EXTREMO 2 (NUDO 183)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1618.368	0.000	4.096	0.000	5.929	0.005	1.00
1252	-379.682	0.000	-21.444	0.000	-31.234	0.008	1.00
1253	-575.085	0.000	-0.010	0.000	-0.015	-0.001	1.00
1254	-575.085	0.000	-0.010	0.000	-0.015	-0.001	1.00
1255	-1033.456	0.000	-42.788	0.000	-62.400	0.007	1.00
1256	-800.681	0.000	58.700	0.000	85.586	0.011	1.00
1257	-575.085	0.000	-0.010	0.000	-0.015	-0.001	1.00
1258	-575.085	0.000	-0.010	0.000	-0.015	-0.001	1.00
1259	-1033.456	0.000	-42.788	0.000	-62.400	0.007	1.00
1260	-801.377	0.000	58.700	0.000	85.587	0.011	1.00
1261	-824.187	0.000	-0.003	0.000	-0.006	-0.024	1.00
1262	-820.525	0.000	-0.004	0.000	-0.004	0.028	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 206 EXTREMO 2 (NUDO 182)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1598.617	0.000	0.000	0.000	0.036	0.005	1.00
1252	-359.946	0.000	0.000	0.000	-0.034	0.008	1.00
1253	-575.092	0.000	0.000	0.000	0.000	-0.001	1.00
1254	-575.092	0.000	0.000	0.000	0.000	-0.001	1.00
1255	-575.092	0.000	0.000	0.000	0.000	-0.001	1.00
1256	-575.092	0.000	0.000	0.000	0.000	-0.001	1.00
1257	-575.092	0.000	0.000	0.000	0.000	-0.001	1.00
1258	-575.092	0.000	0.000	0.000	0.000	-0.001	1.00
1259	-422.352	0.000	0.000	0.000	-0.037	-0.001	1.00
1260	-1546.975	0.000	0.000	0.000	0.034	-0.001	1.00
1261	-824.186	0.000	0.000	0.000	0.000	-0.024	1.00
1262	-820.526	0.000	0.000	0.000	0.000	0.028	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 207 EXTREMO 2 (NUDO 201)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1634.703	0.000	1.936	0.000	2.789	0.003	1.00
1252	-406.535	0.000	-11.120	0.000	-16.184	0.015	1.00
1253	-596.118	0.000	-0.004	0.000	-0.006	0.002	1.00
1254	-596.118	0.000	-0.004	0.000	-0.006	0.002	1.00
1255	-1051.764	0.000	-37.955	0.000	-55.354	-0.001	1.00
1256	-932.158	0.000	55.800	0.000	81.353	0.003	1.00
1257	-596.118	0.000	-0.004	0.000	-0.006	0.002	1.00
1258	-596.118	0.000	-0.004	0.000	-0.006	0.002	1.00
1259	-1051.764	0.000	-37.955	0.000	-55.354	-0.001	1.00
1260	-932.158	0.000	55.800	0.000	81.353	0.003	1.00
1261	-855.861	0.000	0.013	0.000	0.022	-0.020	1.00
1262	-826.539	0.000	-0.021	0.000	-0.028	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 208 EXTREMO 2 (NUDO 200)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1615.340	0.000	0.000	0.000	0.036	0.003	1.00
1252	-387.145	0.000	0.000	0.000	-0.034	0.015	1.00
1253	-596.121	0.000	0.000	0.000	0.000	0.002	1.00
1254	-596.121	0.000	0.000	0.000	0.000	0.002	1.00
1255	-596.121	0.000	0.000	0.000	0.000	0.002	1.00
1256	-596.121	0.000	0.000	0.000	0.000	0.002	1.00
1257	-596.121	0.000	0.000	0.000	0.000	0.002	1.00
1258	-596.121	0.000	0.000	0.000	0.000	0.002	1.00
1259	-447.285	0.000	0.000	0.000	-0.037	0.001	1.00
1260	-1563.748	0.000	0.000	0.000	0.034	0.001	1.00
1261	-855.858	0.000	0.000	0.000	0.000	-0.020	1.00
1262	-826.544	0.000	0.000	0.000	0.000	0.029	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 209 EXTREMO 2 (NUDO 219)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1478.602	0.000	-6.023	0.000	-8.816	-0.004	1.00
1252	-386.184	0.000	-5.253	0.000	-7.634	-0.013	1.00
1253	-527.326	0.000	0.025	0.000	0.036	-0.008	1.00
1254	-527.326	0.000	0.025	0.000	0.036	-0.008	1.00
1255	-857.561	0.000	-38.296	0.000	-55.845	-0.007	1.00
1256	-527.099	0.000	51.681	0.000	75.356	0.001	1.00
1257	-527.326	0.000	0.025	0.000	0.036	-0.008	1.00
1258	-527.326	0.000	0.025	0.000	0.036	-0.008	1.00
1259	-857.561	0.000	-38.296	0.000	-55.845	-0.007	1.00
1260	-527.099	0.000	51.681	0.000	75.356	0.001	1.00
1261	-807.518	0.000	0.087	0.000	0.125	-0.027	1.00
1262	-738.801	0.000	0.050	0.000	0.070	0.017	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 210 EXTREMO 2 (NUDO 218)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-1462.120	0.000	0.000	0.000	0.029	-0.004	1.00
1252	-369.701	0.000	0.000	0.000	-0.027	-0.013	1.00
1253	-527.316	0.000	0.000	0.000	0.000	-0.008	1.00
1254	-527.316	0.000	0.000	0.000	0.000	-0.008	1.00
1255	-527.316	0.000	0.000	0.000	0.000	-0.008	1.00
1256	-527.316	0.000	0.000	0.000	0.000	-0.008	1.00
1257	-527.316	0.000	0.000	0.000	0.000	-0.008	1.00
1258	-527.316	0.000	0.000	0.000	0.000	-0.008	1.00
1259	-429.036	0.000	0.000	0.000	-0.030	-0.012	1.00
1260	-1398.818	0.000	0.000	0.000	0.027	-0.012	1.00
1261	-807.487	0.000	0.000	0.000	0.000	-0.027	1.00
1262	-738.773	0.000	0.000	0.000	0.000	0.017	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 211 EXTREMO 2 (NUDO 237)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-595.396	0.000	17.210	0.000	25.075	0.017	1.00
1252	-41.632	0.000	-20.288	0.000	-29.566	0.014	1.00
1253	-201.606	0.000	-0.011	0.000	-0.016	0.023	1.00
1254	-201.606	0.000	-0.011	0.000	-0.016	0.023	1.00
1255	-103.775	0.000	-25.235	0.000	-36.781	0.014	1.00
1256	-417.026	0.000	30.799	0.000	44.899	0.025	1.00
1257	-201.606	0.000	-0.011	0.000	-0.016	0.023	1.00
1258	-201.606	0.000	-0.011	0.000	-0.016	0.023	1.00
1259	-103.775	0.000	-25.235	0.000	-36.781	0.014	1.00
1260	-417.026	0.000	30.799	0.000	44.899	0.025	1.00
1261	-341.589	0.000	-0.025	0.000	-0.038	-0.002	1.00
1262	-189.634	0.000	-0.041	0.000	-0.060	0.044	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 212 EXTREMO 2 (NUDO 236)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-586.948	0.000	0.000	0.000	-0.018	0.035	1.00
1252	-33.238	0.000	0.000	0.000	0.020	0.028	1.00
1253	-201.610	0.000	0.000	0.000	0.000	0.046	1.00
1254	-201.610	0.000	0.000	0.000	0.000	0.046	1.00
1255	-201.610	0.000	0.000	0.000	0.000	0.046	1.00
1256	-201.610	0.000	0.000	0.000	0.000	0.046	1.00
1257	-201.610	0.000	0.000	0.000	0.000	0.046	1.00
1258	-201.610	0.000	0.000	0.000	0.000	0.046	1.00
1259	-550.380	0.000	0.000	0.000	-0.018	0.027	1.00
1260	-69.501	0.000	0.000	0.000	0.018	0.027	1.00
1261	-341.599	0.000	0.000	0.000	0.000	-0.003	1.00
1262	-187.270	0.000	0.000	0.000	0.000	0.091	1.00

VIADUCTO SOBRE LA RIERA FEMOSA

ESFUERZOS EN LA BARRA 286 EXTREMO 2 (NUDO 238)

HIPO	AXIL	CORT. Y	CORT. Z	TORSOR	FLEC. Y	FLEC. Z	COEF
	1.00	1.00	1.00	1.00	1.00	1.00	
1251	-745.220	58.600	-0.007	0.001	0.008	-0.938	1.00
1252	-295.689	58.600	-4.330	0.001	5.210	-0.938	1.00
1253	-362.894	52.740	-0.010	0.000	0.007	-0.844	1.00
1254	-403.215	58.600	-0.011	0.001	0.008	-0.938	1.00
1255	-483.745	58.600	-25.234	0.001	523.969	-0.938	1.00
1256	-540.974	58.600	30.801	0.001	-555.864	-0.938	1.00
1257	-403.215	58.600	-0.011	0.001	0.008	-0.938	1.00
1258	-403.215	58.600	-0.011	0.001	0.008	-0.938	1.00
1259	-653.637	58.600	26.164	0.001	-985.473	-0.938	1.00
1260	-595.001	58.600	-20.639	0.001	953.604	-0.938	1.00
1261	-403.215	58.600	-0.011	0.001	0.008	-0.938	1.00
1262	-362.894	52.740	-0.010	0.000	0.007	-0.844	1.00

RIOSTRA SOBRE PILAS

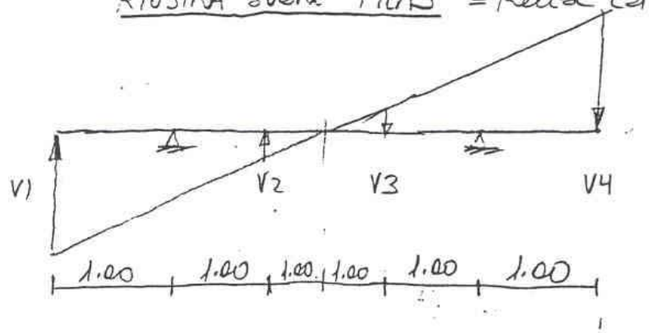
CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

HOJA ____ DE ____

PROYECTO ____

FECHA ____

RIOSTRA SOBRE PILAS = Recibe carga por los 2 lados.
HIPO 439 barra 231 ef.



TORSOR: $\frac{V_1}{3.00} = \frac{V_3}{1.00} = \frac{V_2}{1.00} - \frac{V_1}{3.00}$ $V_3 = V_2$ $V_4 = V_1$

$V_4 * 3.000 * 2 + V_3 * 1.000 * 2 = 3365$

$6.00\,V_4 + \frac{1.00}{3.00} V_4 * 2.00 = 3365$

$V_4 = \frac{3365}{6.667} = 505^t = V_1$

$V_3 = 168^t$

CORTANTE:

$V_1 = V_2 = V_3 = V_4 = \frac{2984^t}{4} = 746^t$

CORTANTE + TORSOR

$V_1 = 746 - 505 = 241^t$
$V_2 = 746 - 168 = 578^t$
$V_3 = 746 + 168 = 914^t$
$V_4 = 746 + 505 = 1251^t$

Las cargas directas aplicadas se reparten las mismas que las de la riostra del E1, pero referidas a 2 metros de ancho.

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Esfuerzos de la barra 231 extremo frontal
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coeficiente del esfuerzo FX : 1.00
coeficiente del esfuerzo FY : 1.00
coeficiente del esfuerzo FZ : 1.00
coeficiente del esfuerzo MX : 1.00
coeficiente del esfuerzo MY : 1.00
coeficiente del esfuerzo MZ : 1.00

HIP.	FX	FY	FZ	MX	MY	MZ
431 FUER X MAX envolvente (ELU) (tota	-3229.55	60.30	0.06	0.00	-0.02	0.00
432 FUER X MIN envolvente (ELU) (tota	-978.65	40.20	-0.14	0.00	-0.17	0.00
433 FUER Y MAX envolvente (ELU) (tota	-1025.09	36.18	-0.01	0.00	0.00	0.00
434 FUER Y MIN envolvente (ELU) (tota	-1707.64	60.30	-0.01	0.00	0.00	0.00
435 FUER Z MAX envolvente (ELU) (tota	-2115.29	54.27	-62.44	0.00	-1424.00	0.00
436 FUER Z MIN envolvente (ELU) (tota	-2175.89	40.20	86.65	0.00	729.46	0.00
437 MOME X MAX envolvente (ELU) (tota	-1138.99	40.20	-0.01	0.00	0.00	0.00
438 MOME X MIN envolvente (ELU) (tota	-1138.99	40.20	-0.01	0.00	0.00	0.00
439 MOME Y MAX envolvente (ELU) (tota	-2983.78	60.30	1.67	0.00	-3365.13	0.00
440 MOME Y MIN envolvente (ELU) (tota	-2405.83	40.20	22.74	0.00	3256.33	0.00
441 MOME Z MAX envolvente (ELU) (tota	-1138.99	40.20	-0.01	0.00	0.00	0.00
442 MOME Z MIN envolvente (ELU) (tota	-1138.99	40.20	-0.01	0.00	0.00	0.00

Esfuerzos de la barra 16 extremo frontal

coeficiente del esfuerzo FX : 1.00
coeficiente del esfuerzo FY : 1.00
coeficiente del esfuerzo FZ : 1.00
coeficiente del esfuerzo MX : 1.00
coeficiente del esfuerzo MY : 1.00
coeficiente del esfuerzo MZ : 1.00

HIP.	FX	FY	FZ	MX	MY	MZ
431 FUER X MAX envolvente (ELU) (tota	-7376.87	1101.32	0.12	-0.02	3.73	-1400.94
432 FUER X MIN envolvente (ELU) (tota	-3261.74	1335.81	0.04	-0.06	-0.34	-3707.94
433 FUER Y MAX envolvente (ELU) (tota	-4588.84	586.87	0.02	-0.02	-0.04	321.27
434 FUER Y MIN envolvente (ELU) (tota	-5921.20	1730.57	-0.01	0.01	-0.70	-4443.54
435 FUER Z MAX envolvente (ELU) (tota	-6188.30	1326.23	-50.52	51.39	-663.97	-1800.70
436 FUER Z MIN envolvente (ELU) (tota	-4912.83	1542.96	38.10	-82.67	643.82	-3753.32
437 MOME X MAX envolvente (ELU) (tota	-5492.99	1522.72	-32.73	-1718.53	296.43	-3389.61
438 MOME X MIN envolvente (ELU) (tota	-6768.46	1305.99	20.33	1687.22	-315.94	-1436.93
439 MOME Y MAX envolvente (ELU) (tota	-5727.53	1210.75	-39.94	759.11	-1160.44	-2943.46
440 MOME Y MIN envolvente (ELU) (tota	-5266.77	1174.40	27.91	-789.32	1141.41	-1831.50
441 MOME Z MAX envolvente (ELU) (tota	-4912.84	1697.25	-0.01	0.00	-1.26	-5812.04
442 MOME Z MIN envolvente (ELU) (tota	-5163.44	639.76	-0.08	-0.04	-2.85	1884.51

PESO PROPIO RIOSTRA : 2.00 * 1.90

AX = 3.800 IX = 2.022
AY = AZ = 3.167 IY = 1.267
IZ = 1.143

CARGA MUERTA

. Impuesto + bandillas = 0.750 t/ml * 2.00 = 1.500 t

. Balasto + traviesas = 11.00 t/ml * 2.00 = 22.000 t/ristra.

$\frac{22}{9.57} = 2.35$ t/ml

. Soporte catenarias = $\frac{0.5}{9}$ t/m

SOBRECARGA = 12 t/ml * 2.00 m * $\overline{2}$ = 48 t/ristra.

$\frac{48}{4} = 12$ t/eje

Aunque las cargas exteriores ya le llegan a la ristra atraves de la flexión general para prever posibles cargas locales se las añadimos.

```
                                SIC-RIOSTRA-P
estr
nume de nudo    7
nume de barr    6
nume de hipo 2
nume de apoy    2
tipo port espa
list todo
coor de nudo
    1      0.000      0.000      0.0000
    2      1.000      0.000      0.0000 desp x y z giro x
    3      2.000      0.000      0.0000
    4      3.000      0.000      0.0000
    5      4.000      0.000      0.0000
    6      5.000      0.000      0.0000 desp y z
    7      6.000      0.000      0.0000
inci de barr
    1   1   2
    2   2   3
    3   3   4
    4   4   5
    5   5   6
    6   6   7
mate de barr
    1 a 6   1
prop de barr pris
    1 a 6   3.800 3.167 3.167 2.022 1.267 1.143
cons de mate
* HORMIGON TABLERO fck=40 MPa
* E=100000*[9.50*(40.00+8)**1/3]=3452529.
* G=E/2(1+nu=0.2)=1438554.
    1 3452529. 1438554. 2.5
hipo 433 CORTANTE MAXIMO (ELU)+PESO PROPIO RIOSTRA
carga en nudo
  1 fuer y -746.000
  3 fuer y -746.000
  5 fuer y -746.000
  7 fuer y -746.000
* CARGAS DIRECTAS
* PESO PROPIO
gravedad
1 a 6 x y z 0. -1. 0.
* CARGA MUERTA
carga en nudo
  1 fuer y -1.500
  7 fuer y -1.500
carga en barra
1 a 6 fuer y unif -2.350
carga en nudo
  1 fuer y -0.500
  1 mome z +9.000
  7 fuer y -0.500
  7 mome z -9.000
* SOBRECARGA
carga en nudo
  1 fuer y -12.000
  3 fuer y -12.000
  5 fuer y -12.000
  7 fuer y -12.000
hipo 438 TORSION MAXIMA+CORTANTE (ELU)+PESO PROPIO RIOSTRA
carga en nudo
  1 fuer y  -241.000
  3 fuer y  -578.000
  5 fuer y  -914.000
  7 fuer y -1251.000
* CARGAS DIRECTAS
* PESO PROPIO
gravedad
1 a 6 x y z 0. -1. 0.
* CARGA MUERTA
carga en nudo
  1 fuer y -1.500
  7 fuer y -1.500
carga en barra
1 a 6 fuer y unif -2.350
carga en nudo
  1 fuer y -0.500
  1 mome z +9.000
  7 fuer y -0.500
  7 mome z -9.000
* SOBRECARGA
carga en nudo
  1 fuer y -12.000
  3 fuer y -12.000
  5 fuer y -12.000
  7 fuer y -12.000
 calcula
problema bien definido, empieza la ejecucion
```

estr SIC-RIOSTRA-P

hipo 433 CORTANTE MAXIMO (ELU)+PESO PROPIO RIOSTRA

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	0.00	-760.00	0.00	0.00	0.00	9.00
1	2	0.00	771.85	0.00	0.00	0.00	-774.92
2	2	0.00	781.70	0.00	0.00	0.00	774.92
2	3	0.00	-769.85	0.00	0.00	0.00	0.85
3	3	0.00	11.85	0.00	0.00	0.00	-0.85
3	4	0.00	0.00	0.00	0.00	0.00	6.77
4	4	0.00	0.00	0.00	0.00	0.00	-6.77
4	5	0.00	11.85	0.00	0.00	0.00	0.85
5	5	0.00	-769.85	0.00	0.00	0.00	-0.85
5	6	0.00	781.70	0.00	0.00	0.00	-774.92
6	6	0.00	771.85	0.00	0.00	0.00	774.92
6	7	0.00	-760.00	0.00	0.00	0.00	-9.00

CARGAS APLICADAS EN LOS NUDOS LIBRES

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
1	0.00	-760.00	0.00	0.00	0.00	9.00
3	0.00	-758.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	-758.00	0.00	0.00	0.00	0.00
7	0.00	-760.00	0.00	0.00	0.00	-9.00

REACCIONES EN LOS APOYOS

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
2	0.00	1553.55	0.00	0.00	0.00	0.00
6	0.00	1553.55	0.00	0.00	0.00	0.00

DESPLAZAMIENTOS DE LOS NUDOS LIBRES

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
1	0.000000	-0.000330	0.000000	0.000000	0.000000	0.000196
3	0.000000	-0.000139	0.000000	0.000000	0.000000	-0.000001
4	0.000000	-0.000141	0.000000	0.000000	0.000000	0.000000
5	0.000000	-0.000139	0.000000	0.000000	0.000000	0.000001
7	0.000000	-0.000330	0.000000	0.000000	0.000000	-0.000196

DESPLAZAMIENTOS DE LOS APOYOS

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000097
6	0.000000	0.000000	0.000000	0.000000	0.000000	-0.000097

estr SIC-RIOSTRA-P

hipo 438 TORSION MAXIMA+CORTANTE (ELU)+PESO PROPIO RIOSTRA

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	0.00	-255.00	0.00	0.00	0.00	9.00
1	2	0.00	266.85	0.00	0.00	0.00	-269.92
2	2	0.00	445.20	0.00	0.00	0.00	269.92
2	3	0.00	-433.35	0.00	0.00	0.00	169.35
3	3	0.00	-156.65	0.00	0.00	0.00	-169.35
3	4	0.00	168.50	0.00	0.00	0.00	6.77
4	4	0.00	-168.50	0.00	0.00	0.00	-6.77
4	5	0.00	180.35	0.00	0.00	0.00	-167.65
5	5	0.00	-1106.35	0.00	0.00	0.00	167.65
5	6	0.00	1118.20	0.00	0.00	0.00	-1279.93
6	6	0.00	1276.85	0.00	0.00	0.00	1279.93
6	7	0.00	-1265.00	0.00	0.00	0.00	-9.00

CARGAS APLICADAS EN LOS NUDOS LIBRES

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
1	0.00	-255.00	0.00	0.00	0.00	9.00
3	0.00	-590.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	-926.00	0.00	0.00	0.00	0.00
7	0.00	-1265.00	0.00	0.00	0.00	-9.00

REACCIONES EN LOS APOYOS

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
2	0.00	712.05	0.00	0.00	0.00	0.00
6	0.00	2395.05	0.00	0.00	0.00	0.00

DESPLAZAMIENTOS DE LOS NUDOS LIBRES

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
1	0.000000	-0.000047	0.000000	0.000000	0.000000	0.000002
3	0.000000	-0.000145	0.000000	0.000000	0.000000	-0.000046
4	0.000000	-0.000141	0.000000	0.000000	0.000000	-0.000023
5	0.000000	-0.000133	0.000000	0.000000	0.000000	-0.000044
7	0.000000	-0.000614	0.000000	0.000000	0.000000	-0.000390

DESPLAZAMIENTOS DE LOS APOYOS

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
2	0.000000	0.000000	0.000000	0.000000	0.000000	-0.000033
6	0.000000	0.000000	0.000000	0.000000	0.000000	-0.000227

CARACTERISTICAS DE LA SECCION 1 A 0.000

AREA	3.800000	
CANTO	1.9000	2.0000
C.G.	0.9500	0.0000
V	0.9500	1.0000
VP	0.9500	1.0000
I	1.14316678	1.26666665
R.G.	0.5485	0.5774

CONDICIONES DE AGOTAMIENTO DE LA SECCION

RESISTENCIA DEL HORMIGON	1	4000.
LIMITE ELASTICO DEL ACERO DE ARMAR		51000.
LIMITE ELASTICO DEL ACERO DE PRETENSAR		0.

ANGULO DE LA FIBRA NEUTRA		0.00 GRADOS
POSICION DE LA FIBRA NEUTRA (X,Y)	0.000	0.279
CURVATURA	0.0061708	
DEF. SUP. HOR.	0.0100	
DEF. INF. HOR.	-0.0017	
DEF. SUP. ACE.EST.	0.0000	
DEF. INF. ACE.EST.	0.0000	
AXIL	0.5	
MOMENTO EJE X	1632.7	
MOMENTO EJE Y	0.0	

ANGULO DE LA FIBRA NEUTRA		180.00 GRADOS
POSICION DE LA FIBRA NEUTRA (X,Y)	0.000	1.755
CURVATURA	0.0056993	
DEF. SUP. HOR.	-0.0008	
DEF. INF. HOR.	0.0100	
DEF. SUP. ACE.EST.	0.0000	
DEF. INF. ACE.EST.	0.0000	
AXIL	0.4	
MOMENTO EJE X	-669.0	
MOMENTO EJE Y	0.0	

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

HOJA ____ DE ____

PROYECTO _____ FECHA _____

$M_d = 1280^{tm}$
$V_{rd} = 1118^{t}$ SECCION APOYO 2.00 * 1.90.

FLEXION

$$\mu = \frac{1280}{2.00 * 1.85^2 * \frac{0.85 * 4000}{1.50}} = 0,0825$$

$$z = 0.5d\left(1 + \sqrt{1 - 2\mu}\right) = 1.770\ m$$

$$A_s = \frac{1280 * 10^4}{1.770 * \frac{57000}{1.15}} = 163\ cm^2 \text{ rep en vistas de 2 m.}$$

33 Ø25

CORTANTE

$V_{rd} = 1118^{t}$

1. Agotamiento por compresión oblicua del alma

$$V_{u1} = k f_{cd}\, b_0\, d\, \frac{\cot\theta + \cot\alpha}{1 + \cot^2\theta} = 1 * 1600 * 2.00 * 1.85\ \frac{1+0}{1+1} = 2960^{t}$$

$V_{rd} \leq V_{u1}$

2. Agotamiento por tracción en el alma

$V_{u2} = V_{cu} + V_{su}$

$$V_{cu} = \left[0,10\, \xi\, (100\, \rho_l\, f_{ck})^{1/3} - 0.15\, \sigma_{cd}\right] b_0\, d\, \beta$$

$\xi = 1.329$

$$\rho_l = \frac{196 + 68.6 + 32.16}{2 * 1.90}\, 10^{-4} = 0,0078 \quad f_{ck} = 40\ MPa$$

$$V_{cu} = 0.10 * 1.329\ (100 * 0.0079 * 40)^{1/3} * 2.00 * 1.85 * 1 = 155^{t}$$

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

PROYECTO _____ HOJA ____ DE ____

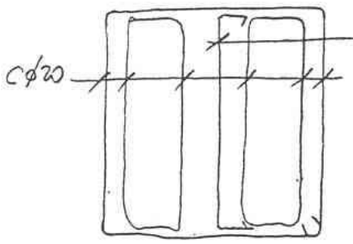
FECHA _____

3. Armadura transversal cortante

$V_{su} = 1118 - 155 = 963^t = 1.665 \; \Sigma A_\alpha \cdot f_{yd}$

$z = 0.9 \; d = 0.9 \cdot 1.85 = 1.665$

$$\Sigma A_\alpha = \frac{963 * 10^4}{1.665 * 40000} = 144.5 \; \frac{cm^2}{m}$$



$7 * 3.14 * \overline{6.67} = 146.6 \frac{cm^2}{m} > 144.5 \frac{cm^2}{m}$

4. Armadura longitudinal cortante

$$\Delta T = V_{rd} - \frac{V_{su}}{2} = 1118 - \frac{1.770 < 147 * 10^{-4} * 40000}{2} = 597^t$$

$$A_{lc} = \frac{597 * 10^4}{\frac{57000}{1.15}} = 134 cm^2$$

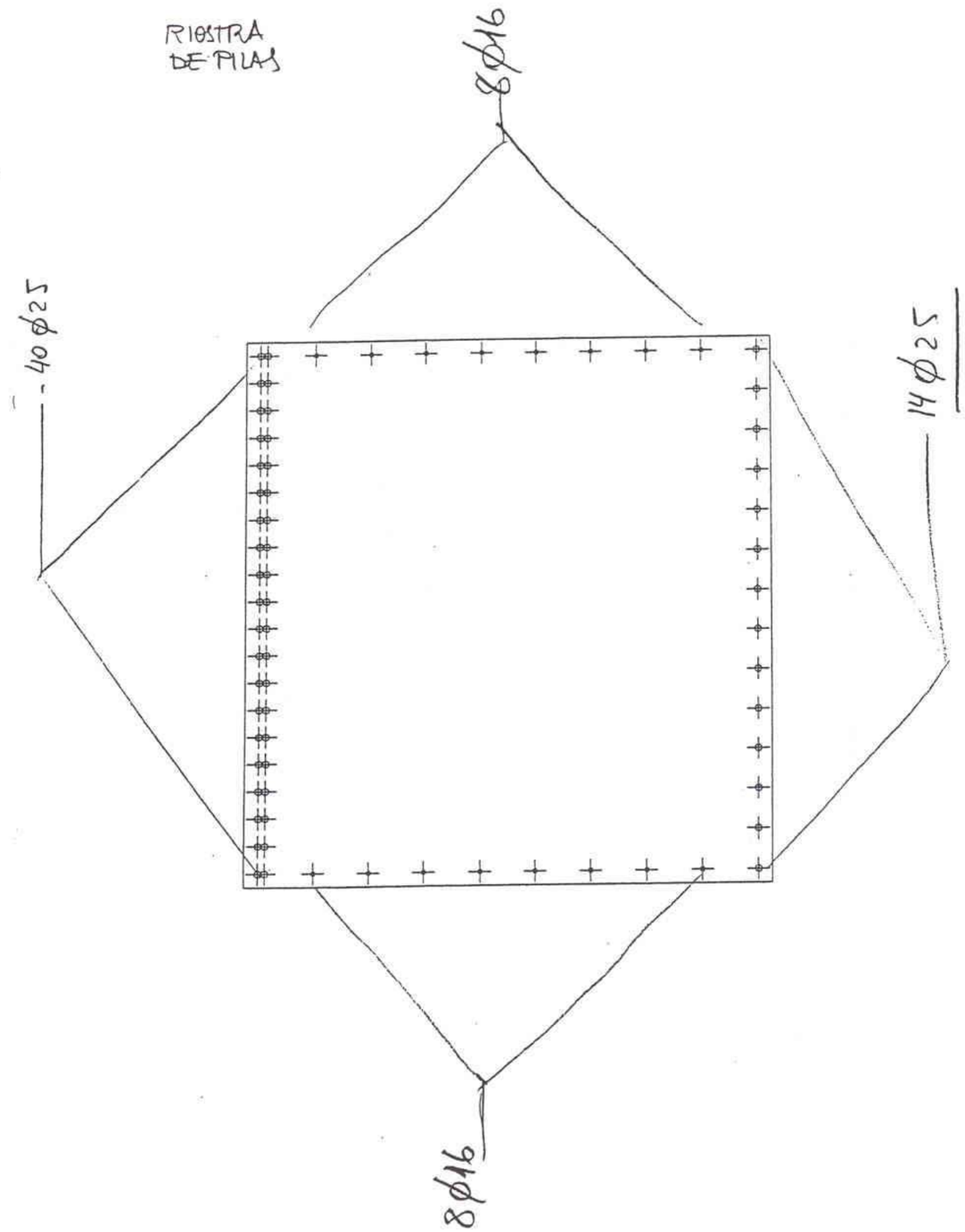
$M_{ROTURA} = 1633^{tm}$

$M_d = 1280^{tm} \Rightarrow \Delta M = 353^{tm} = A_s * \frac{57000}{1.15} * 1.770$

$A_s = 45 cm^2$

$A_{lc} = 45 + 6 * 2.01 = 57.1 cm^2$

Puesto que la armadura se lleva constante en toda la pista se cumple automáticamente la prescripción de la Norma relativa a la armadura longitudinal de cortante.



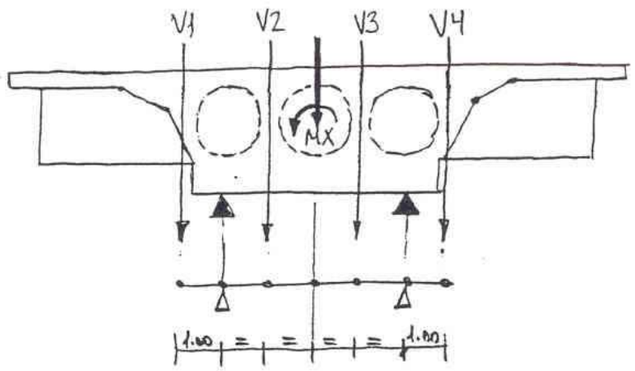
RIOSTRA ESTRIBO 1 Y ESTRIBO 2 Y DE JUNTA DE DILATACIÓN

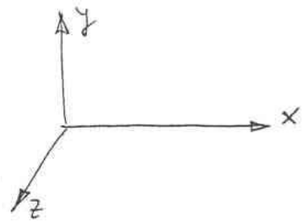
Esfuerzos de la barra 1 extremo dorsal

coeficiente del esfuerzo FX : 1.00
coeficiente del esfuerzo FY : 1.00
coeficiente del esfuerzo FZ : 1.00
coeficiente del esfuerzo MX : 1.00
coeficiente del esfuerzo MY : 1.00
coeficiente del esfuerzo MZ : 1.00

HIP.	FX	FY	FZ	MX	MY	MZ
431 FUER X MAX envolvente (ELU) (tota	7145.09	293.60	0.01	-0.06	-0.22	2906.54
432 FUER X MIN envolvente (ELU) (tota	3033.43	287.47	0.10	-0.07	-0.68	-1988.50
433 FUER Y MAX envolvente (ELU) (tota	5786.93	698.53	0.06	0.01	-0.45	1977.31
434 FUER Y MIN envolvente (ELU) (tota	4914.73	-231.98	0.07	-0.10	-0.48	-958.66
435 FUER Z MAX envolvente (ELU) (tota	5256.23	482.22	74.64	1451.18	-434.38	1058.52
436 FUER Z MIN envolvente (ELU) (tota	6519.75	364.13	-85.74	-1495.53	484.13	1822.85
437 MOME X MAX envolvente (ELU) (tota	6519.75	391.30	69.89	1513.29	-430.39	1822.85
438 MOME X MIN envolvente (ELU) (tota	5256.23	509.40	-80.99	-1557.63	480.19	1058.53
439 MOME Y MAX envolvente (ELU) (tota	5542.83	405.70	-73.79	-1480.47	511.91	1552.15
440 MOME Y MIN envolvente (ELU) (tota	6233.15	444.21	62.68	1436.13	-462.16	1329.23
441 MOME Z MAX envolvente (ELU) (tota	7145.09	300.66	0.01	-0.06	-0.21	2906.54
442 MOME Z MIN envolvente (ELU) (tota	3033.43	296.81	0.10	-0.07	-0.68	-1988.51

RIOSTRA ESTRIBO 1.



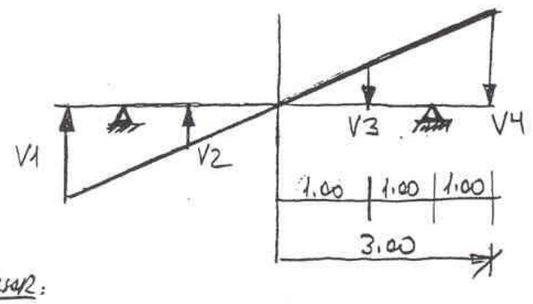


HIPO 433 - FUER. Y MAX envolvente (ELU) (total)

$FY = 699^{t}$ $\quad V_1 = V_2 = V_3 = V_4 = \frac{699}{4} = 175^{t}/\text{alma}$.
$MX = 0$

HIPO 438 - MOME X MIN envolvente (ELU) (total)

$FY = 509^{t}$
$MX = 1558^{t\cdot m}$



TORSOR:

$$\frac{V4}{3.000} = \frac{V3}{1.00} = \frac{V2}{1.00} - \frac{V1}{3.000} \qquad V_3 = V_2 \quad V_4 = V_1$$

$$V4 * 3.000 * 2 + V3 * 1.000 * 2 = 1558$$

$$6.000\,V4 + \frac{1.000}{3.000}\,V4 * 2.00 = 1558 \rightarrow V_4 = 234^{t} = V_1$$

$$V_3 = 78^{t} = V_2$$

CORTANTE.

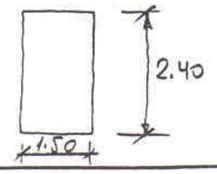
$$V_1 = V_2 = V_3 = V_4 = \frac{509}{4} = 127^{t}.$$

CORTANTE + TORSOR

$$V_1 = 127 - 234 = -107^{t}$$
$$V_2 = 127 - 78 = +49^{t}$$
$$V_3 = 127 + 78 = +205^{t}$$
$$V_4 = 127 + 234 = +361^{t}.$$

CARACTERISTICAS GEOMETRICAS

AX = 3.6
AY = AZ = 5/6 AX = 3.0
IX = 1.650
IY = 0.675
IZ = 1.728



CARGAS DIRECTAS SOBRE RIOSTRA E1.

PESO PROPIO RIOSTRA 1.50 * 2.40

CARGA MUERTA

- Impuestos y bionsulfites 0.750 t/ml
- Balasto, traviesas, carriles Cobertura, cableados y postes 11.000 t/ml
- Sopuste catenarias 0.500 t/tm } 9 tm Puntuales en borde riostra.

SOBRECARGA: 12 t/ml

Con un espesor de riostra de 1.50 m:

PESO PROPIO = 1.50 * 2.40 * 2.5 t/m² = 9 t/ml

CARGA MUERTA =

- Impuesto + bionsulfites = 0.750 t/ml * 1.50 = 1.125 t
- Balasto + traviesas + ... = 11.00 t/ml * 1.50 = 16.500 t/riostra
- Sopuste catenarias = 0.5 t/tm × 9 tm

SOBRECARGA = 12 t/ml * 1.50 * 2 vías = 36 t.

CARGAS MODELO

- Peso Propio riosta por gravedad
- Carga Muerta

NUDO 1 fuerz −1.125 t
NUDO 7 fuerz −1.125 t

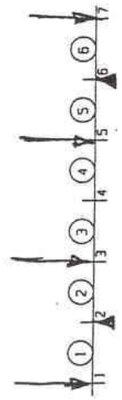
$\frac{16.5}{9.37} = 1.761$ t/ml → fuerz unif −1.761 t/ml

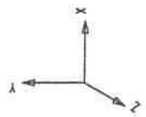
9.37 = LONG. RIOSTRA

NUDO 1 fuerz −0.500 t
momZ +9.00 tm.

NUDO 7 fuerz −0.500 t
momZ −9.00 tm.

- Sobrecarga = $\frac{36}{4}$ = 9 t/elem.






```
nume de nudo    7
nume de barr    6
nume de hipo 2
nume de apoy    2
tipo port espa
list todo
coor de nudo
    1       0.000       0.000       0.0000
    2       1.000       0.000       0.0000 desp x y z giro x
    3       2.000       0.000       0.0000
    4       3.000       0.000       0.0000
    5       4.000       0.000       0.0000
    6       5.000       0.000       0.0000 desp y z
    7       6.000       0.000       0.0000
inci de barr
    1   1   2
    2   2   3
    3   3   4
    4   4   5
    5   5   6
    6   6   7
mate de barr
    1 a 6   1
prop de barr pris
    1 a 6   3.600 3.000 3.000 1.650 0.675 1.728
cons de mate
* HORMIGON TABLERO fck=40 MPa
* E=100000*[9.50*(40.00+8)**1/3]=3452529.
* G=E/2(1+nu=0.2)=1438554.
     1 3452529. 1438554. 2.5
hipo 433 CORTANTE MAXIMO (ELU)+PESO PROPIO RIOSTRA
carga en nudo
  1 fuer y -175.000
  3 fuer y -175.000
  5 fuer y -175.000
  7 fuer y -175.000
* CARGAS DIRECTAS
* PESO PROPIO
gravedad
1 a 6 x y z 0. -1. 0.
* CARGA MUERTA
carga en nudo
  1 fuer y -1.125
  7 fuer y -1.125
carga en barra
1 a 6 fuer y unif -1.761
carga en nudo
  1 fuer y -0.500
  1 mome z +9.000
  7 fuer y -0.500
  7 mome z -9.000
* SOBRECARGA
carga en nudo
  1 fuer y -9.000
  3 fuer y -9.000
  5 fuer y -9.000
  7 fuer y -9.000
hipo 438 TORSION MAXIMA+CORTANTE (ELU)+PESO PROPIO RIOSTRA
carga en nudo
  1 fuer y +107.000
  3 fuer y  -49.000
  5 fuer y -205.000
```

```
   7 fuer y -361.000
* CARGAS DIRECTAS
* PESO PROPIO
gravedad
1 a 6 x y z 0. -1. 0.
* CARGA MUERTA
carga en nudo
   1 fuer y -1.125
   7 fuer y -1.125
carga en barra
1 a 6 fuer y unif -1.761
carga en nudo
   1 fuer y -0.500
   1 mome z +9.000
   7 fuer y -0.500
   7 mome z -9.000
* SOBRECARGA
carga en nudo
   1 fuer y -9.000
   3 fuer y -9.000
   5 fuer y -9.000
   7 fuer y -9.000
calcula
problema bien definido, empieza la ejecucion
```


hipo 433 CORTANTE MAXIMO (ELU)+PESO PROPIO RIOSTRA

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	0.00	-185.62	0.00	0.00	0.00	9.00
1	2	0.00	196.39	0.00	0.00	0.00	-200.01
2	2	0.00	205.52	0.00	0.00	0.00	200.01
2	3	0.00	-194.76	0.00	0.00	0.00	0.14
3	3	0.00	10.76	0.00	0.00	0.00	-0.14
3	4	0.00	0.00	0.00	0.00	0.00	5.52
4	4	0.00	0.00	0.00	0.00	0.00	-5.52
4	5	0.00	10.76	0.00	0.00	0.00	0.14
5	5	0.00	-194.76	0.00	0.00	0.00	-0.14
5	6	0.00	205.52	0.00	0.00	0.00	-200.01
6	6	0.00	196.39	0.00	0.00	0.00	200.01
6	7	0.00	-185.62	0.00	0.00	0.00	-9.00

CARGAS APLICADAS EN LOS NUDOS LIBRES

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
1	0.00	-185.62	0.00	0.00	0.00	9.00
3	0.00	-184.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	-184.00	0.00	0.00	0.00	0.00
7	0.00	-185.62	0.00	0.00	0.00	-9.00

REACCIONES EN LOS APOYOS

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
2	0.00	401.91	0.00	0.00	0.00	0.00
6	0.00	401.91	0.00	0.00	0.00	0.00

DESPLAZAMIENTOS DE LOS NUDOS LIBRES

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
1	0.000000	-0.000072	0.000000	0.000000	0.000000	0.000033
3	0.000000	-0.000041	0.000000	0.000000	0.000000	-0.000001
4	0.000000	-0.000043	0.000000	0.000000	0.000000	0.000000
5	0.000000	-0.000041	0.000000	0.000000	0.000000	0.000001
7	0.000000	-0.000072	0.000000	0.000000	0.000000	-0.000033

DESPLAZAMIENTOS DE LOS APOYOS

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
2	0.000000	0.000000	0.000000	0.000000	0.000000	0.000016
6	0.000000	0.000000	0.000000	0.000000	0.000000	-0.000016

hipo 438 TORSION MAXIMA+CORTANTE (ELU)+PESO PROPIO RIOSTRA

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	0.00	96.38	0.00	0.00	0.00	9.00
1	2	0.00	-85.61	0.00	0.00	0.00	81.99
2	2	0.00	1.52	0.00	0.00	0.00	-81.99
2	3	0.00	9.24	0.00	0.00	0.00	78.14
3	3	0.00	-67.24	0.00	0.00	0.00	-78.14
3	4	0.00	78.00	0.00	0.00	0.00	5.52
4	4	0.00	-78.00	0.00	0.00	0.00	-5.52
4	5	0.00	88.76	0.00	0.00	0.00	-77.86
5	5	0.00	-302.76	0.00	0.00	0.00	77.86
5	6	0.00	313.52	0.00	0.00	0.00	-386.01
6	6	0.00	382.39	0.00	0.00	0.00	386.01
6	7	0.00	-371.62	0.00	0.00	0.00	-9.00

CARGAS APLICADAS EN LOS NUDOS LIBRES

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
1	0.00	96.38	0.00	0.00	0.00	9.00
3	0.00	-58.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	-214.00	0.00	0.00	0.00	0.00
7	0.00	-371.62	0.00	0.00	0.00	-9.00

REACCIONES EN LOS APOYOS

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
2	0.00	-84.09	0.00	0.00	0.00	0.00
6	0.00	695.91	0.00	0.00	0.00	0.00

DESPLAZAMIENTOS DE LOS NUDOS LIBRES

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
1	0.000000	0.000064	0.000000	0.000000	0.000000	-0.000044
3	0.000000	-0.000030	0.000000	0.000000	0.000000	-0.000024
4	0.000000	-0.000033	0.000000	0.000000	0.000000	-0.000017
5	0.000000	-0.000033	0.000000	0.000000	0.000000	-0.000023
7	0.000000	-0.000171	0.000000	0.000000	0.000000	-0.000095

DESPLAZAMIENTOS DE LOS APOYOS

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
2	0.000000	0.000000	0.000000	0.000000	0.000000	-0.000038
6	0.000000	0.000000	0.000000	0.000000	0.000000	-0.000062

CARACTERISTICAS DE LA SECCION 1 A 0.000

AREA 2.850000

CANTO	1.9000	1.5000
C.G.	0.9500	0.0000
V	0.9500	0.7500
VP	0.9500	0.7500
I	0.85737467	0.53437495
R.G.	0.5485	0.4330

CONDICIONES DE AGOTAMIENTO DE LA SECCION

RESISTENCIA DEL HORMIGON	1	4000.
LIMITE ELASTICO DEL ACERO DE ARMAR		51000.
LIMITE ELASTICO DEL ACERO DE PRETENSAR		0.

ANGULO DE LA FIBRA NEUTRA 0.00 GRADOS
POSICION DE LA FIBRA NEUTRA (X,Y) 0.000 0.193
CURVATURA 0.0058578
DEF. SUP. HOR. 0.0100
DEF. INF. HOR. -0.0011
DEF. SUP. ACE.EST. 0.0000
DEF. INF. ACE.EST. 0.0000

AXIL 0.3
MOMENTO EJE X 547.3
MOMENTO EJE Y 0.0

ANGULO DE LA FIBRA NEUTRA 180.00 GRADOS
POSICION DE LA FIBRA NEUTRA (X,Y) 0.000 1.742
CURVATURA 0.0057401
DEF. SUP. HOR. -0.0009
DEF. INF. HOR. 0.0100
DEF. SUP. ACE.EST. 0.0000
DEF. INF. ACE.EST. 0.0000

AXIL -0.3
MOMENTO EJE X -395.1
MOMENTO EJE Y 0.0

• VALORES DE ELU #

$M_d = 386^{tm}$
$V_{rd} = 382^{t}$

FLEXION

$M_d = 386^{tm}$ ⌷ SECCION APOYO 1.50 × 1.90

$$\mu = \frac{386}{1.50 * 1.85^2 * \frac{0.85 * 4000}{1.50}} = 0,0332$$

$$z = 0.5\, d\,(1+\sqrt{1-2\mu}) = 1.819\ m$$

$$A_s = \frac{386 * 10^4}{1.819 * \frac{4000}{1.15}} = 48\ cm^2 \text{ sup en vistas de } 1.50\,m$$

$10\,\phi 25\ (49\,cm^2)$.

11 Ø25 arriba.
11 Ø20 abajo ⟸ SOLUCIÓN. COMPROBADA. A rotura $M_{rot} = 547.3$

$\Delta M = 547 - 386 = 161^{tm} \rightarrow \frac{161}{1.819} = 88^{t} = A_s\ 40000$

$A_s = 22 cm^2$ utilizables para Asw de cortante

ARMADURA DE CORTANTE.

$V_{rd} = 382^{t}$

1. Agotamiento por compresión oblicua del alma

$$V_{u1} = K\, f_{1cd}\, b_o\, d\, \frac{\cot g\theta + \cot g\alpha}{1+\cot g^2\theta}$$

$f_{1cd} = 0.60\, f_{cd} = 0.60 * \frac{4000}{1.50} = 1600\ t/m^2$

$b_o = 1.50$

$K = \frac{5}{3}\left(1 + \frac{\sigma_{cd}'}{f_{cd}}\right) = \frac{5}{3} \neq 1.00 \quad K = 1.$

$\alpha = 90° \rightarrow \cot g\alpha = 0$

θ tal que $0.5 \le \cot g\theta \le 2.0$

Elegimos $\cot g\theta = 1 \rightarrow \theta = 45°$

$$V_{u1} = 1.00 * 1600 * 1.50 * 1.85 * \frac{1+0}{1+1} = 2220^{t}$$

$V_{rd} \le V_{u1}$

2. Agotamiento por tracción en el alma

$V_{u2} = V_{cu} + V_{su}$

$$V_{cu} = [0.10\,\xi\,(100\,\rho_l\, f_{ck})^{1/3} - 0.15\,\sigma_{cd}']\, b_o\, d\, \beta$$

$\xi = 1+\sqrt{\frac{200}{d}} = 1+\sqrt{\frac{200}{1850}} = 1.329 \qquad \beta = 1$

$\rho_l = \frac{A_s + A_p \frac{f_p}{f_{yd}}}{b_o d} = \frac{A_s}{b_o d} \simeq 0,01 \qquad f_{ck} = 40\ MPa \qquad \sigma_{cd}' = 0$

$V_{cu} = 0.10 * 1.329\,(100 * 0,01 * 40)^{1/3} * 1.50 * 1.85 * 1 = 126^{t}$

CUANTIA MINIMA CORTANTE.

$C\,\phi 16 \,c\, 15 \rightarrow A_s = 26.80\ \frac{cm^2}{m}$

RIOSTRA E2.

- Se arma igual que la riostra de E1, por ser casi iguales las luces del primer y último vano.
- En la riostra del E2 se elimina la armadura del bezó de anclaje.

RIOSTRAS FINAL DE TRAMO
ANTES DE LA JUNTA DE PILA 15.

Se dispone la misma armadura que en la riostra del E1 pero repartida en 1.20 en lugar de 1.50

$$\mu = \frac{386}{1.20 * 1.85^2 \frac{0.85*4000}{1.50}} = 0,0041$$

$$z = 0.5d\,(1+\sqrt{1-2\mu}) = 1.846$$

$$A_1 = \frac{386*10^4}{1.846 * \frac{5000}{1.15}} = 47\ cm^2.$$

$24\phi 20 \longrightarrow \underline{75.36\ cm^2}$.

CORTANTE

$$V_{cu} = 0.10*1.329\,(100*0,01*40)^{\frac{1}{3}} * 1.20 * 1.85 * 1 = 101^t$$

$$V_{su} = \underbrace{\frac{382}{V_{rd}}} - 101 = 281^t = \underbrace{\frac{1.665}{z}}\ \Sigma A_\alpha \cdot \underbrace{\frac{f_{yd}}{40000}}$$

$$\Sigma A_\alpha = 42.20\ \frac{cm^2}{m} \longrightarrow 2c\ \phi 16 c 0.20\ \left(40.2\ \frac{cm^2}{m}\right)$$

$$\Delta T = V_{rd} - \frac{V_{su}}{2} = 242^t \quad A_{fc} = \frac{242*10^4}{\frac{5000}{1.15}} = 54\ cm^2.$$

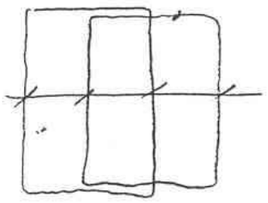
Con la armadura de flexión dispuesta, que se ubica en el alma de la viga se cumple los prescripciones de la armadura longitudinal de cortante.

3. Armadura transversal de cortante

$V_{su} = 382 - 126 = 256^t = \frac{1.665}{z} \; \Sigma A_\alpha \cdot f_{y\alpha,d}$

$z = 0.9d = 0.9 * 1.85 = 1.665 m$

$\Sigma A_\alpha = \frac{256}{1.665 * 40\,000} * 10^4 = 38.44 \frac{cm^2}{m}$ armadura transversal.



2C ϕ16 a 0.20

$20 * 2.01 = 40.2 \frac{cm^2}{m} > 38.44 \frac{cm^2}{m}$

4. Armadura longitudinal de cortante - según EHE.

$\Delta T = V_{rd} - \frac{V_{cu}}{2} = 382 - \frac{1.665 * 40.2 * 10^{-4} * 40000}{2} = 248^t$



$A_{fc} = \frac{248 * 10^4}{\frac{5000}{1.15}} = 56 cm^2$

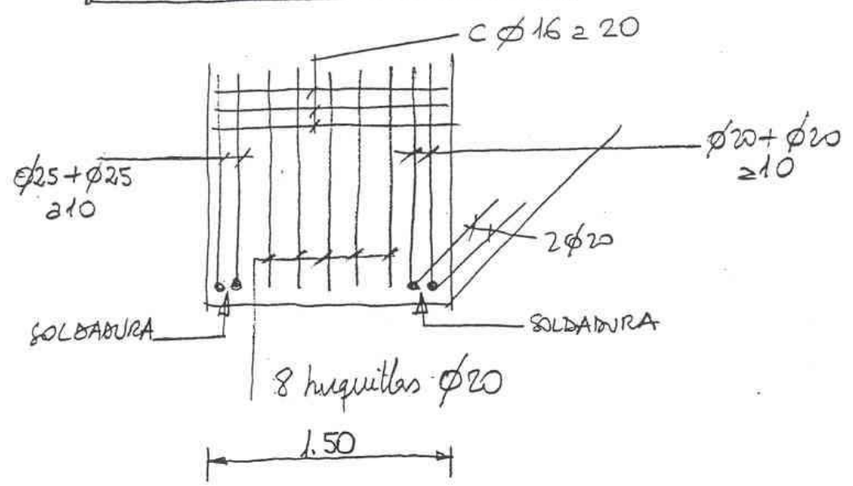
. Se disponen 12+12 ϕ20 $A_s = 75.4 cm^2$

$\underbrace{22 cm^2}_{\text{respecto a 11ϕ25 sup}} + \underbrace{21.5}_{75.4 - 11\phi25} = 43.5 cm^2$

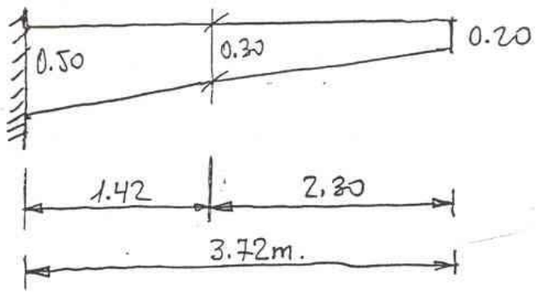
53.9

Además se lleva la armadura constante a lo largo de la riostra.

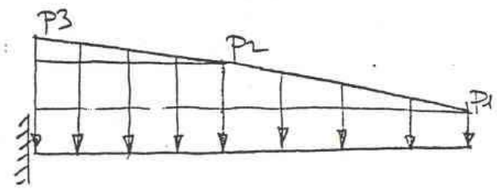
ARMADURA TACO INFERIOR RIOSTRA DEL ESTRIBO



FLEXION LOCAL DE VUELO



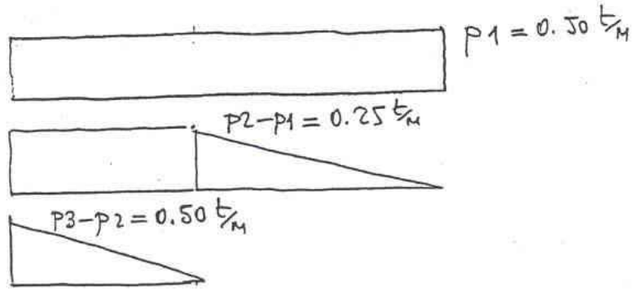
PESO PROPIO



$0.20 * 1.00 * \overline{2.5} = 0.50 \frac{t}{M} = p1$

$0.30 * 1.00 * \overline{2.5} = 0.75 \frac{t}{M} = p2$

$0.50 * 1.00 * \overline{2.5} = 1.25 \frac{t}{M} = p3$



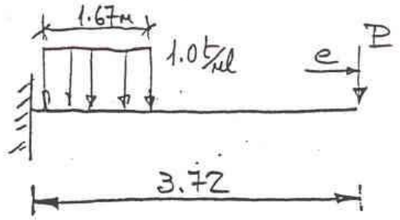
$$M^{-}_{e=50} = 0.50 * \frac{3.72^2}{2} + \frac{1}{2} 0.25 * 2.30 * 2.187$$

$$+ 0.25 * \frac{1.42^2}{2} + \frac{1}{2} 0.50 * 1.42 * \frac{1}{3} 1.42$$

$$M^{-}_{e=50} = 3.460 + 0.629 + 0.252 + 0.168 = \underline{\underline{4.509}}\ tM/m$$

$$M^{-}_{e=30} = 0.50 * \frac{2.30^2}{2} + \frac{1}{2} 2.30 * 0.25 * \frac{2.30}{3} = \underline{\underline{1.543}}\ tM/M$$

CARGA MUERTA



CONDUCTOS CABLEADO, CABLES Y PASEOS.

* 0.600 t/ml e = 3.72m
* 0.5 t/m² → 0.5 * 1.45 = 0.725 t/ml e = 3.72 − 1.45/2 = 2.995m

IMPOSTA Y BARANDILLA

* 0.325 t/ml e = 3.72 m
* 0.050 t/ml e = 3.72 m

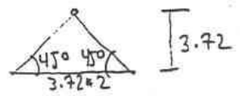
MURO GUARDABALASTO + BARANDILLA

* 0.600 t/ml e = 1.72 m.

BALASTO: 1.67 m desde el empotramiento
1.67/9.90 · 5.11 = 0.876 m² → 0.876/1.67 = 0.525 m.
5.11 t/m² total de balasto
ANCHO TOTAL = 9.90 m.

0.525 * 1.6 t/m³ * 1.20 ≃ 1.0 t/ml

POSTE CATENARIA



* 0.5 t puntuales e = 3.72
  9 tn puntuales e = 3.72

$$M = 0.600 * 3.720 + 0.725 * 2.995 + 0.325 * 3.72 + 0.050 * 3.72$$

$$0.6 * 1.72 + 1 * \frac{1.67^2}{2} + \frac{0.5 * 3.72}{3.72 * 2} + \frac{9}{3.72 * 2}$$

$$M = 2.232 + 2.171 + 1.209 + 0.186 + 1.032 + 1.394 + 0.250 + 1.210$$

$$M_{e=0.50} = \underline{\underline{9.684 \text{ tm/m}}}$$

$$M_{e=0.30} = 0.600 * 2.30 + 0.725 * 2.30 + 0.325 * 2.30 + 0.050 * 2.30 + \frac{0.5 * 2.30}{2.30 * 2} + \frac{9}{2.30 * 2} + 0.6 * 0.3 = \underline{\underline{6.297 \text{ tm/m}}}$$

MOMENTO DE CALCULO.

Se toma un coeficiente de seguridad 1.50 global.

e=50 $M_d = (4.509 + 9.684) * 1.50 = 21.290$ tm

e=30 $M_d = (1.543 + 6.297) * 1.50 = 11.760$ tm.

e=50

$$\mu = \frac{M_d}{b d^2 \frac{0.85 f_{ck}}{1.50}} = \frac{21.290}{1 * 0.45^2 * \frac{0.85 * 4000}{1.50}} = 0,0464$$

$$z = 0.5d (1 + \sqrt{1 - 2\mu}) = 0.439$$

$$A_s = \frac{M_d}{z} \frac{10^4}{\frac{51000}{1.15}} = \frac{21.290}{0.439} * \frac{10^4}{40000} = 12.12 \frac{cm^2}{m} +$$

(40000: coeficiente de minoración.)

e=30

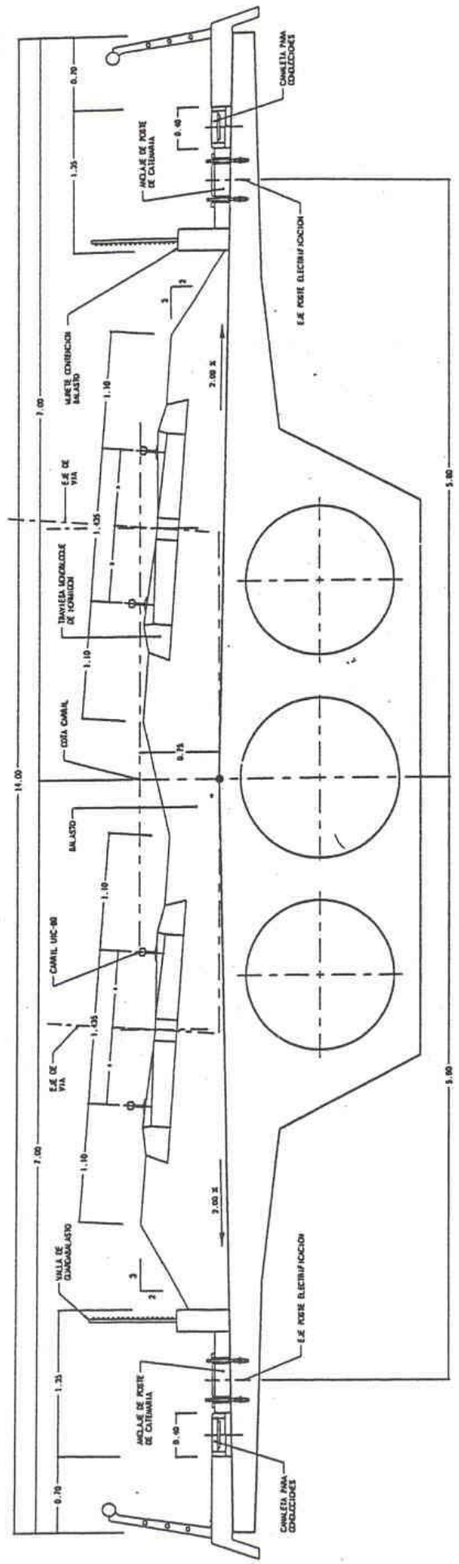
$$\mu = \frac{11.760}{1 * 0.25^2 \frac{0.85 * 4000}{1.50}} = 0,083$$

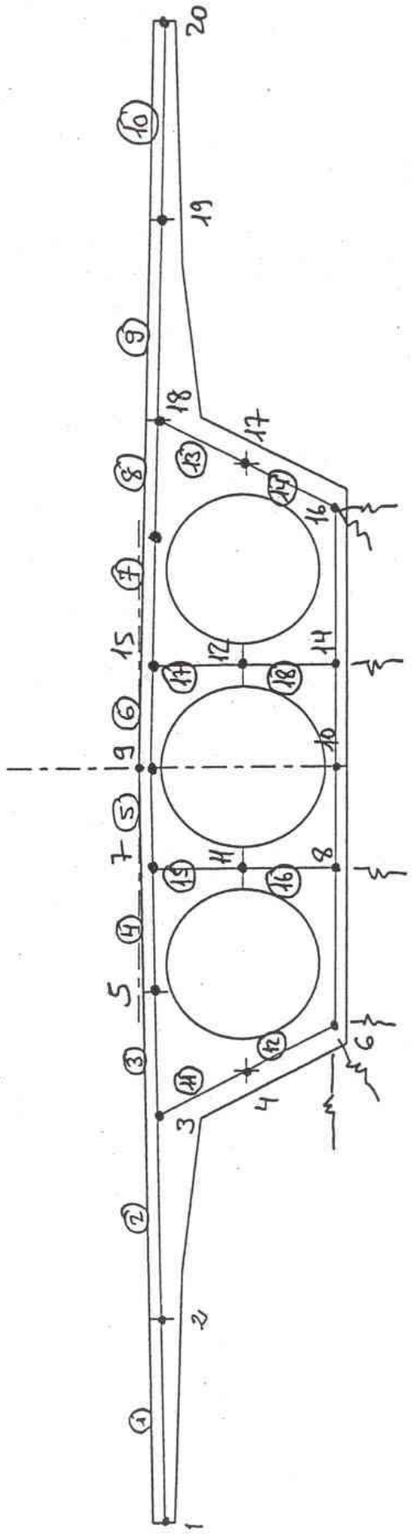
$$z = 0.5d (1 + \sqrt{1 - 2\mu}) = 0.239$$

$$A_s = \frac{11.760}{0.239} * \frac{10^4}{40000} = 12.30 \frac{cm^2}{m} +$$

En cualquier caso ϕ20 a 20 (ARMADURA C)
15.70 cm²/m de las cuales 3.40 cm²/m aprovechables para cosido de muelo

ESTUDIO SECCION TRANSVERSAL





CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

HOJA ____ DE ____

PROYECTO ____

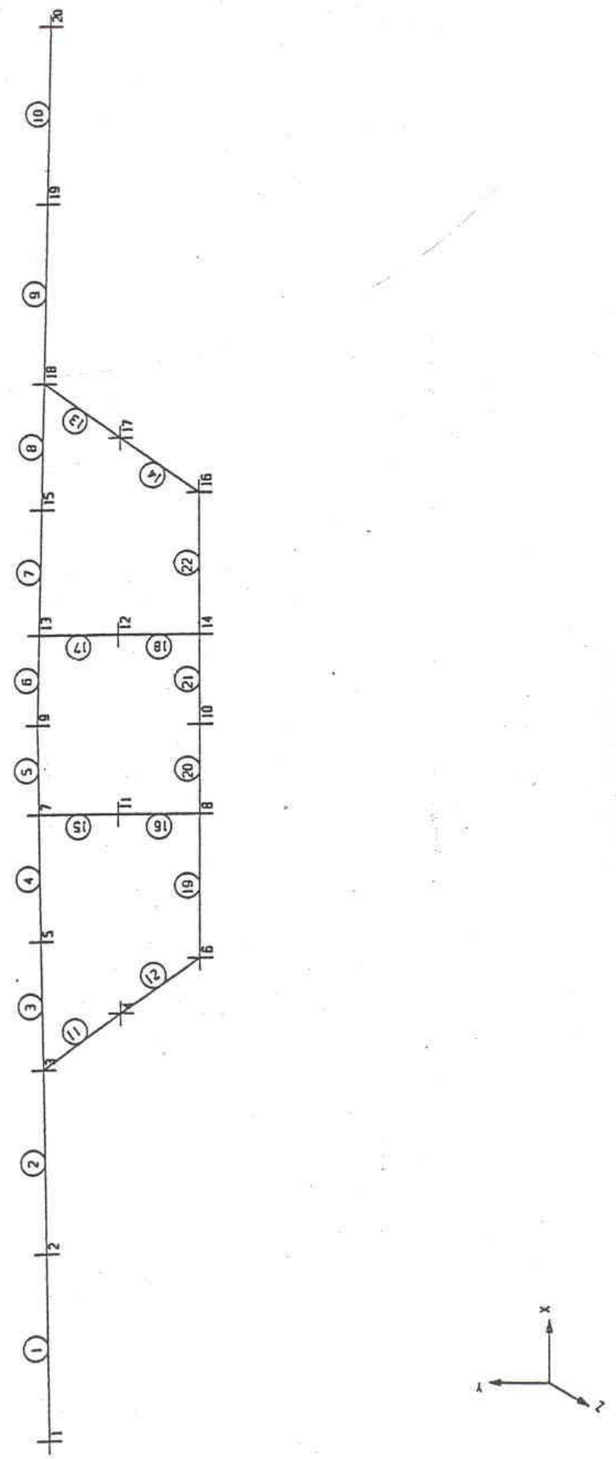
FECHA ____

COORDENADAS

1	−7.000	+1.560
2	−5.199	+1.596
3	−3.398	+1.632
4	−2.856	+0.866
5	−2.149	+1.657
6	−2.314	+0.100
7	−0.900	+1.682
8	−0.900	+0.100
9	0.	+1.700
10	0.	+0.100
11	−0.900	+0.890
12	+0.900	+0.890
13	+0.900	+1.682
14	+0.900	+0.100
15	+2.149	+1.657
16	+2.314	+0.100
17	+2.856	+0.866
18	+3.398	+1.632
19	+5.199	+1.596
20	+7.000	+1.560

INCIDENCIAS

1	1	2
2	2	3
3	3	5
4	5	7
5	7	9
6	9	13
7	13	15
8	15	18
9	18	19
10	19	20
11	3	4
12	4	6
13	18	17
14	17	16
15	7	11
16	11	8
17	13	12
18	12	14
19	6	8
20	8	10
21	10	14
22	14	16



CARACTERISTICAS GEOMETRICAS

1 y 10	h = 0.209	b = 1.00
2 y 9	0.293	
3 y 8	0,200	
4 y 7	0,200	
5 y 6	0,200	
11 y 13	0.60	
12 y 14	0.42	
15 a 18	0.40	
19 a 22	0,20	

	A_x	A_y	A_z	I_x	I_y	I_z
1	0.2090	0.1771	0.1771	0.002642	0.017417	0.000761
2	0.2930	0.2483	0.2483	0.006838	0.024417	0.002096
3	0.2000	0.1695	0.1695	0.002331	0.016667	0.000667
4	0.2000	0.1695	0.1695	0.002331	0.016667	0.000667
5	0.2000	0.1695	0.1695	0.002331	0.016667	0.000667
11	0.6000	0.5085	0.5085	0.045078	0.050000	0.018000
12	0.4200	0.3559	0.3559	0.018178	0.035000	0.006174
15	0.4000	0.3390	0.3390	0.015969	0.033333	0.005333
19	0.2000	0.1695	0.1695	0.002331	0.016667	0.000667

MUELLES:

$$f = \frac{P l^4}{384 E I} = \frac{100 \times 30^4}{384 \times 3,5 \times 10^6 \times 2.7725} = 0,0217 \text{ m}$$

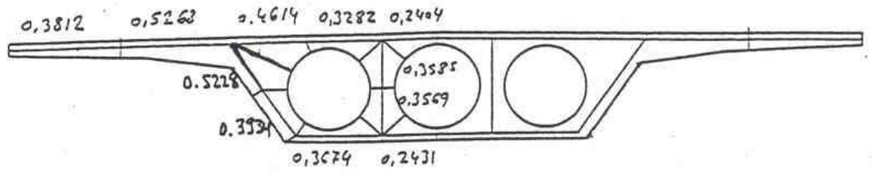
$$K = \frac{P}{\delta} = \frac{100}{0,0217} = 4600.30 \quad " \quad K_j = \frac{4600.3}{4} = 1150.07$$

Longitudes de Barras

BARRA	NUDO1	NUDO2	LONGITUD	LONG. X	LONG. Y	LONG. Z
1	1	2	1.8014	1.8010	0.0360	0.0000
2	2	3	1.8014	1.8010	0.0360	0.0000
3	3	5	1.2493	1.2490	0.0250	0.0000
4	5	7	1.2493	1.2490	0.0250	0.0000
5	7	9	0.9002	0.9000	0.0180	0.0000
6	9	13	0.9002	0.9000	-0.0180	0.0000
7	13	15	1.2493	1.2490	-0.0250	0.0000
8	15	18	1.2493	1.2490	-0.0250	0.0000
9	18	19	1.8014	1.8010	-0.0360	0.0000
10	19	20	1.8014	1.8010	-0.0360	0.0000
11	3	4	0.9384	0.5420	-0.7660	0.0000
12	4	6	0.9384	0.5420	-0.7660	0.0000
13	18	17	0.9384	-0.5420	-0.7660	0.0000
14	17	16	0.9384	-0.5420	-0.7660	0.0000
15	7	11	0.7920	0.0000	-0.7920	0.0000
16	11	8	0.7900	0.0000	-0.7900	0.0000
17	13	12	0.7920	0.0000	-0.7920	0.0000
18	12	14	0.7900	0.0000	-0.7900	0.0000
19	6	8	1.4140	1.4140	0.0000	0.0000
20	8	10	0.9000	0.9000	0.0000	0.0000
21	10	14	0.9000	0.9000	0.0000	0.0000
22	14	16	1.4140	1.4140	0.0000	0.0000

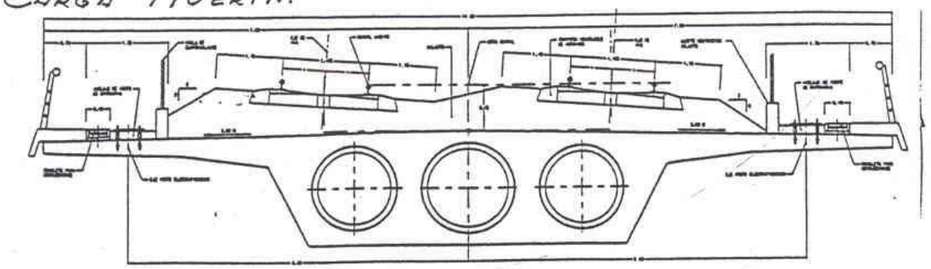
ESTUDIO DE LAS CARGAS

Peso Propio



1	fuer y conc		− 0.9530	0.90
2			− 1.3170	0.90
3			− 1.1535	0.625
4			− 0.8205	0.625
5			− 0.6010	0.45
6			− 0.6010	0.45
7			− 0.8205	0.625
8			− 1.1535	0.625
9			− 1.3170	0.90
10			− 0.9530	0.90
11			− 1.3070	0.469
12			− 0.9835	0469
13			− 1.3070	0.469
14			− 0.9835	0.469
15			− 0.8963	0.396
16			− 0.8923	0.396
17			− 0.8963	0.396
18			− 0.8923	0,396
19			− 0.9185	0.707
20			− 0,6078	0.45
21			− 0.6078	0.45
22			− 0.9185	0.707

Carga Muerta:

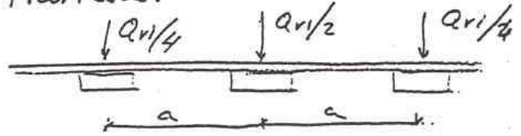


Traviesas	3	fuer y unif	−0.2332	0.03		−0.001
	4		"	0.		1.014
	7		"	0.235		−0.001
	8		"	01		−0.03
Carriles	3	fuer y conc	− 0.06	0.43		
	4		"	0.616		
	7		"	0.633		
	8		"	0.819		
Guardabalasto	2	fuer y conc	−0.30	0.149		
	9		−0.30	− 0.149		
Conductos y Cableado	1	fuer y conc	− 0.41	0.90		
	10		− 0.41	− 0.90		
Impostas y Barandillas	1	fuer y conc	−0.53	0.001		
	10		−0.53	− 0.001		
Balasto	2	fuer y line	− 0.219	− 0.867	0.249	1.131
	2	unif	− 0.867		1.131	− 0.001
	3	"	"			
	4	"	"			
	5	"	"		0.	0.468
	5	line	− 0.867	− 0.406	0.468	− 0.001
	6	"	− 0.406	− 0.867	0.	− 0.468
	6	unif	− 0.867		− 0.468	− 0.001
	7	"	"			
	8	"	"			
	9	"	"		0.	− 1.131
	9	line	"	− 0.219	− 1.131	− 0.249

CARGAS CONCENTRADAS EQUIVALENTES:

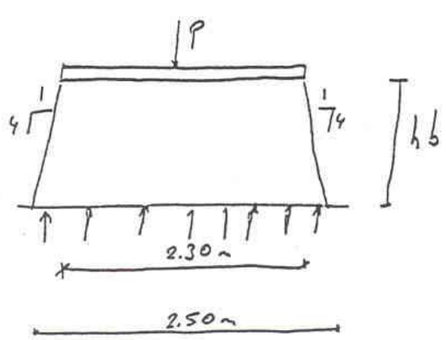
- Al estudiar los efectos locales con un modelo de barras es necesario transformar los efectos de las acciones puntuales o concentradas en cargas distribuidas equivalentes.
- El reparto de cargas lo consideramos conforme a lo propuesto en el EC-1 ó IPF-75.

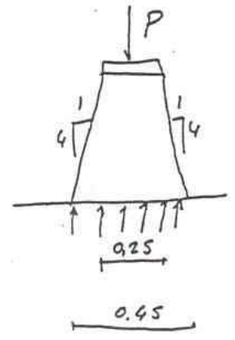
  * Reparto longitudinal del carril a las traviesas.



Consideramos $a = 0{,}65\ m$

  * Reparto longitudinal y transversal de las traviesas al tablero.





$hb = 0{,}40$

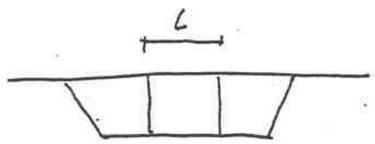
Consideramos que las cargas separadas 1.50m las repartimos en dos traviesas ($2 \times 0.65 = 1.30\ m$)

Modelo	Carga Puntual	Carga Traviesa	Carga equi (Tn)
IPF-75 (Tipo A)	30 Tn	15 Tn	23 Tn
EC-1 (LM71)	25 Tn	12.5 Tn	19.2 Tn

Por tanto los modelos de cargas concentradas son más desfavorables, en lo que a efectos locales se refiere que las correspondientes cargas repartidas.

IPF 75 → 12 T/m
EC-1 (SW-2) → 15 T/m

- CALCULO DE LOS COEFICIENTES DE IMPACTO.- EC-1



$L\phi = 2L = 2 \times 1.80 = 3.60$

$$\phi_2 = \frac{1.44}{\sqrt{L\phi} - 0,2} + 0.82 = \frac{1.44}{\sqrt{3.6} - 0,2} + 0.82 = \underline{\underline{1.669}}$$

$$1.00 < \phi 2 < 1,67$$

- CALCULO DEL COEFICIENTE DE IMPACTO.- IPF 75

Para $L < 6.m$ y $V = 200$ Km/h

$$I = 33 \times 10^{-2} \times V = 66 \rightarrow i = 1.66$$

SOBRECARGAS DE USO

a/ Cargas verticales

$$q = I \frac{P/2}{0,65 \times 2.5}$$

Modelo de carga	P	q T/m
Renfe Tipo A	30	15.42
EC-1 - LA 71	25	12.46

Excentricidad adicional 0.30 m

Sobrecarga en paseos

IPF75 y EC-1 $q = 0,50$ Tm/m

b/ Cargas horizontales

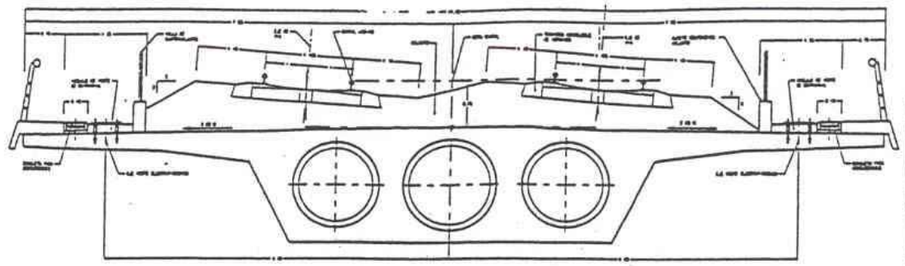
Efecto lazo

IPF-75 $Fl = 5T$ en 30.m locomotora

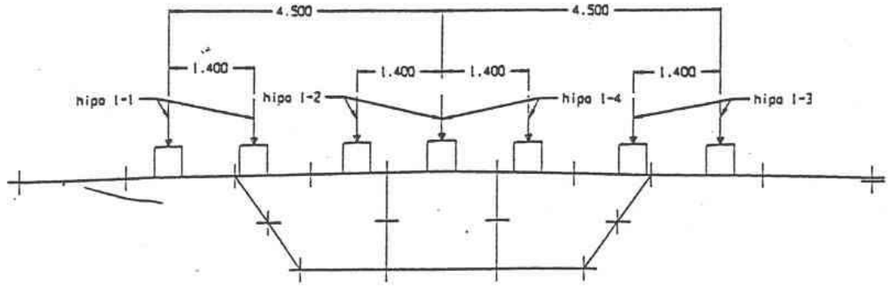
$$qh = \frac{5}{2.5 \times 30} = 0,0667 \text{ T/m}$$

EC-1 $Fl = 10T$ en 6.40m locomotora

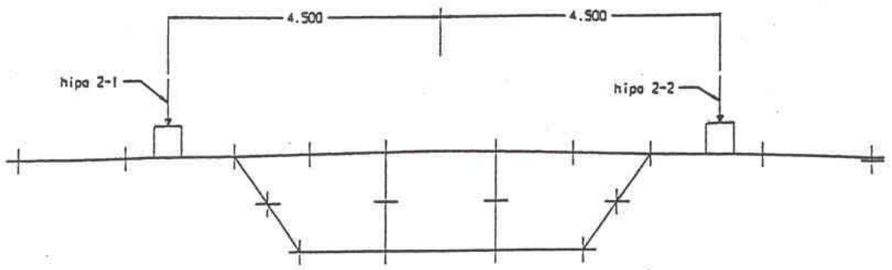
$$qh = \frac{10}{2.5 \times 6,4} = 0,625 \text{ Tn/m}$$



Hipotesis de Descarrilamiento



Hipotesis de Descarrilamiento - 1



Hipotesis de Descarrilamiento - 2

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

HOJA ____ DE ____

PROYECTO _____ FECHA _____

Sobrecargas de Uso:-

Sobrecarga IPF-75 1-1.-

2	fuer y unif	-15.42	-0.102	-0.001
3	"	-15.42		
4	"	-15.42	0.	-0.100

Sobrecarga IPF-75 1-2.-

2	fuer y unif	-15.42	-0.402	-0.001
3	"	-15.42		
4	"	-15.42	0.	-0.400

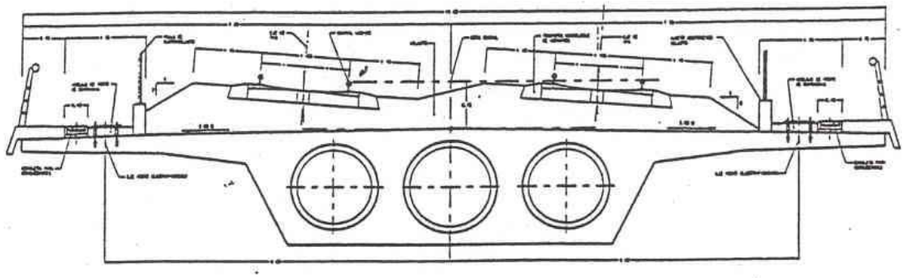
Sobrecarga IPF-75 1-3.-

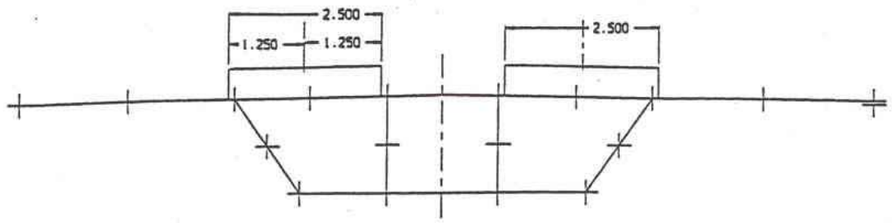
7	fuer y unif	-15.42	0.10	-0.001
8	"	-15.42		
9	"	-15.42	0.	0.102

Sobrecarga

7	fuer y unif	-15.42	0.40	-0.001
8	"	-15.42		
9	"	-15.42	0.	0.402

Las hipotesis de EC-1 cambiamos -15.32 por 12.46





CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

HOJA ___ DE ___

PROYECTO _____ FECHA _____

SOBRECARGA DE DESCARRILAMIENTO:

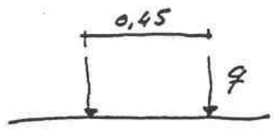
- HIPOTESIS DE CÁLCULO I:

$q_{ald} = 5\ T_n/m$

- HIPOTESIS DE CÁLCULO II:

$q_{ald} = 8\ T_n/m$

HIPOTESIS I



$q = \frac{5}{0,45} = 11.11\ T/m$

HIPOTESIS II

$q = \frac{8}{0,45} = 17.78\ T/m$

Sobrecarga Pasos 1.-

1	fuer y unif	-0.50	-1.64	-0.001
2	"	-a50	0.	0.25

Sobrecarga Pasos 2.-

9	fuer y unif	-0.50	-0.25	-0.001
10	"	-0.50	0.	1.64

Efecto lazo IPF-75 (Izq)

2	fuer x unif	-0.0667	-0.09	-0.001
3	"	-0.0667		
4	"	-0.0667	0.	-0.11

Efecto lazo IPF-75 (Dcha)

7	fuer x unif	-0.0667	0.	0.11
8	"	-0.0667		
9	"	-0.0667	0.	0.09

Efecto lazo EC-1 (Izq)

2	fuer x unif	-0,625	-0.09	-0.001
3	"	-0.625		
4	"	-0.625	0.	-0.11

Efecto lazo EC-1 (Dcha)

7	fuer x unif	-0.625	0.	0.11
8	"	-0.625		
9	"	-0.625	0.	0.09

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PROYECTO

HOJA ___ DE ___
FECHA

Descarrilamiento 1-1

2	fuer y unif	-11.11	0,474	0,924
3	"	-11.11	0,073	0,523

Descarrilamiento 1-2

4	fuer y unif	-11.11	0,523	0,974
5	"	-11.11	-0.223	-0.001
6	"	-11.11	0.	0.223

Descarrilamiento 1-4

5	fuer y unif	-11.11	-0.223	-0.001
6	"	-11.11	0.	0.223
7	"	-11.11	0.275	0.725

Descarrilamiento 1-3

8	fuer y unif	-11.11	0,726	1.176
9	"	-11.11	0,877	1,327

Descarrilamiento 2-1

2	fuer y unif	-17.78	0,474	0,924

Descarrilamiento 2-2

9	fuer y unif	-17.78	0,877	1,327

```
nume de nudo   20
nume de barr   22
nume de hipo   24
nume de apoy    0
nume de muel    7
tipo port espa
list todo
coor de nudo
1 -7.00 1.560
2 -5.199 1.596
3 -3.398 1.632
4 -2.856 0.866
5 -2.149 1.657
6 -2.314 0.10
7 -0.900 1.682
8 -0.900 0.10
9 0. 1.70
10 0. 0.10
11 -0.900 0.89
12 0.900 0.89
13 0.900 1.682
14 0.900 0.10
15 2.149 1.657
16 2.314 0.10
17 2.856 0.866
18 3.398 1.632
19 5.199 1.596
20 7.00 1.560
inci de barr
1 1 2
2 2 3
3 3 5
4 5 7
5 7 9
6 9 13
7 13 15
8 15 18
9 18 19
10 19 20
11 3 4
12 4 6
13 18 17
14 17 16
15 7 11
16 11 8
17 13 12
18 12 14
19 6 8
20 8 10
21 10 14
22 14 16
mate de barr
    1 a   22    1
prop de barr pris
```

```
 1      0.2090   0.1771   0.1771   0.002642   0.017417   0.000761
 2      0.2930   0.2483   0.2483   0.006838   0.024417   0.002096
 3      0.2000   0.1695   0.1695   0.002331   0.016667   0.000667
 4      0.2000   0.1695   0.1695   0.002331   0.016667   0.000667
 5      0.2000   0.1695   0.1695   0.002331   0.016667   0.000667
 6      0.2000   0.1695   0.1695   0.002331   0.016667   0.000667
 7      0.2000   0.1695   0.1695   0.002331   0.016667   0.000667
 8      0.2000   0.1695   0.1695   0.002331   0.016667   0.000667
 9      0.2930   0.2483   0.2483   0.006838   0.024417   0.002096
10      0.2090   0.1771   0.1771   0.002642   0.017417   0.000761
11      0.6000   0.5085   0.5085   0.045078   0.050000   0.018000
12      0.4200   0.3559   0.3559   0.018178   0.035000   0.006174
13      0.6000   0.5085   0.5085   0.045078   0.050000   0.018000
14      0.4200   0.3559   0.3559   0.018178   0.035000   0.006174
15 a 18 0.4000   0.3390   0.3390   0.015969   0.033333   0.005333
19 a 22 0.2000   0.1695   0.1695   0.002331   0.016667   0.000667
prop de muel cons 1150.07 x y z 0. 1. 0.
106 6 1150.07 0. 1. 0.
108 8 1150.07 0. 1. 0.
114 14 1150.07 0. 1. 0.
116 16 1150.07 0. 1. 0.
206 6 1150070. 1. 0. 0.
306 6 1150.07 0. 0. 1.
316 16 1150.07 0. 0. 1.
tama de nudo
3 0.2 0.
4 0. 0.2
5 0.2 0.
6 0. 0.2
7 0.2 0.
8 0. 0.2
19 0. 0.2
20 0.2 0.
21 0. 0.2
22 0.2 0.
cons de mate
    1 3500000. 1450000. 2.5
hipo 1 Peso Propio
carga en barr
1 fuer y conc -0.9530 0.900
2 fuer y conc -1.3170 0.900
3 fuer y conc -1.1535 0.625
4 fuer y conc -0.8205 0.625
5 fuer y conc -0.6010 0.450
6 fuer y conc -0.6010 0.450
7 fuer y conc -0.8205 0.625
8 fuer y conc -1.1535 0.625
9 fuer y conc -1.3170 0.900
10 fuer y conc -0.9530 0.900
11 fuer y conc -1.3070 0.469
12 fuer y conc -0.9835 0.469
13 fuer y conc -1.3070 0.469
14 fuer y conc -0.9835 0.469
15 fuer y conc -0.8963 0.396
16 fuer y conc -0.8963 0.396
17 fuer y conc -0.8963 0.396
18 fuer y conc -0.8963 0.396
19 fuer y conc -0.9185 0.707
20 fuer y conc -0.6078 0.450
21 fuer y conc -0.6078 0.450
22 fuer y conc -0.9185 0.707
hipo 2 Carga Muerta
carga en barr
* Traviesas
3 fuer y unif -0.2332 0.03 -0.001
4 fuer y unif -0.2332 0. 1.014
7 fuer y unif -0.2331 0.235 -0.001
8 fuer y unif -0.2332 0. -0.03
* Carriles
3 fuer y conc -0.06 0.430
4 fuer y conc -0.06 0.616
7 fuer y conc -0.06 0.633
8 fuer y conc -0.06 0.819
* Guardablasto
2 fuer y conc -0.30 0.149
9 fuer y conc -0.30 -0.149
* Conductos y Cableado
1 fuer y conc -0.41 0.900
10 fuer y conc -0.41 -0.900
* Impostas y barandilla
1 fuer y conc -0.53 0.001
10 fuer y conc -0.53 -0.001
* Balasto
2 fuer y line -0.219 -0.867 0.249 1.131
2 fuer y unif -0.867 1.131 -0.001
3 fuer y unif -0.867
4 fuer y unif -0.867
5 fuer y unif -0.867 0. 0.468
5 fuer y line -0.867 -0.406 0.468 -0.001
6 fuer y line -0.406 -0.867 0. 0.468
6 fuer y unif -0.867 0.468 -0.001
7 fuer y unif -0.867
8 fuer y unif -0.867
9 fuer y unif -0.867 0. 1.131
9 fuer y line -0.867 -0.219 1.131 -0.249
hipo 3 Desbalastado Via Izq
carga en barr
2 fuer y line -0.219 -0.867 0.249 1.131
2 fuer y unif -0.867 1.131 -0.001
3 fuer y unif -0.867
4 fuer y unif -0.867
5 fuer y unif -0.867 0. 0.468
5 fuer y line -0.867 -0.406 0.468 -0.001
hipo 4 Desbalastado Via Dcha
carga en barr
6 fuer y line -0.406 -0.867 0. 0.468
6 fuer y unif -0.867 0.468 -0.001
7 fuer y unif -0.867
8 fuer y unif -0.867
9 fuer y unif -0.867 0. 1.131
9 fuer y line -0.867 -0.219 1.131 -0.249
hipo 5 Sobrecarga IPF-75 1-1
```

```
carga en barras
2 fuer y unif -15.42 -0.102 -0.001
3 fuer y unif -15.42
4 fuer y unif -15.42 0. -0.100
hipo 6 Sobrecarga IPF-75 1-2
carga en barr
2 fuer y unif -15.42 -0.402 -0.001
3 fuer y unif -15.42
4 fuer y unif -15.42 0. 0.40
hipo 7 Sobrecarga IPF-75 1-3
carga en barr
7 fuer y unif -15.42 0.400 -0.001
8 fuer y unif -15.42
9 fuer y unif -15.42 0. 0.402
hipo 8 Sobrecarga IPF-75 1-4
carga en barr
7 fuer y unif -15.42 0.100 -0.001
8 fuer y unif -15.42
9 fuer y unif -15.42 0. 0.102
hipo 9 Sobrecarga EC-1 1-1
carga en barras
2 fuer y unif -12.46 -0.102 -0.001
3 fuer y unif -12.46
4 fuer y unif -12.46 0. -0.100
hipo 10 Sobrecarga EC-1 1-2
carga en barr
2 fuer y unif -12.46 -0.402 -0.001
3 fuer y unif -12.46
4 fuer y unif -12.46 0. 0.40
hipo 11 Sobrecarga EC-1 1-3
carga en barr
7 fuer y unif -12.46 0.400 -0.001
8 fuer y unif -12.46
9 fuer y unif -12.46 0. 0.402
hipo 12 Sobrecarga EC-1 1-4
carga en barr
7 fuer y unif -12.46 0.100 -0.001
8 fuer y unif -12.46
9 fuer y unif -12.46 0. 0.102
hipo 13 Sobrecarga Paseos 1
carga en barr
1 fuer y unif -0.50 -1.64 -0.001
2 fuer y unif -0.50 0. 0.25
hipo 14 Sobrecarga Paseos 2
carga en barr
9 fuer y unif -0.50 -0.25 -0.001
10 fuer y unif -0.50 0. 1.64
hipo 15 Efecto lazo IPF-75 - Izq
carga en barr
2 fuer y unif -0.0667 -0.09 -0.001
3 fuer y unif -0.0667
4 fuer y unif -0.0667 0. -0.11
hipo 16 Efecto lazo IPF-75 - Dcha
carga en barr
7 fuer y unif -0.0667 0. 0.11
8 fuer y unif -0.0667
9 fuer y unif -0.0667 0. 0.09
hipo 17 Efecto lazo EC-1 - Izq
carga en barr
2 fuer y unif -0.625 -0.09 -0.001
3 fuer y unif -0.625
4 fuer y unif -0.625 0. -0.11
hipo 18 Efecto lazo EC-1 - Dcha
carga en barr
7 fuer y unif -0.625 0. 0.11
8 fuer y unif -0.625
9 fuer y unif -0.625 0. 0.09
hipo 19 Descarrilamiento 1-1
carga en barr
2 fuer y unif -11.11 0.474 0.924
3 fuer y unif -11.11 0.073 0.523
hipo 20 Descarrilamiento 1-2
carga en barr
4 fuer y unif -11.11 0.523 0.974
5 fuer y unif -11.11 -0.223 -0.001
6 fuer y unif -11.11 0. 0.223
hipo 21 Descarrilamiento 1-3
carga en barr
8 fuer y unif -11.11 0.726 1.176
9 fuer y unif -11.11 0.877 1.327
hipo 22 Descarrilamiento 1-4
carga en barr
5 fuer y unif -11.11 -0.223 -0.001
6 fuer y unif -11.11 0. 0.223
7 fuer y unif -11.11 0.275 0.725
hipo 23 Descarrilamiento 2-1
carga en barr
2 fuer y unif -17.78 0.474 0.924
hipo 24 Descarrilamiento 2-2
carga en barr
9 fuer y unif -17.78 0.877 1.327
calcula y alma
2 2 2
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impr
hipo 30 Carga Permanente
fija 1 2
suma

hipo 31 a 42 Envolvente (ELU) (IPF-75)
fija 30 1.50
comp 13 a 16 1.50
inco serie 1 5 a 6 1.50
inco serie 2 7 a 8 1.50
maxi tota

hipo 51 a 62 Envolvente (ELU) (EC-1)
fija 30 1.35
comp 13 a 14 1.50 17 a 18 1.50
inco serie 1 9 a 10 1.50
inco serie 2 11 a 12 1.50
maxi tota

hipo 71 a 82 Envolvente (ELU) Accidental (EC-1)
fija 30
inco 19 a 24
maxi tota

hipo 91 a 102 Envolvente (ELU)(Total)
eleg 31 a 42 51 a 62 71 a 82
maxi tota
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HIPOTESIS 91

FUER X MAX Envolvente (ELU)(Total)

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	FLECTOR Y	FLECTOR Z
1	1	0.00	0.00	0.00	0.00	0.00	0.00
1	2	0.00	2.84	0.00	0.00	0.00	-3.27
2	2	0.00	-2.84	0.00	0.00	0.00	3.27
2	3	0.00	6.85	0.00	0.00	0.00	-11.94
3	3	-9.79	3.33	0.00	0.00	0.00	2.47
3	5	9.79	-0.96	0.00	0.00	0.00	0.31
4	5	-9.79	0.96	0.00	0.00	0.00	-0.31
4	7	9.79	6.08	0.00	0.00	0.00	-2.39
5	7	-10.13	4.12	0.00	0.00	0.00	2.24
5	9	10.13	-0.55	0.00	0.00	0.00	0.72
6	9	-10.14	-0.02	0.00	0.00	0.00	-0.72
6	13	10.14	3.60	0.00	0.00	0.00	-1.77
7	13	-10.36	6.20	0.00	0.00	0.00	2.51
7	15	10.36	0.83	0.00	0.00	0.00	0.33
8	15	-10.36	-0.83	0.00	0.00	0.00	-0.33
8	18	10.36	3.20	0.00	0.00	0.00	-2.29
9	18	0.00	7.08	0.00	0.00	0.00	12.19
9	19	0.00	-2.84	0.00	0.00	0.00	-3.27
10	19	0.00	2.84	0.00	0.00	0.00	3.27
10	20	0.00	0.00	0.00	0.00	0.00	0.00
11	3	56.27	8.25	0.00	0.00	0.00	5.97
11	4	-56.27	-6.29	0.00	0.00	0.00	0.86
12	4	56.26	6.29	0.00	0.00	0.00	-0.86
12	6	-56.26	-4.82	0.00	0.00	0.00	6.07
13	18	58.05	6.61	0.00	0.00	0.00	4.15
13	17	-58.05	-4.65	0.00	0.00	0.00	1.13
14	17	58.05	4.65	0.00	0.00	0.00	-1.13
14	16	-58.05	-3.17	0.00	0.00	0.00	4.80
15	7	32.60	3.22	0.00	0.00	0.00	6.60
15	11	-32.60	-1.88	0.00	0.00	0.00	-4.58
16	11	32.60	1.88	0.00	0.00	0.00	4.58
16	8	-32.60	-0.53	0.00	0.00	0.00	-3.62
17	13	31.93	-2.36	0.00	0.00	0.00	-7.45
17	12	-31.93	3.70	0.00	0.00	0.00	5.05
18	12	31.93	-3.70	0.00	0.00	0.00	-5.05
18	14	-31.93	5.05	0.00	0.00	0.00	1.60
19	6	42.03	-10.30	0.00	0.00	0.00	-6.09
19	8	-42.03	11.67	0.00	0.00	0.00	-9.45
20	8	51.17	2.60	0.00	0.00	0.00	2.38
20	10	-51.17	-1.69	0.00	0.00	0.00	-0.45
21	10	51.17	1.69	0.00	0.00	0.00	0.45
21	14	-51.17	-0.78	0.00	0.00	0.00	0.67
22	14	36.12	9.60	0.00	0.00	0.00	7.81
22	16	-36.12	-8.22	0.00	0.00	0.00	4.80

HIPOTESIS 92

FUER X MIN Envolvente (ELU)(Total)

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	FLECTOR Y	FLECTOR Z
1	1	0.00	0.00	0.00	0.00	0.00	0.00
1	2	0.00	2.84	0.00	0.00	0.00	-3.27
2	2	0.00	-2.84	0.00	0.00	0.00	3.27
2	3	0.00	6.85	0.00	0.00	0.00	-11.94
3	3	-38.41	24.38	0.00	0.00	0.00	11.37
3	5	38.41	3.55	0.00	0.00	0.00	4.23
4	5	-38.41	-3.55	0.00	0.00	0.00	-4.23
4	7	38.41	15.94	0.00	0.00	0.00	-12.06
5	7	-49.87	3.00	0.00	0.00	0.00	2.53
5	9	49.87	-1.34	0.00	0.00	0.00	-0.53
6	9	-49.89	-0.65	0.00	0.00	0.00	0.53
6	13	49.89	2.30	0.00	0.00	0.00	-1.91
7	13	-38.04	24.04	0.00	0.00	0.00	15.12
7	15	38.04	-1.39	0.00	0.00	0.00	4.86
8	15	-38.04	1.39	0.00	0.00	0.00	-4.86
8	18	38.04	26.54	0.00	0.00	0.00	-13.44
9	18	0.00	7.08	0.00	0.00	0.00	12.19
9	19	0.00	-2.84	0.00	0.00	0.00	-3.27
10	19	0.00	2.84	0.00	0.00	0.00	3.27
10	20	0.00	0.00	0.00	0.00	0.00	0.00
11	3	11.64	4.71	0.00	0.00	0.00	6.44
11	4	-11.64	-3.40	0.00	0.00	0.00	-2.63
12	4	11.64	3.40	0.00	0.00	0.00	2.63
12	6	-11.64	-2.42	0.00	0.00	0.00	0.10
13	18	11.98	5.17	0.00	0.00	0.00	6.79
13	17	-11.98	-3.86	0.00	0.00	0.00	-2.55
14	17	11.98	3.86	0.00	0.00	0.00	2.55
14	16	-11.98	-2.88	0.00	0.00	0.00	0.61
15	7	1.73	13.64	0.00	0.00	0.00	8.55
15	11	-1.73	-12.30	0.00	0.00	0.00	1.72
16	11	1.73	12.30	0.00	0.00	0.00	-1.72
16	8	-1.73	-10.95	0.00	0.00	0.00	10.91
17	13	1.16	-13.21	0.00	0.00	0.00	-9.54
17	12	-1.16	14.56	0.00	0.00	0.00	-1.46
18	12	1.16	-14.56	0.00	0.00	0.00	1.46
18	14	-1.16	15.90	0.00	0.00	0.00	-13.49
19	6	11.57	1.65	0.00	0.00	0.00	0.89
19	8	-11.57	-0.73	0.00	0.00	0.00	0.78
20	8	10.31	0.38	0.00	0.00	0.00	0.08
20	10	-10.31	0.23	0.00	0.00	0.00	-0.01
21	10	10.31	-0.23	0.00	0.00	0.00	0.01
21	14	-10.31	0.84	0.00	0.00	0.00	-0.50
22	14	8.65	0.10	0.00	0.00	0.00	-0.12
22	16	-8.65	0.81	0.00	0.00	0.00	-0.39

HIPOTESIS 93

FUER Y MAX Envolvente (ELU)(Total)

ESFUERZOS EN BARRAS

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	FLECTOR Y	FLECTOR Z
1	1	0.00	0.00	0.00	0.00	0.00	0.00
1	2	0.00	1.89	0.00	0.00	0.00	-2.18
2	2	0.00	-1.89	0.00	0.00	0.00	2.18
2	3	0.00	4.57	0.00	0.00	0.00	-7.96
3	3	-26.52	29.75	0.00	0.00	0.00	17.48
3	5	26.52	-1.83	0.00	0.00	0.00	4.84
4	5	-26.52	1.83	0.00	0.00	0.00	-4.84
4	7	21.53	1.66	0.00	0.00	0.00	-0.98
5	7	-34.20	9.01	0.00	0.00	0.00	7.53
5	9	34.20	-7.35	0.00	0.00	0.00	-0.12
6	9	-34.47	5.98	0.00	0.00	0.00	0.12
6	13	34.47	-4.33	0.00	0.00	0.00	4.48
7	13	-28.51	28.28	0.00	0.00	0.00	15.82
7	15	21.32	-2.74	0.00	0.00	0.00	0.42
8	15	-21.32	2.74	0.00	0.00	0.00	-0.42
8	18	21.28	0.84	0.00	0.00	0.00	1.42
9	18	0.00	17.80	0.00	0.00	0.00	17.59
9	19	0.00	-4.07	0.00	0.00	0.00	-4.28
10	19	0.00	4.07	0.00	0.00	0.00	4.28
10	20	0.00	0.00	0.00	0.00	0.00	0.00
11	3	21.10	14.18	0.00	0.00	0.00	16.28
11	4	-21.10	-12.22	0.00	0.00	0.00	-3.90
12	4	21.10	12.22	0.00	0.00	0.00	3.90
12	6	-21.10	-10.74	0.00	0.00	0.00	6.87
13	18	21.57	14.75	0.00	0.00	0.00	16.76
13	17	-21.57	-12.79	0.00	0.00	0.00	-3.84
14	17	21.57	12.79	0.00	0.00	0.00	3.84
14	16	-21.57	-11.32	0.00	0.00	0.00	7.47
15	7	28.15	15.73	0.00	0.00	0.00	15.40
15	11	-28.15	-14.39	0.00	0.00	0.00	-3.47
16	11	28.15	14.39	0.00	0.00	0.00	3.47
16	8	-28.15	-13.04	0.00	0.00	0.00	7.36
17	13	5.90	2.69	0.00	0.00	0.00	1.96
17	12	-5.90	-1.79	0.00	0.00	0.00	-0.19
18	12	5.90	1.79	0.00	0.00	0.00	0.19
18	14	-5.90	-0.89	0.00	0.00	0.00	0.88
19	6	28.85	4.25	0.00	0.00	0.00	2.89
19	8	-28.85	-2.87	0.00	0.00	0.00	2.14
20	8	44.33	5.35	0.00	0.00	0.00	4.66
20	10	-44.33	-4.44	0.00	0.00	0.00	-0.26
21	10	44.33	4.44	0.00	0.00	0.00	0.26
21	14	-44.33	-3.53	0.00	0.00	0.00	3.33
22	14	18.67	13.46	0.00	0.00	0.00	10.40
22	16	-18.67	-12.08	0.00	0.00	0.00	7.66

HIPOTESIS 94

FUER Y MIN Envolvente (ELU)(Total)

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	FLECTOR Y	FLECTOR Z
1	1	0.00	0.00	0.00	0.00	0.00	0.00
1	2	0.00	4.07	0.00	0.00	0.00	-4.28
2	2	0.00	-4.07	0.00	0.00	0.00	4.28
2	3	0.00	17.55	0.00	0.00	0.00	-17.35
3	3	-20.54	1.00	0.00	0.00	0.00	-1.18
3	5	35.35	3.80	0.00	0.00	0.00	4.29
4	5	-35.35	-3.80	0.00	0.00	0.00	-4.29
4	7	27.75	28.21	0.00	0.00	0.00	-15.69
5	7	-34.15	-3.59	0.00	0.00	0.00	-3.65
5	9	34.15	5.26	0.00	0.00	0.00	-0.29
6	9	-33.91	-6.62	0.00	0.00	0.00	0.29
6	13	33.91	8.27	0.00	0.00	0.00	-7.03
7	13	-22.10	1.78	0.00	0.00	0.00	1.11
7	15	27.35	1.62	0.00	0.00	0.00	4.86
8	15	-27.35	-1.62	0.00	0.00	0.00	-4.86
8	18	27.39	29.52	0.00	0.00	0.00	-17.16
9	18	0.00	4.72	0.00	0.00	0.00	8.12
9	19	0.00	-1.89	0.00	0.00	0.00	-2.18
10	19	0.00	1.89	0.00	0.00	0.00	2.18
10	20	0.00	0.00	0.00	0.00	0.00	0.00
11	3	45.22	-2.28	0.00	0.00	0.00	-5.03
11	4	-45.22	4.25	0.00	0.00	0.00	1.97
12	4	45.22	-4.24	0.00	0.00	0.00	-1.97
12	6	-45.22	5.72	0.00	0.00	0.00	-2.70
13	18	45.72	-1.57	0.00	0.00	0.00	-4.48
13	17	-45.72	3.53	0.00	0.00	0.00	2.08
14	17	45.72	-3.53	0.00	0.00	0.00	-2.08
14	16	-45.72	5.01	0.00	0.00	0.00	-1.93
15	7	6.29	-2.12	0.00	0.00	0.00	-2.55
15	11	-6.29	3.02	0.00	0.00	0.00	0.52
16	11	6.29	-3.02	0.00	0.00	0.00	-0.52
16	8	-6.29	3.91	0.00	0.00	0.00	-2.22
17	13	27.46	-15.28	0.00	0.00	0.00	-16.35
17	12	-27.46	16.63	0.00	0.00	0.00	3.71
18	12	27.46	-16.63	0.00	0.00	0.00	-3.71
18	14	-27.46	17.97	0.00	0.00	0.00	-9.96
19	6	24.36	-11.16	0.00	0.00	0.00	-7.06
19	8	-24.36	12.54	0.00	0.00	0.00	-9.70
20	8	19.64	-1.48	0.00	0.00	0.00	-1.37
20	10	-44.13	2.19	0.00	0.00	0.00	-0.11
21	10	44.13	-2.19	0.00	0.00	0.00	0.11
21	14	-44.13	3.10	0.00	0.00	0.00	-2.49
22	14	25.35	-1.60	0.00	0.00	0.00	-1.12
22	16	-25.35	2.98	0.00	0.00	0.00	-2.12

HIPOTESIS 101

MOME Z MAX Envolvente (ELU)(Total)

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	FLECTOR Y	FLECTOR Z
1	1	0.00	0.00	0.00	0.00	0.00	0.00
1	2	0.00	4.07	0.00	0.00	0.00	-4.28
2	2	0.00	-4.07	0.00	0.00	0.00	4.28
2	3	0.00	17.55	0.00	0.00	0.00	-17.35
3	3	-26.52	29.75	0.00	0.00	0.00	17.48
3	5	21.53	-0.37	0.00	0.00	0.00	-0.06
4	5	-21.53	0.37	0.00	0.00	0.00	0.06
4	7	27.75	28.21	0.00	0.00	0.00	-15.69
5	7	-34.20	9.01	0.00	0.00	0.00	7.53
5	9	36.13	-1.12	0.00	0.00	0.00	-0.85
6	9	-36.15	-0.32	0.00	0.00	0.00	0.85
6	13	33.91	8.27	0.00	0.00	0.00	-7.03
7	13	-28.51	28.28	0.00	0.00	0.00	15.82
7	15	22.10	0.25	0.00	0.00	0.00	-0.03
8	15	-22.10	-0.25	0.00	0.00	0.00	0.03
8	18	27.39	29.52	0.00	0.00	0.00	-17.16
9	18	0.00	17.80	0.00	0.00	0.00	17.59
9	19	0.00	-4.07	0.00	0.00	0.00	-4.28
10	19	0.00	4.07	0.00	0.00	0.00	4.28
10	20	0.00	0.00	0.00	0.00	0.00	0.00
11	3	21.10	14.18	0.00	0.00	0.00	16.28
11	4	-24.75	-7.92	0.00	0.00	0.00	-6.62
12	4	24.75	7.92	0.00	0.00	0.00	6.62
12	6	-48.30	4.14	0.00	0.00	0.00	-2.89
13	18	21.57	14.75	0.00	0.00	0.00	16.76
13	17	-25.09	-8.38	0.00	0.00	0.00	-6.54
14	17	25.09	8.38	0.00	0.00	0.00	6.54
14	16	-48.70	3.41	0.00	0.00	0.00	-2.12
15	7	28.15	15.73	0.00	0.00	0.00	15.40
15	11	-32.00	-3.06	0.00	0.00	0.00	-4.59
16	11	32.00	3.06	0.00	0.00	0.00	4.59
16	8	-32.60	-0.53	0.00	0.00	0.00	-3.62
17	13	5.90	2.69	0.00	0.00	0.00	1.96
17	12	-1.76	13.38	0.00	0.00	0.00	-1.47
18	12	1.76	-13.38	0.00	0.00	0.00	1.47
18	14	-1.16	15.90	0.00	0.00	0.00	-13.49
19	6	28.85	4.25	0.00	0.00	0.00	2.89
19	8	-38.96	12.03	0.00	0.00	0.00	-9.75
20	8	34.49	5.23	0.00	0.00	0.00	4.68
20	10	-51.17	-1.69	0.00	0.00	0.00	-0.45
21	10	51.17	1.69	0.00	0.00	0.00	0.45
21	14	-35.32	2.97	0.00	0.00	0.00	-2.50
22	14	18.67	13.46	0.00	0.00	0.00	10.40
22	16	-25.35	2.98	0.00	0.00	0.00	-2.12

HIPOTESIS 102

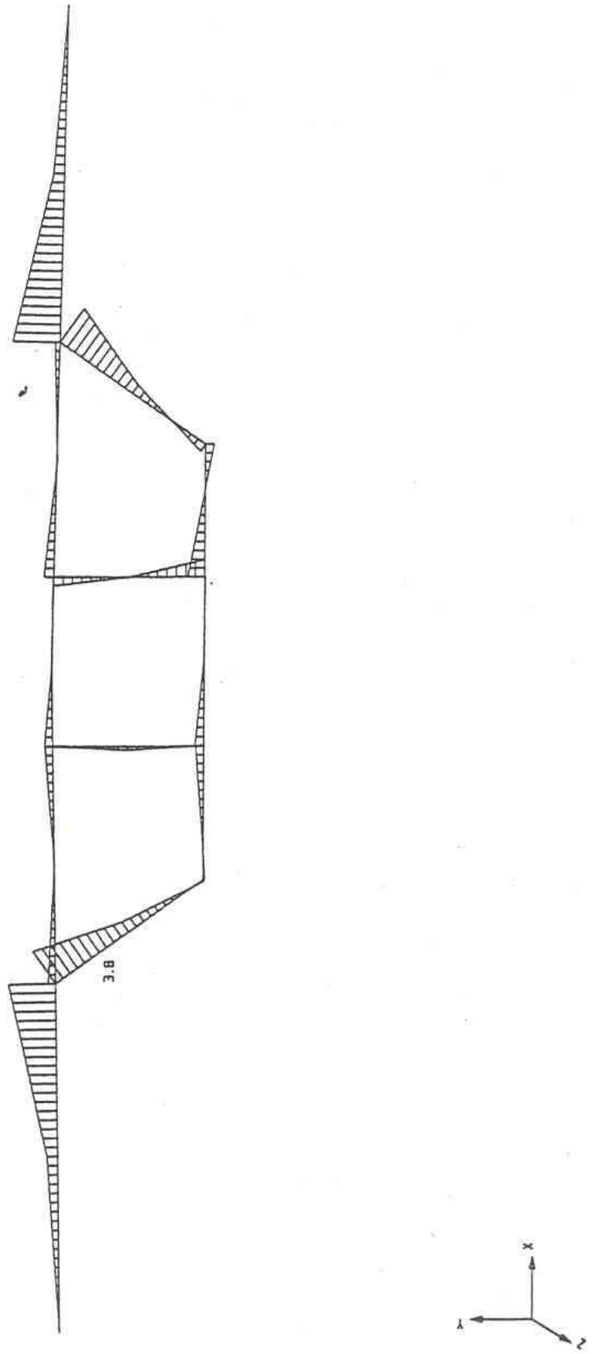
MOME Z MIN Envolvente (ELU)(Total)

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	FLECTOR Y	FLECTOR Z
1	1	0.00	0.00	0.00	0.00	0.00	0.00
1	2	0.00	1.89	0.00	0.00	0.00	-2.18
2	2	0.00	-1.89	0.00	0.00	0.00	2.18
2	3	0.00	4.57	0.00	0.00	0.00	-7.96
3	3	-20.54	1.00	0.00	0.00	0.00	-1.18
3	5	27.74	0.79	0.00	0.00	0.00	5.05
4	5	-27.74	-0.79	0.00	0.00	0.00	-5.05
4	7	21.53	1.66	0.00	0.00	0.00	-0.98
5	7	-34.15	-3.59	0.00	0.00	0.00	-3.65
5	9	10.13	-0.38	0.00	0.00	0.00	0.72
6	9	-10.14	-0.02	0.00	0.00	0.00	-0.72
6	13	34.47	-4.33	0.00	0.00	0.00	4.48
7	13	-22.10	1.78	0.00	0.00	0.00	1.11
7	15	28.50	-1.00	0.00	0.00	0.00	5.07
8	15	-28.50	1.00	0.00	0.00	0.00	-5.07
8	18	21.28	0.84	0.00	0.00	0.00	1.42
9	18	0.00	4.72	0.00	0.00	0.00	8.12
9	19	0.00	-1.89	0.00	0.00	0.00	-2.18
10	19	0.00	1.89	0.00	0.00	0.00	2.18
10	20	0.00	0.00	0.00	0.00	0.00	0.00
11	3	45.22	-2.28	0.00	0.00	0.00	-5.03
11	4	-45.64	-0.63	0.00	0.00	0.00	3.44
12	4	45.64	0.63	0.00	0.00	0.00	-3.44
12	6	-18.02	-9.16	0.00	0.00	0.00	7.06
13	18	45.72	-1.57	0.00	0.00	0.00	-4.48
13	17	-46.10	-1.23	0.00	0.00	0.00	3.48
14	17	46.10	1.23	0.00	0.00	0.00	-3.48
14	16	-18.59	-9.72	0.00	0.00	0.00	7.66
15	7	6.29	-2.12	0.00	0.00	0.00	-2.55
15	11	-2.33	-11.12	0.00	0.00	0.00	1.73
16	11	2.33	11.12	0.00	0.00	0.00	-1.73
16	8	-1.73	-10.95	0.00	0.00	0.00	10.91
17	13	27.49	-15.28	0.00	0.00	0.00	-16.35
17	12	-31.33	4.88	0.00	0.00	0.00	5.07
18	12	31.33	-4.88	0.00	0.00	0.00	-5.07
18	14	-29.94	3.31	0.00	0.00	0.00	2.16
19	6	24.36	-11.16	0.00	0.00	0.00	-7.06
19	8	-28.85	-2.87	0.00	0.00	0.00	2.14
20	8	44.16	-1.28	0.00	0.00	0.00	-1.45
20	10	-37.32	-0.56	0.00	0.00	0.00	0.08
21	10	37.32	0.56	0.00	0.00	0.00	-0.08
21	14	-44.33	-3.53	0.00	0.00	0.00	3.33
22	14	25.35	-1.60	0.00	0.00	0.00	-1.12
22	16	-18.67	-12.08	0.00	0.00	0.00	7.66

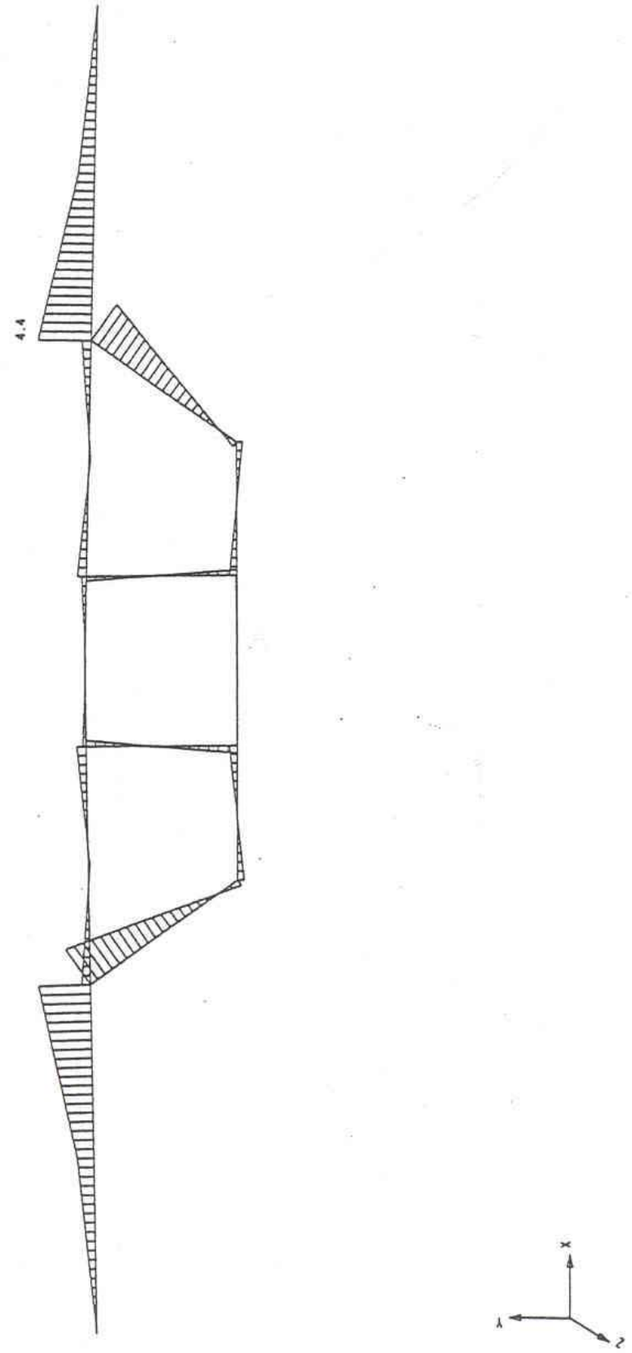
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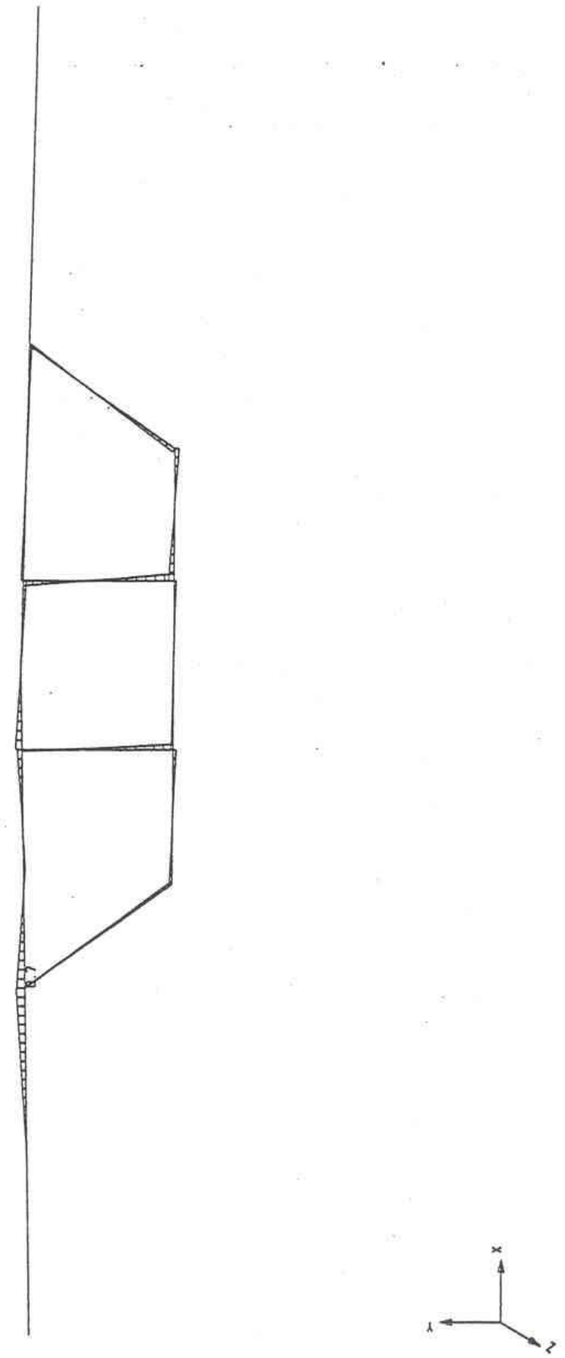


hipo 2 Carga Muerta

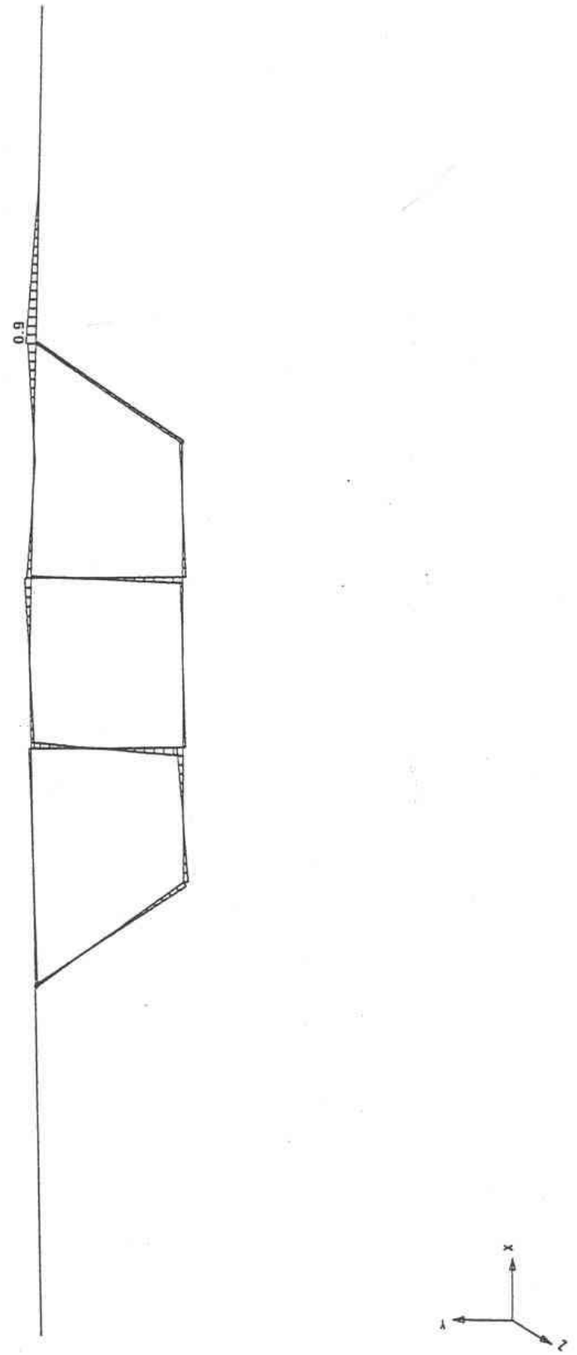
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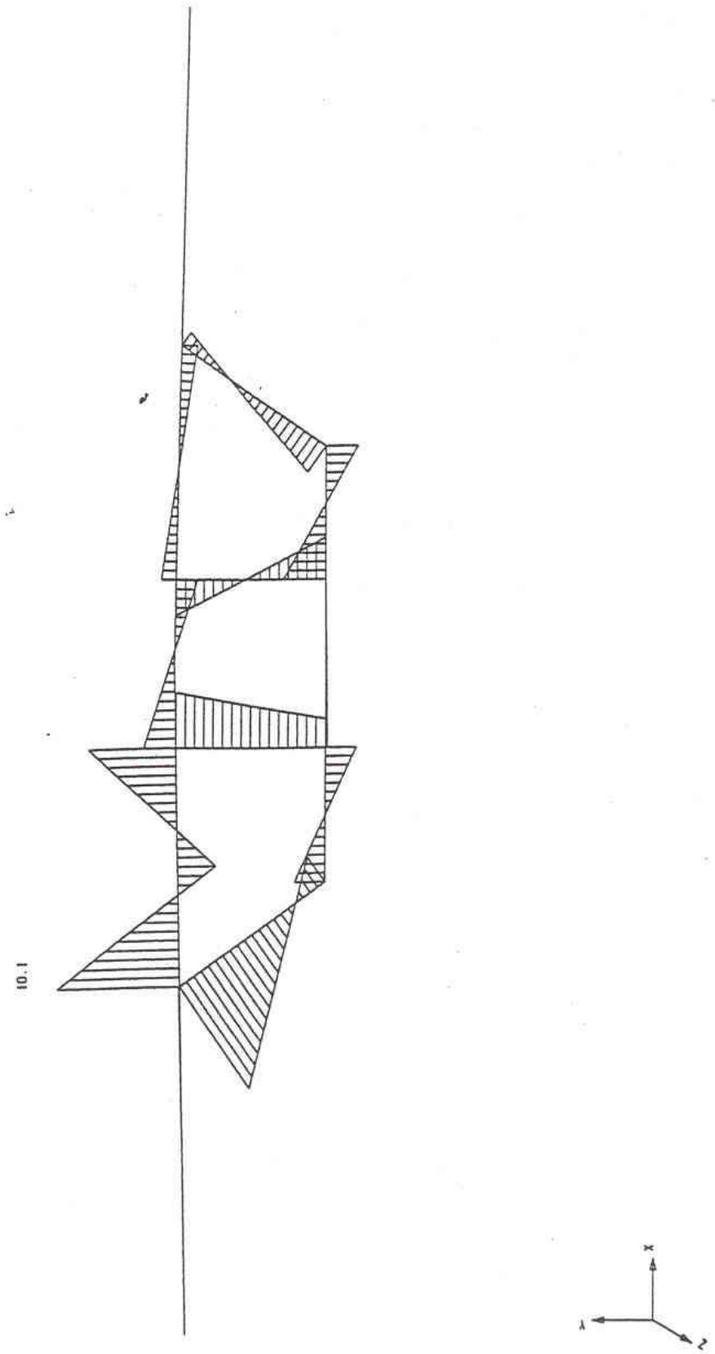
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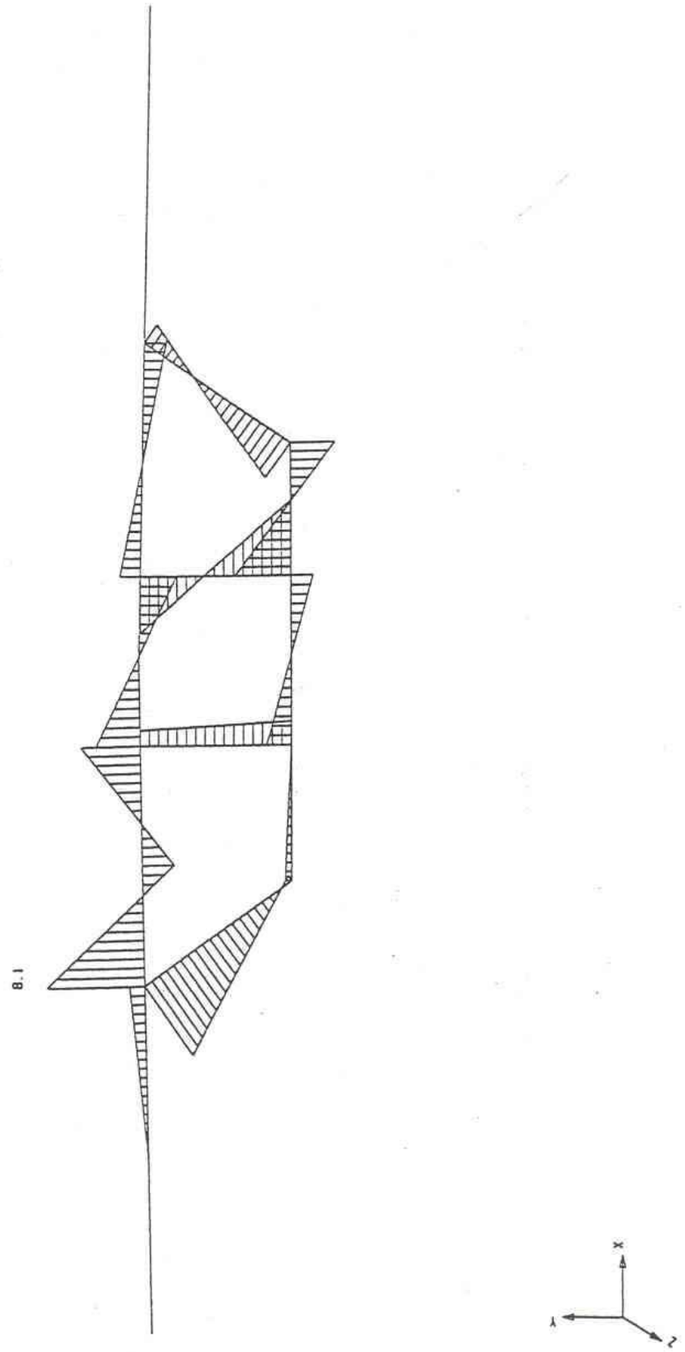
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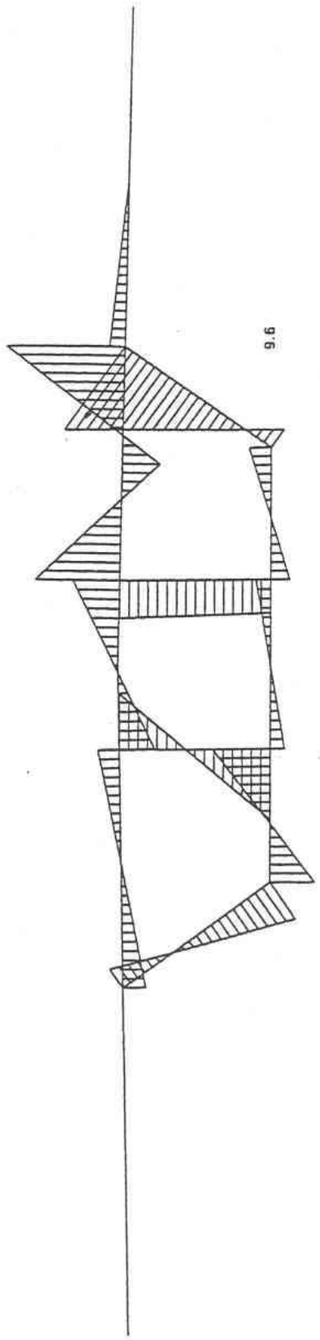
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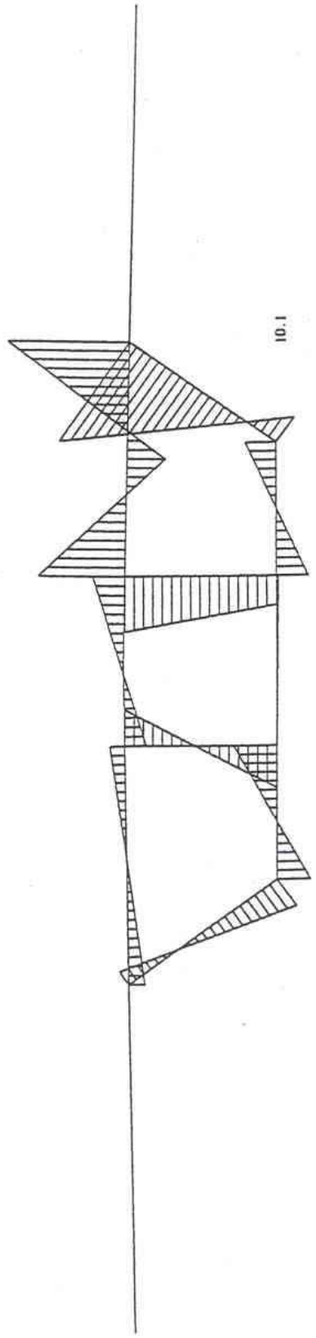
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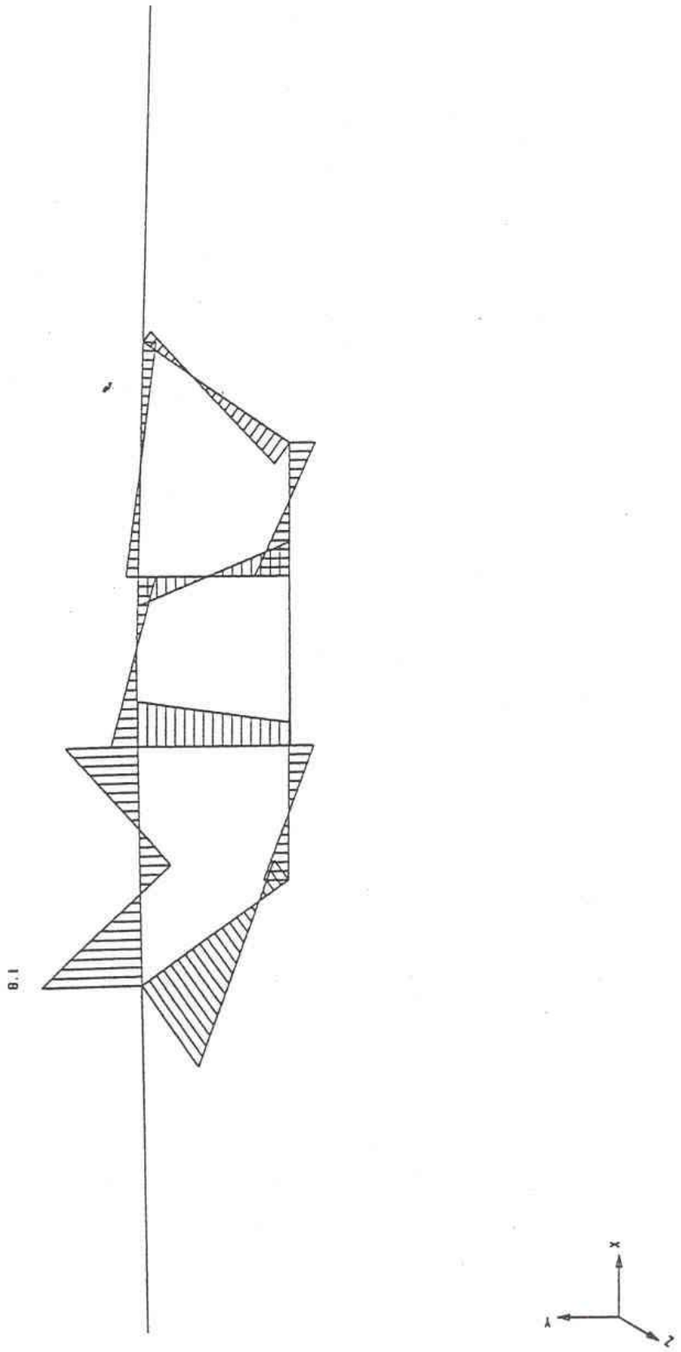
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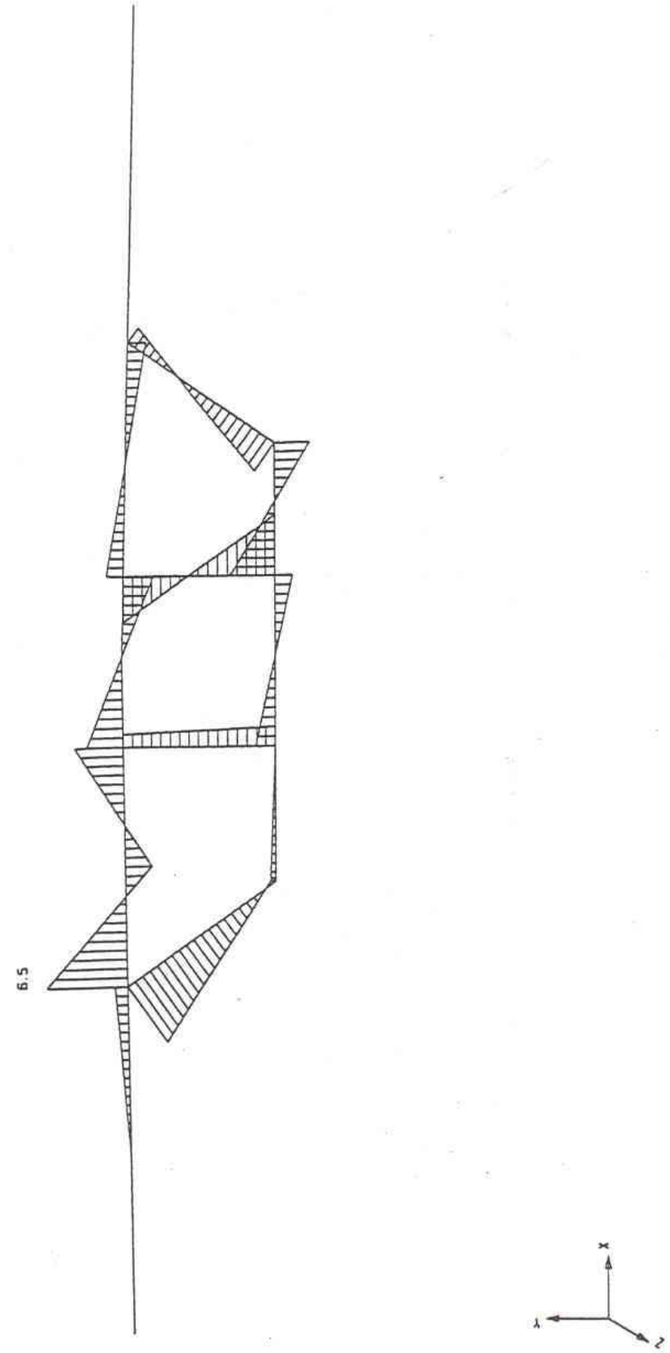
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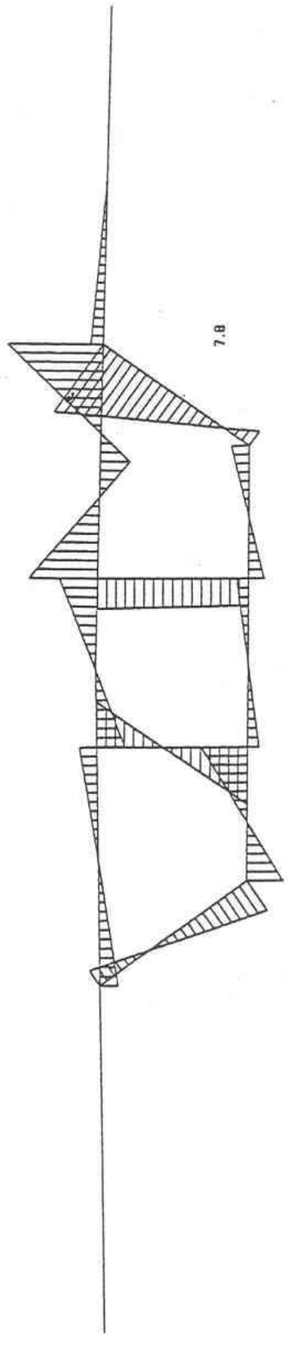
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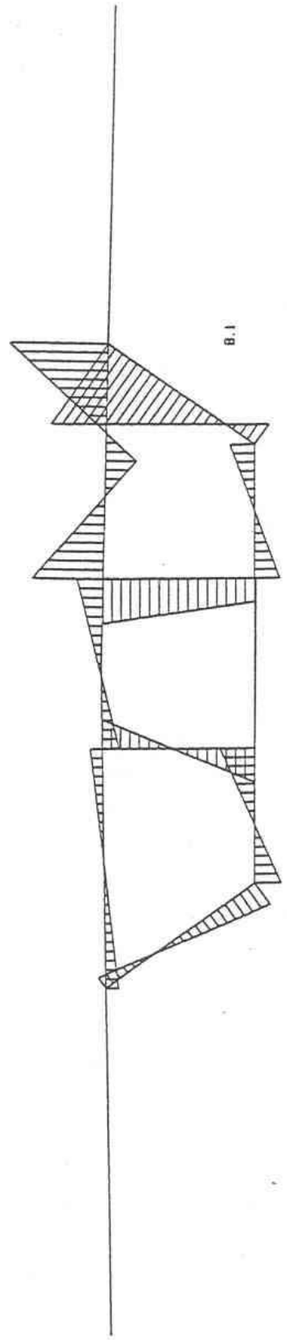
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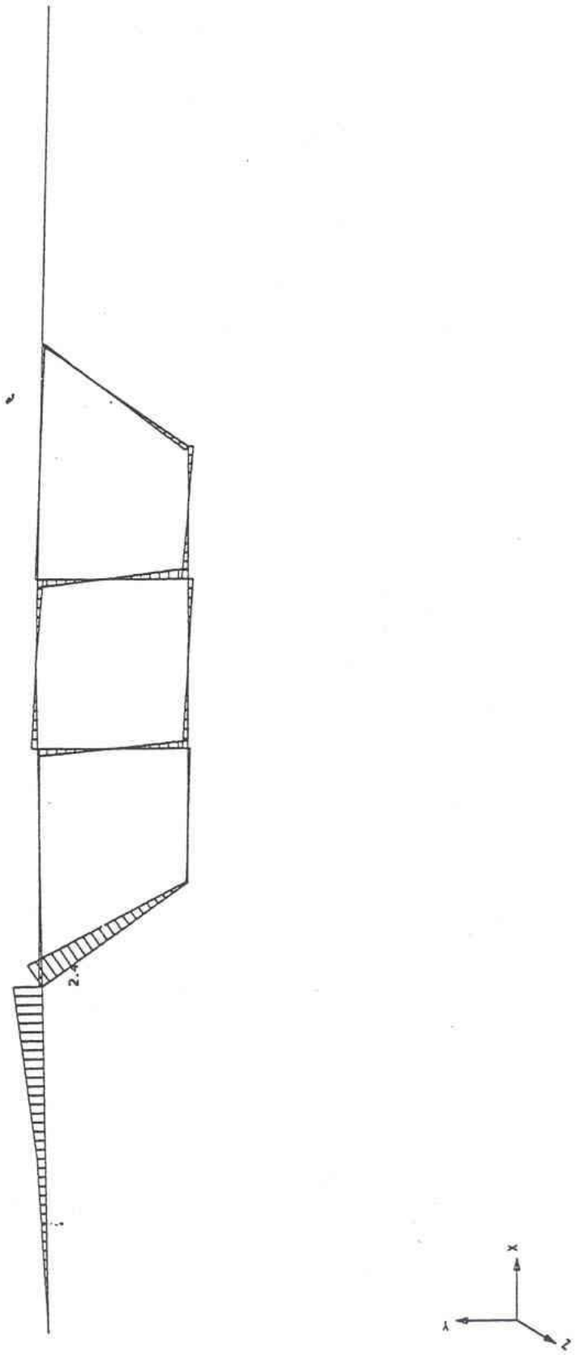
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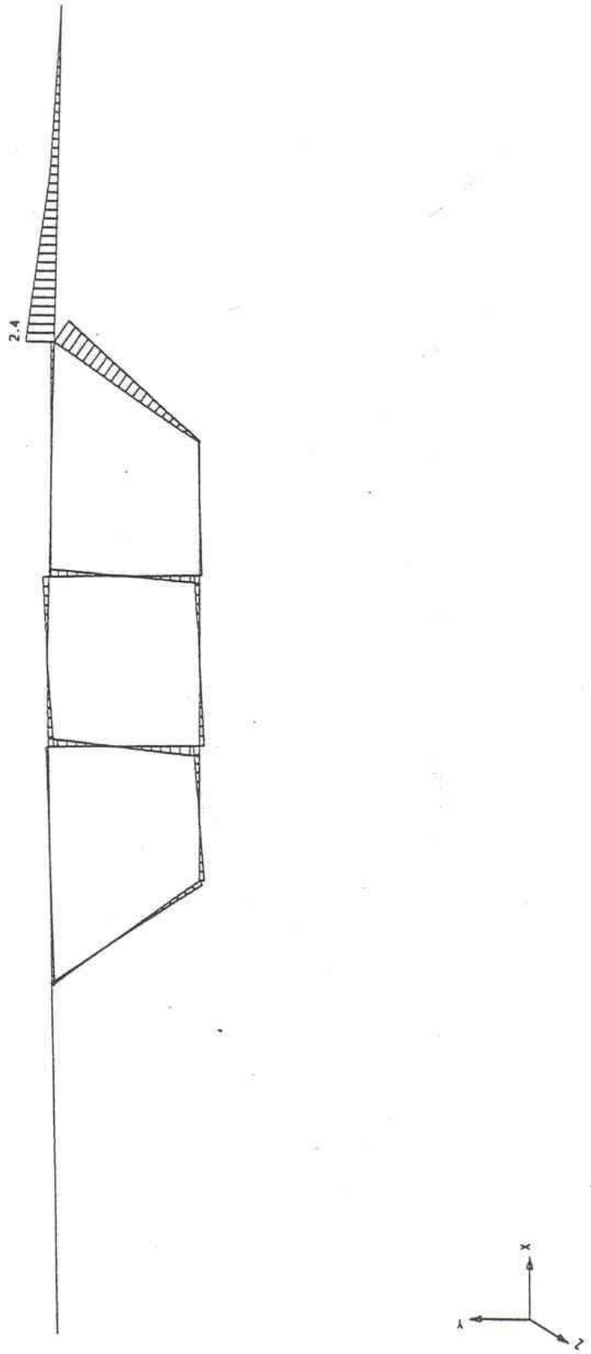
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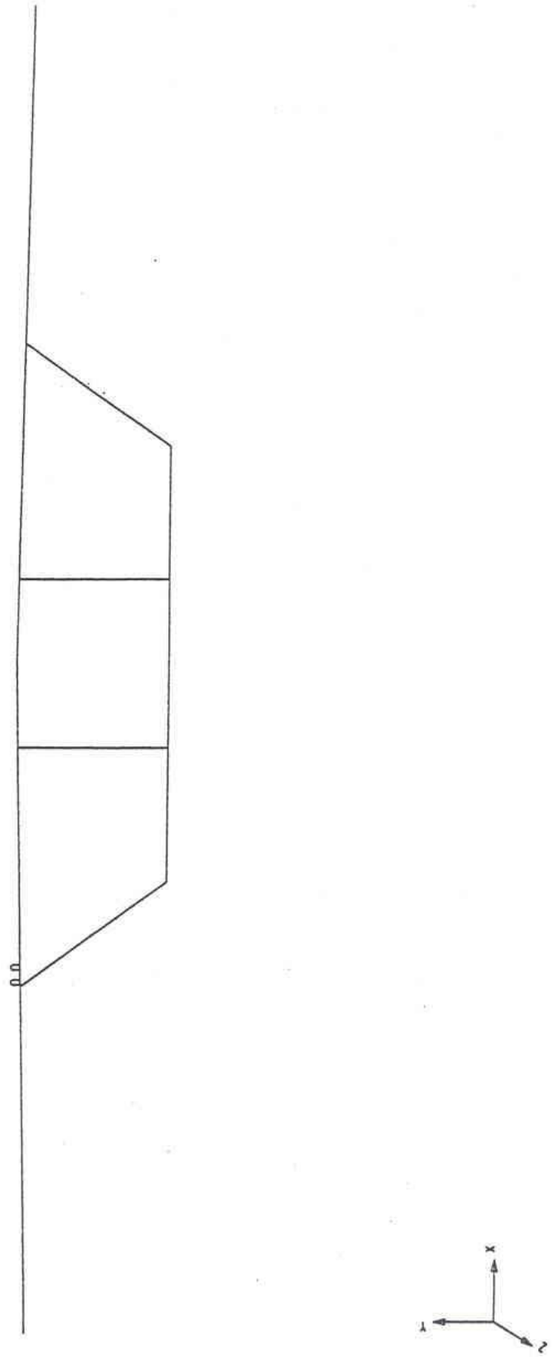
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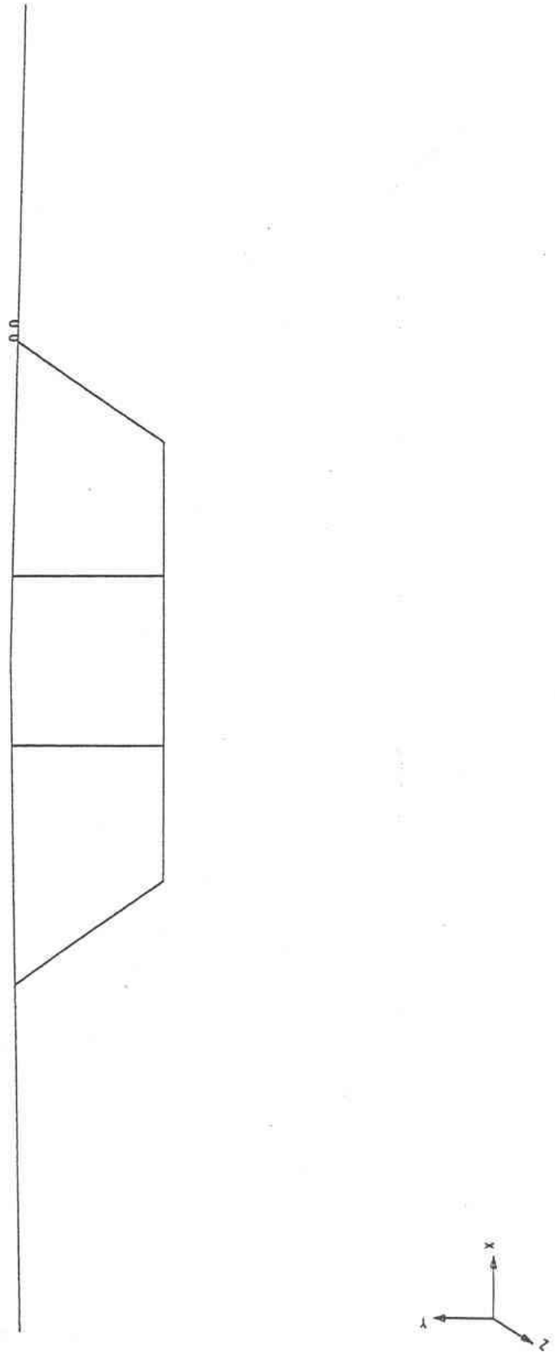
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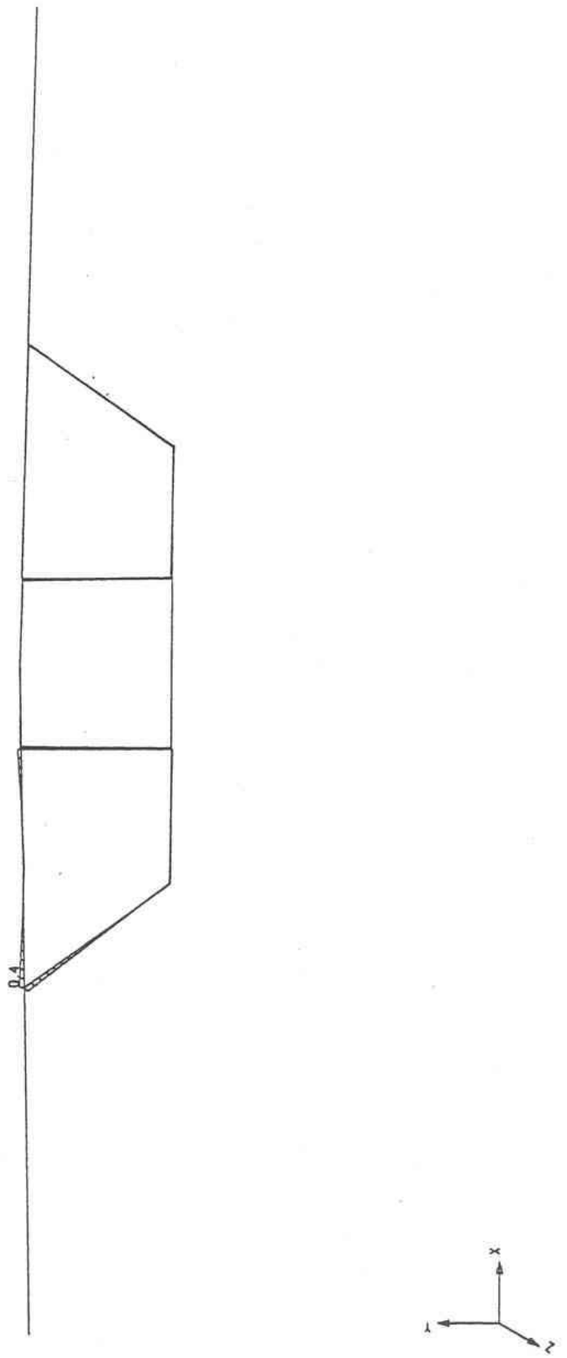
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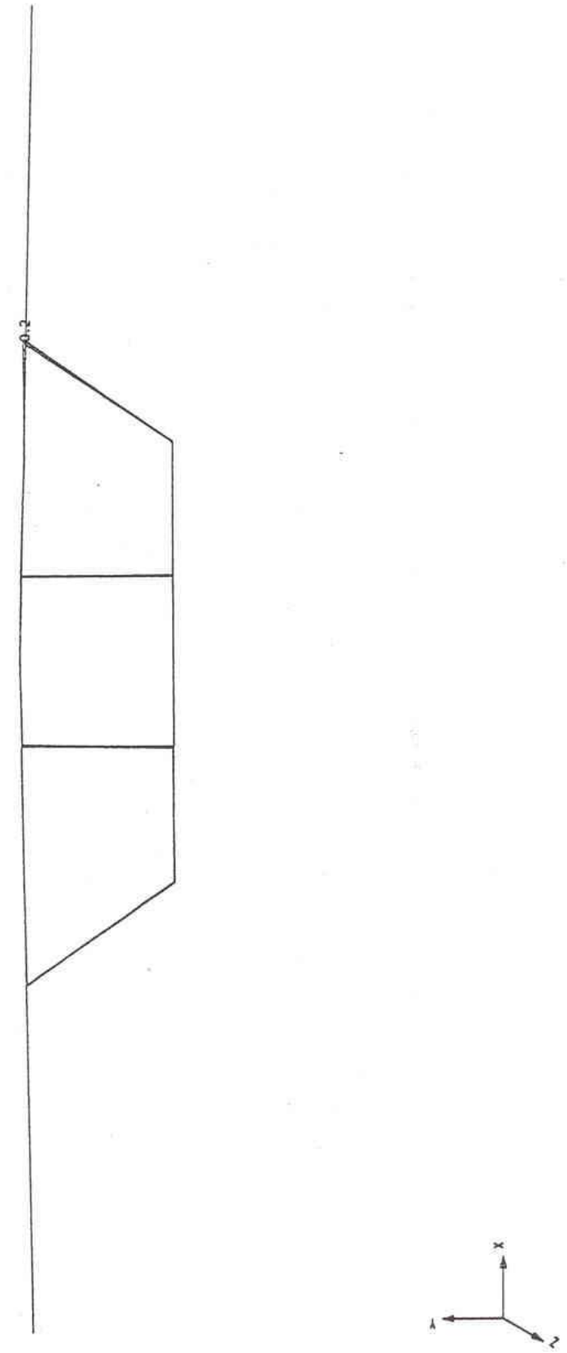
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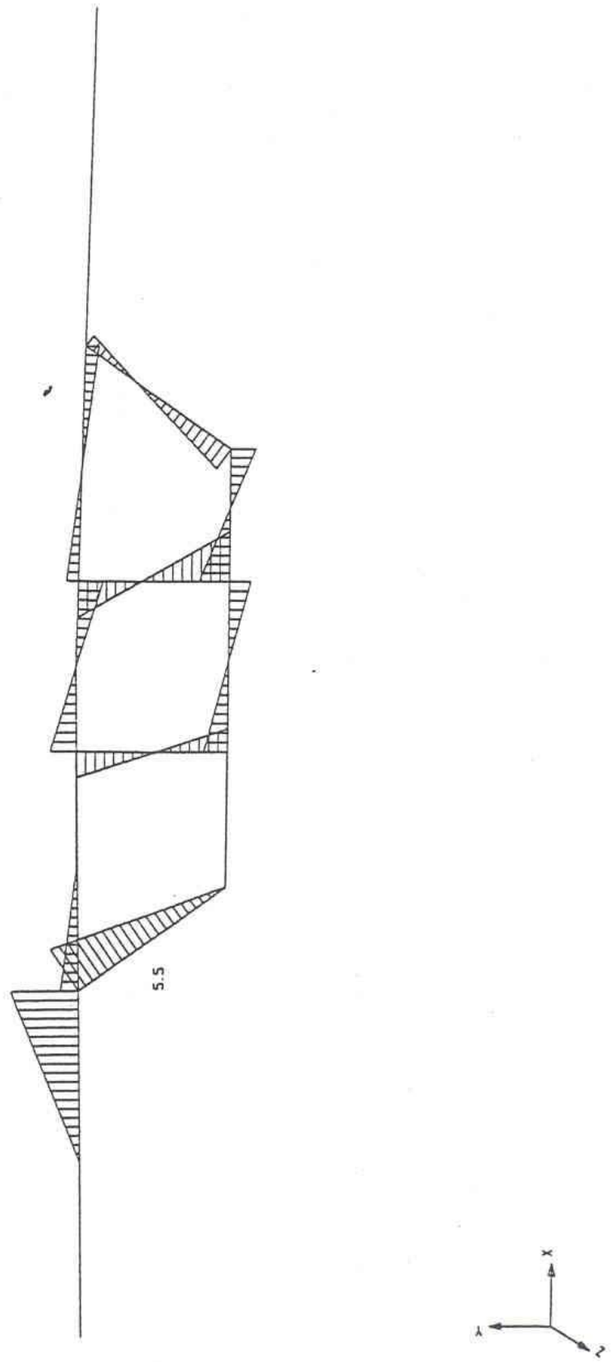
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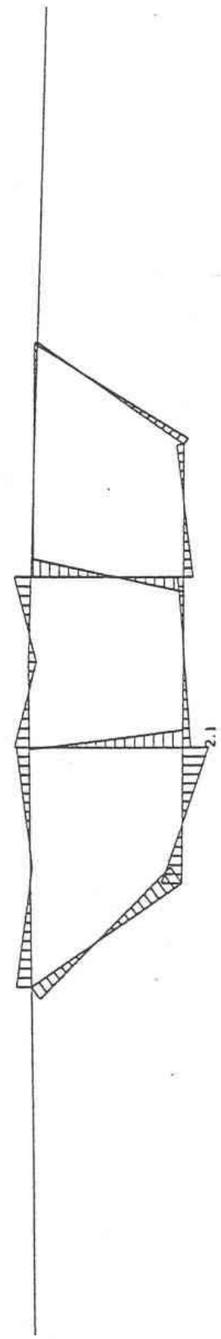
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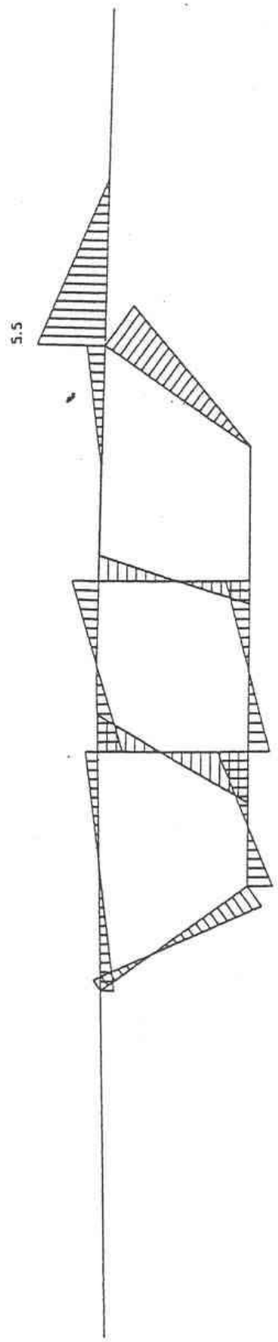
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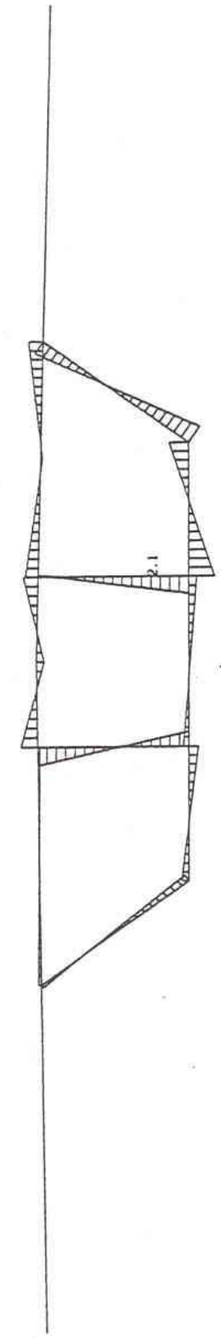
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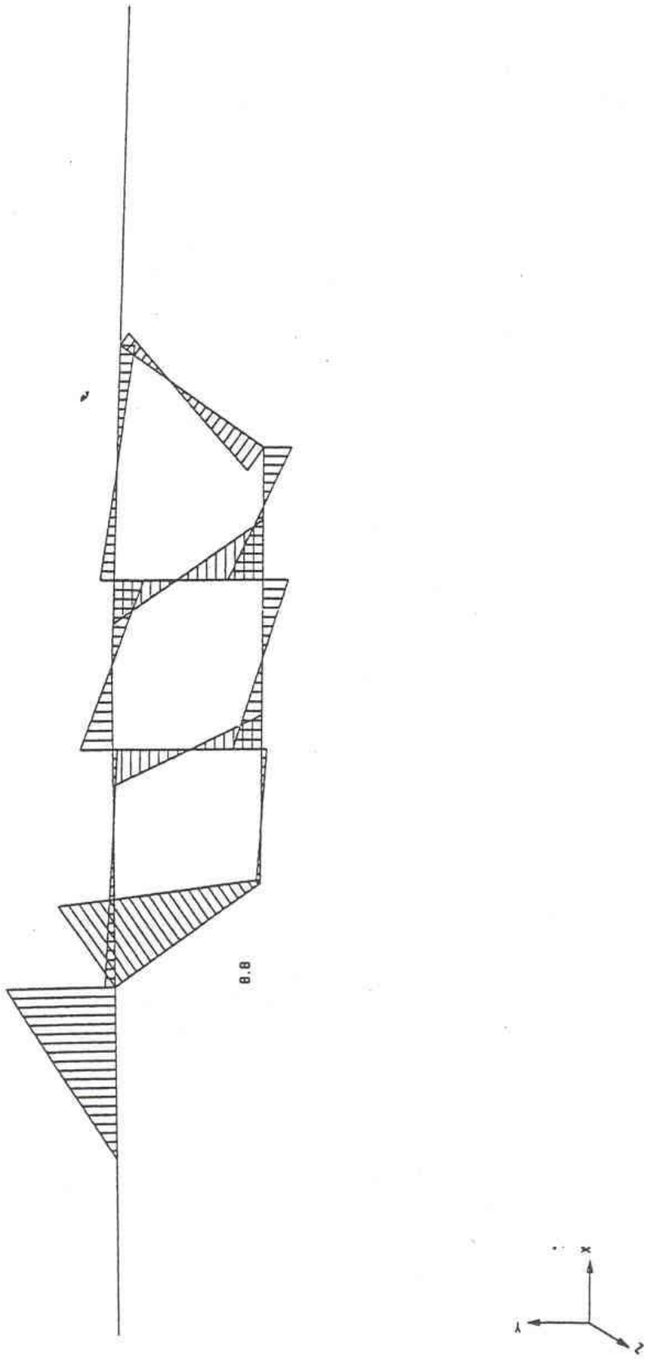
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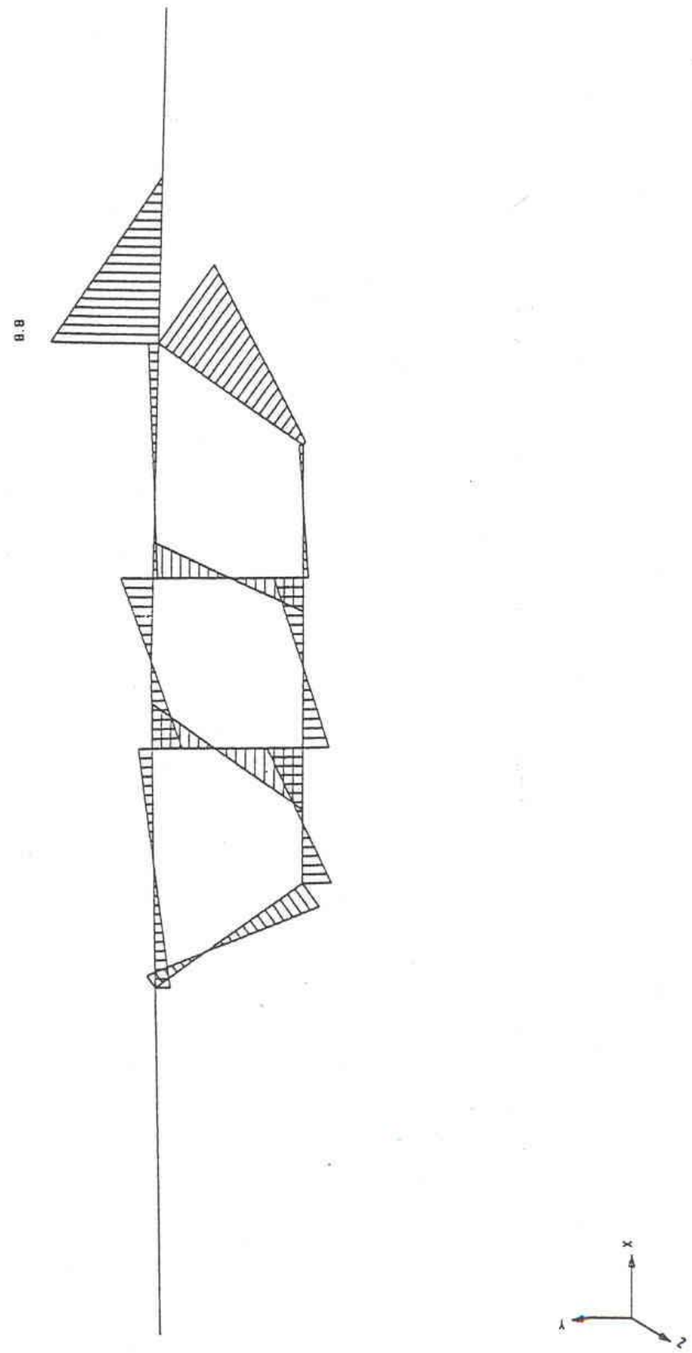
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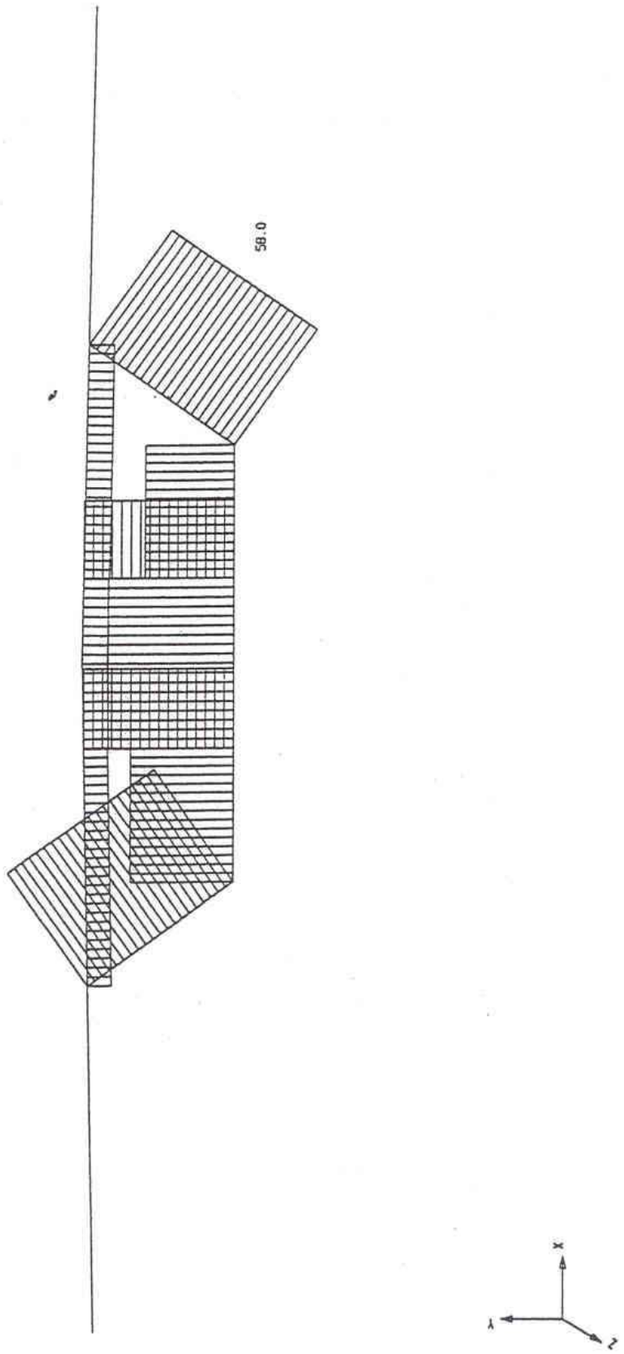


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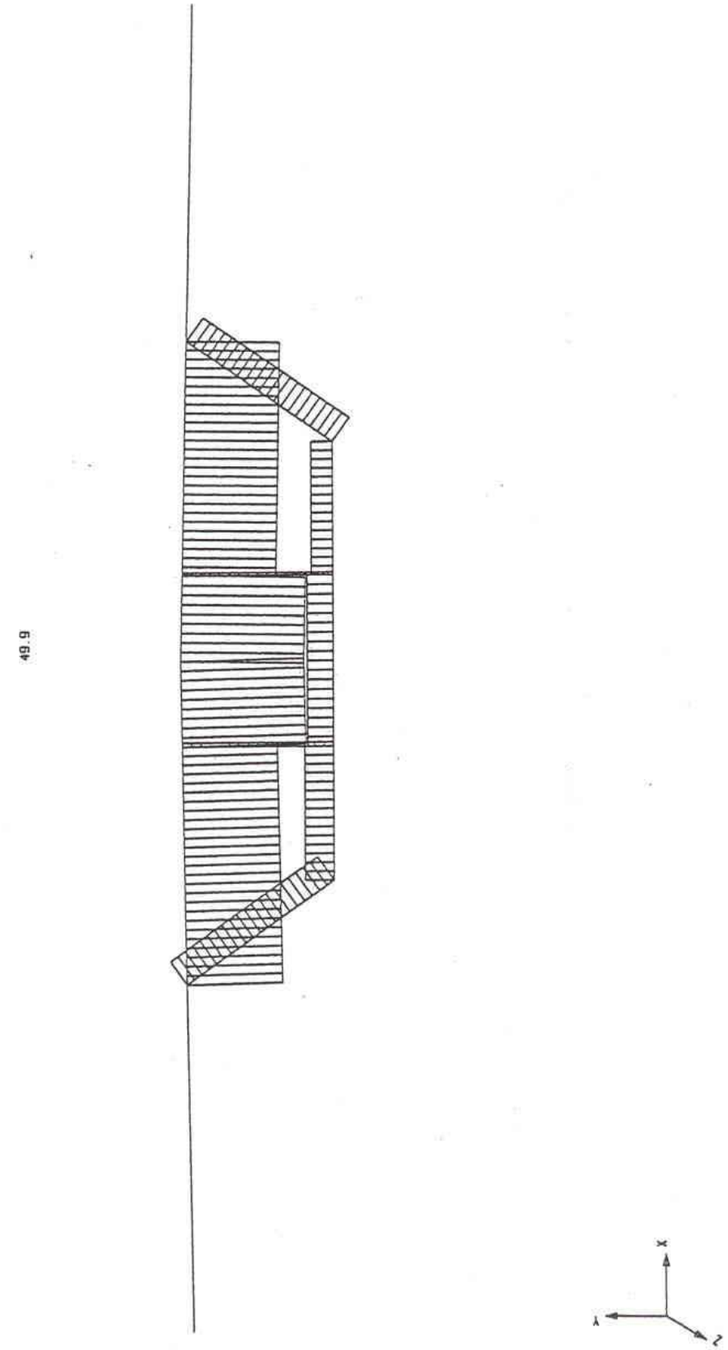
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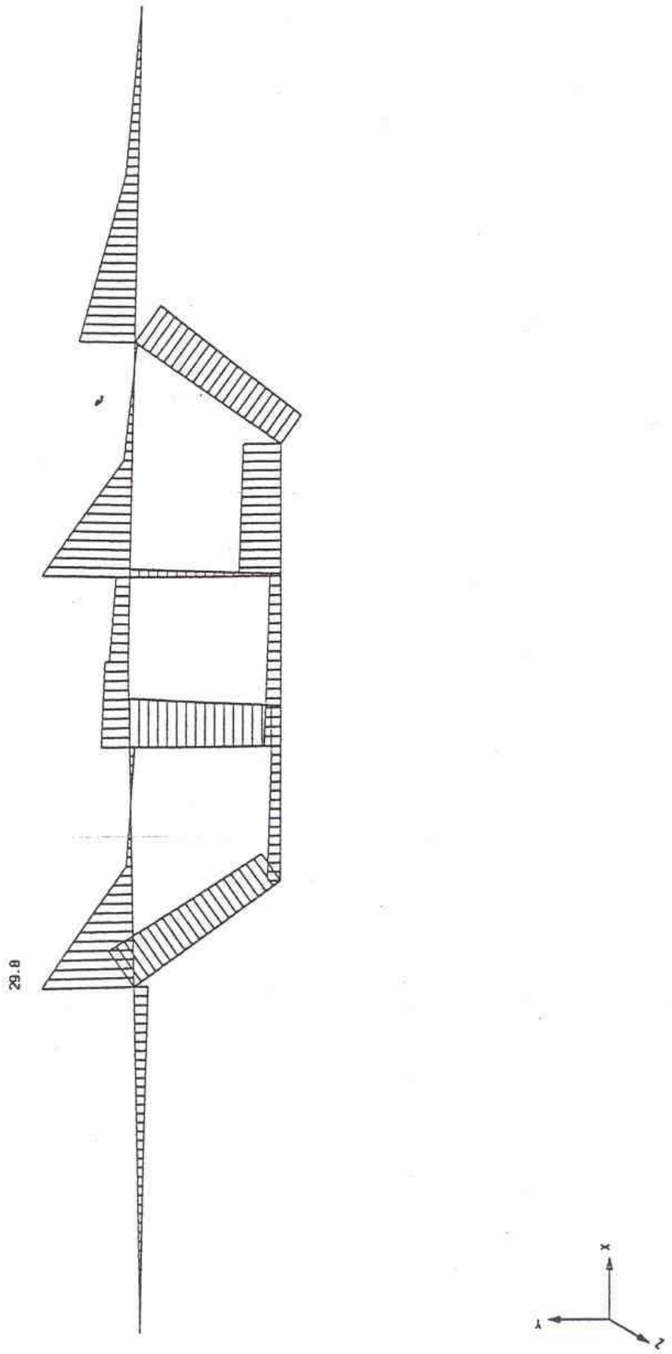


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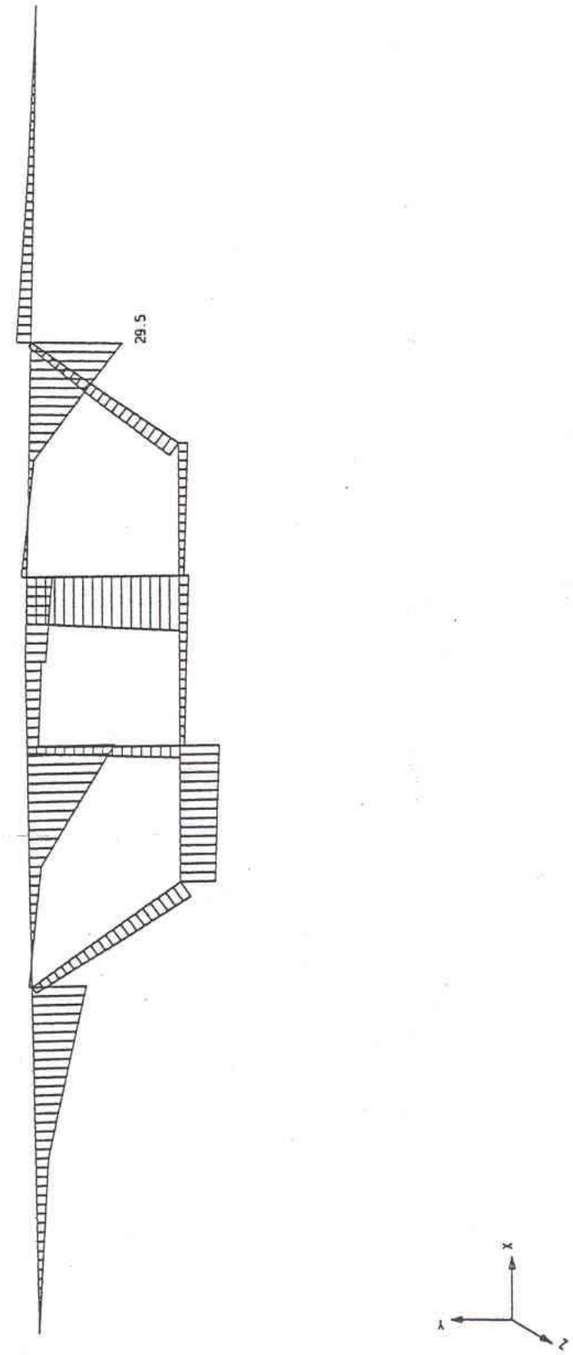
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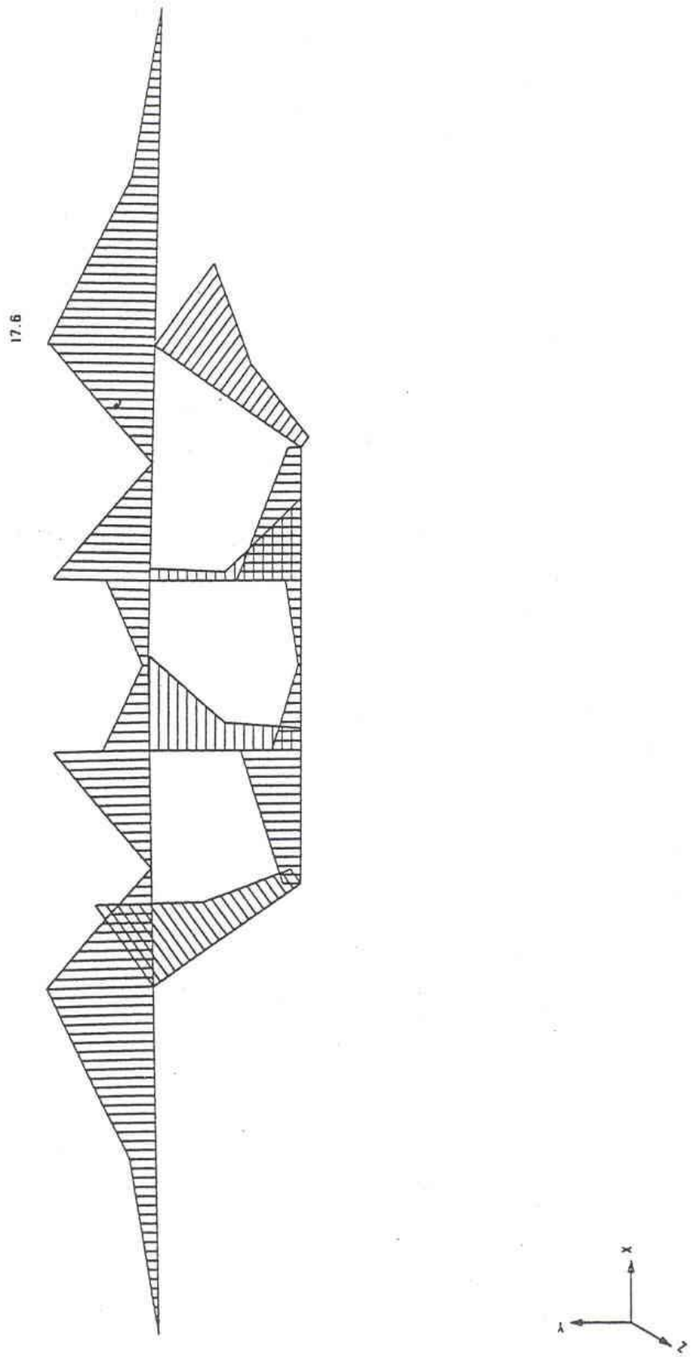


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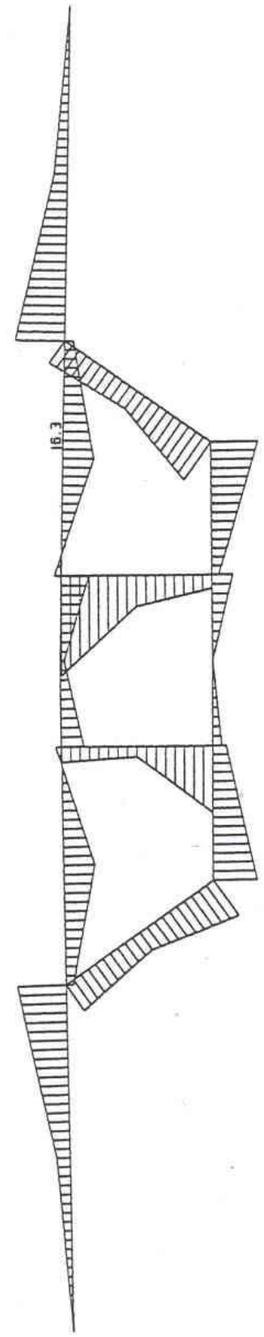
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MOME Z MIN Envolvente (ELU X Total)

mz 10.0



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19 a 22 0.025 1.00 0.20 0. 0. 2
hipo
91 a 94 101 102
```

BARRA 1 NUDO 1

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	MT	ML
91	1.00	0.20	0.03	0.00	0.00	0.00	0.00	0.00	0.00	4.74	0.00	0.00	14.29	0.00	0.00	0.00
92	1.00	0.20	0.03	0.00	0.00	0.00	0.00	0.00	0.00	4.74	0.00	0.00	14.29	0.00	0.00	0.00
93	1.00	0.20	0.03	0.00	0.00	0.00	0.00	0.00	0.00	4.74	0.00	0.00	14.29	0.00	0.00	0.00
94	1.00	0.20	0.03	0.00	0.00	0.00	0.00	0.00	0.00	4.74	0.00	0.00	14.29	0.00	0.00	0.00
101	1.00	0.20	0.03	0.00	0.00	0.00	0.00	0.00	0.00	4.74	0.00	0.00	14.29	0.00	0.00	0.00
102	1.00	0.20	0.03	0.00	0.00	0.00	0.00	0.00	0.00	4.74	0.00	0.00	14.29	0.00	0.00	0.00

BARRA 1 NUDO 2

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	MT	ML
91	1.00	0.23	0.03	0.00	0.00	0.00	-3.27	3.65	0.00	5.55	2.84	0.00	14.29	0.00	0.00	0.00
92	1.00	0.23	0.03	0.00	0.00	0.00	-3.27	3.65	0.00	5.55	2.84	0.00	14.29	0.00	0.00	0.00
93	1.00	0.23	0.03	0.00	0.00	0.00	-2.18	2.42	0.00	5.55	1.89	0.00	14.29	0.00	0.00	0.00
94	1.00	0.23	0.03	0.00	0.00	0.00	-4.28	4.79	0.00	5.55	4.97	0.00	14.29	0.00	0.00	0.00
101	1.00	0.23	0.03	0.00	0.00	0.00	-4.28	4.79	0.00	5.55	4.97	0.00	14.29	0.00	0.00	0.00
102	1.00	0.23	0.03	0.00	0.00	0.00	-2.18	2.42	0.00	5.55	1.89	0.00	14.29	0.00	0.00	0.00

BARRA 2 NUDO 2

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	MT	ML
91	1.00	0.23	0.03	0.00	0.00	0.00	-3.27	3.65	0.00	5.55	-2.84	0.00	14.29	0.00	0.00	0.00
92	1.00	0.23	0.03	0.00	0.00	0.00	-3.27	3.65	0.00	5.55	-2.84	0.00	14.29	0.00	0.00	0.00
93	1.00	0.23	0.03	0.00	0.00	0.00	-2.18	2.42	0.00	5.55	-1.89	0.00	14.29	0.00	0.00	0.00
94	1.00	0.23	0.03	0.00	0.00	0.00	-4.28	4.79	0.00	5.55	-4.07	0.00	14.29	0.00	0.00	0.00
101	1.00	0.23	0.03	0.00	0.00	0.00	-4.28	4.79	0.00	5.55	-4.07	0.00	14.29	0.00	0.00	0.00
102	1.00	0.23	0.03	0.00	0.00	0.00	-2.18	2.42	0.00	5.55	-1.89	0.00	14.29	0.00	0.00	0.00

BARRA 2 NUDO 3

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	MT	ML
91	1.00	0.36	0.03	0.00	0.00	0.00	-11.94	8.19	0.00	9.06	6.85	0.00	14.29	0.00	0.00	0.00
92	1.00	0.36	0.03	0.00	0.00	0.00	-11.94	8.19	0.00	9.06	6.85	0.00	14.29	0.00	0.00	0.00
93	1.00	0.36	0.03	0.00	0.00	0.00	-7.96	5.42	0.00	9.06	4.57	0.00	14.29	0.00	0.00	0.00
94	1.00	0.36	0.03	0.00	0.00	0.00	-17.35	11.99	0.00	9.06	17.55	0.00	14.29	0.00	0.00	0.00
101	1.00	0.36	0.03	0.00	0.00	0.00	-17.35	11.99	0.00	9.06	17.55	0.00	14.29	0.00	0.00	0.00
102	1.00	0.36	0.03	0.00	0.00	0.00	-7.96	5.42	0.00	9.06	4.57	0.00	14.29	0.00	0.00	0.00

BARRA 3 NUDO 3

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.36	0.03	0.00	0.00	-9.79	-2.47	2.86	0.12	9.06	3.33	0.00	14.29	0.00	0.00	0.00	0.01
92	1.00	0.36	0.03	0.00	0.00	-38.41	-11.37	12.37	0.48	9.06	24.38	0.00	14.29	0.00	0.00	0.00	0.08
93	1.00	0.36	0.03	0.00	0.00	-26.52	-17.48	15.17	0.33	9.06	29.75	0.59	14.29	0.00	0.00	0.00	0.10
94	1.00	0.36	0.03	0.00	0.00	-20.54	1.18	1.45	3.18	9.74	1.00	0.00	14.29	0.00	0.00	0.00	0.00
101	1.00	0.36	0.03	0.00	0.00	-26.52	-17.48	15.17	0.33	9.06	29.75	0.59	14.29	0.00	0.00	0.00	0.10
102	1.00	0.36	0.03	0.00	0.00	-20.54	1.18	1.45	3.18	9.74	1.00	0.00	14.29	0.00	0.00	0.00	0.00

BARRA 3 NUDO 5

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.21	0.03	0.00	0.00	-9.79	0.31	0.67	1.54	5.68	-0.96	0.00	14.29	0.00	0.00	0.00	0.01
92	1.00	0.21	0.03	0.00	0.00	-38.41	4.23	0.48	10.14	5.01	3.55	0.00	14.29	0.00	0.00	0.00	0.02
93	1.00	0.21	0.03	0.00	0.00	-26.52	4.84	0.33	9.38	5.01	-1.83	0.00	14.29	0.00	0.00	0.00	0.01
94	1.00	0.21	0.03	0.00	0.00	-35.35	4.29	0.44	9.81	5.01	3.80	0.00	14.29	0.00	0.00	0.00	0.02
101	1.00	0.21	0.03	0.00	0.00	-21.53	-0.06	2.51	2.34	5.68	-0.37	0.00	14.29	0.00	0.00	0.00	0.00
102	1.00	0.21	0.03	0.00	0.00	-27.74	5.05	0.35	9.79	5.01	0.79	0.00	14.29	0.00	0.00	0.00	0.00

BARRA 4 NUDO 5

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.21	0.03	0.00	0.00	-9.79	0.31	0.67	1.54	5.68	0.96	0.00	14.29	0.00	0.00	0.00	0.01
92	1.00	0.21	0.03	0.00	0.00	-38.41	4.23	0.48	10.14	5.01	-3.55	0.00	14.29	0.00	0.00	0.00	0.02
93	1.00	0.21	0.03	0.00	0.00	-26.52	4.84	0.33	9.38	5.01	1.83	0.00	14.29	0.00	0.00	0.00	0.01
94	1.00	0.21	0.03	0.00	0.00	-35.35	4.29	0.44	9.81	5.01	-3.80	0.00	14.29	0.00	0.00	0.00	0.02
101	1.00	0.21	0.03	0.00	0.00	-21.53	-0.06	2.51	2.34	5.68	0.37	0.00	14.29	0.00	0.00	0.00	0.00
102	1.00	0.21	0.03	0.00	0.00	-27.74	5.05	0.35	9.79	5.01	-0.79	0.00	14.29	0.00	0.00	0.00	0.00

BARRA 4 NUDO 7

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.21	0.03	0.00	0.00	-9.79	-2.39	4.20	0.12	5.01	6.08	0.00	14.29	0.00	0.00	0.00	0.04
92	1.00	0.21	0.03	0.00	0.00	-38.41	-12.06	20.17	0.48	5.01	15.94	0.00	14.29	0.00	0.00	0.00	0.10
93	1.00	0.21	0.03	0.00	0.00	-21.53	-0.98	3.81	1.04	5.68	1.66	0.00	14.29	0.00	0.00	0.00	0.01
94	1.00	0.21	0.03	0.00	0.00	-27.75	-15.69	23.92	0.35	5.01	28.21	17.44	14.29	0.00	0.00	0.00	0.17
101	1.00	0.21	0.03	0.00	0.00	-27.75	-15.69	23.92	0.35	5.01	28.21	17.44	14.29	0.00	0.00	0.00	0.17
102	1.00	0.21	0.03	0.00	0.00	-21.53	-0.98	3.81	1.04	5.68	1.66	0.00	14.29	0.00	0.00	0.00	0.01

BARRA 5 NUDO 7

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.21	0.03	0.00	0.00	-10.13	-2.24	4.06	0.13	5.01	4.12	0.00	14.29	0.00	0.00	0.00	
92	1.00	0.21	0.03	0.00	0.00	-49.87	-2.53	9.19	2.05	5.68	3.00	0.00	14.29	0.00	0.00	0.00	
93	1.00	0.21	0.03	0.00	0.00	-34.20	-7.53	13.73	0.43	5.01	9.01	0.00	14.29	0.00	0.00	0.00	
94	1.00	0.21	0.03	0.00	0.00	-34.15	3.65	0.43	8.88	5.01	-3.59	0.00	14.29	0.00	0.00	0.00	
101	1.00	0.21	0.03	0.00	0.00	-34.20	-7.53	13.73	0.43	5.01	9.01	0.00	14.29	0.00	0.00	0.00	
102	1.00	0.21	0.03	0.00	0.00	-34.15	3.65	0.43	8.88	5.01	-3.59	0.00	14.29	0.00	0.00	0.00	

BARRA 5 NUDO 9

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	-10.13	0.72	0.05	2.23	5.41	-0.55	0.00	14.29	0.00	0.00	0.00	
92	1.00	0.20	0.03	0.00	0.00	-49.87	-0.53	6.42	4.82	5.41	-1.34	0.00	14.29	0.00	0.00	0.00	
93	1.00	0.20	0.03	0.00	0.00	-34.20	-0.12	4.03	3.68	5.41	-7.35	0.00	14.29	0.00	0.00	0.00	
94	1.00	0.20	0.03	0.00	0.00	-34.15	-0.29	4.28	3.42	5.41	5.26	0.00	14.29	0.00	0.00	0.00	
101	1.00	0.20	0.03	0.00	0.00	-36.13	-0.85	5.36	2.79	5.41	-1.12	0.00	14.29	0.00	0.00	0.00	
102	1.00	0.20	0.03	0.00	0.00	-10.13	0.72	0.05	2.23	5.41	-0.38	0.00	14.29	0.00	0.00	0.00	

BARRA 6 NUDO 9

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	-10.14	0.72	0.06	2.23	5.41	-0.02	0.00	14.29	0.00	0.00	0.00	
92	1.00	0.20	0.03	0.00	0.00	-49.89	-0.53	6.43	4.82	5.41	-0.65	0.00	14.29	0.00	0.00	0.00	
93	1.00	0.20	0.03	0.00	0.00	-34.47	-0.12	4.06	3.71	5.41	5.98	0.00	14.29	0.00	0.00	0.00	
94	1.00	0.20	0.03	0.00	0.00	-33.91	-0.29	4.25	3.39	5.41	-6.62	0.00	14.29	0.00	0.00	0.00	
101	1.00	0.20	0.03	0.00	0.00	-36.15	-0.85	5.36	2.79	5.41	-0.32	0.00	14.29	0.00	0.00	0.00	
102	1.00	0.20	0.03	0.00	0.00	-10.14	0.72	0.06	2.23	5.41	-0.02	0.00	14.29	0.00	0.00	0.00	

BARRA 6 NUDO 13

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.21	0.03	0.00	0.00	-10.14	-1.77	3.98	0.13	5.01	3.60	0.00	14.29	0.00	0.00	0.00	
92	1.00	0.21	0.03	0.00	0.00	-49.89	-1.91	8.31	2.94	5.68	2.30	0.00	14.29	0.00	0.00	0.00	
93	1.00	0.21	0.03	0.00	0.00	-34.47	4.48	0.43	9.93	5.01	-4.33	0.00	14.29	0.00	0.00	0.00	
94	1.00	0.21	0.03	0.00	0.00	-33.91	-7.03	13.06	0.42	5.01	8.27	0.00	14.29	0.00	0.00	0.00	
101	1.00	0.21	0.03	0.00	0.00	-33.91	-7.03	13.06	0.42	5.01	8.27	0.00	14.29	0.00	0.00	0.00	
102	1.00	0.21	0.03	0.00	0.00	-34.47	4.48	0.43	9.93	5.01	-4.33	0.00	14.29	0.00	0.00	0.00	

BARRA 11 NUDO 3

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.42	0.03	0.00	0.00	56.27	-5.97	-3.13	0.70	10.69	8.25	0.00	14.29	0.00	0.00	0.00	0.02
92	1.00	0.42	0.03	0.00	0.00	11.64	-6.44	2.33	0.15	10.69	4.71	0.00	14.29	0.00	0.00	0.00	0.01
93	1.00	0.42	0.03	0.00	0.00	21.10	-16.28	7.03	0.26	10.69	14.18	0.00	14.29	0.00	0.00	0.00	0.04
94	1.00	0.42	0.03	0.00	0.00	45.22	5.03	0.57	-2.42	10.69	-2.28	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.42	0.03	0.00	0.00	21.10	-16.28	7.03	0.26	10.69	14.18	0.00	14.29	0.00	0.00	0.00	0.04
102	1.00	0.42	0.03	0.00	0.00	45.22	5.03	0.57	-2.42	10.69	-2.28	0.00	14.29	0.00	0.00	0.00	0.01

BARRA 11 NUDO 9

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.42	0.03	0.00	0.00	56.27	0.86	0.70	-6.15	10.69	-6.29	0.00	14.29	0.00	0.00	0.00	0.02
92	1.00	0.42	0.03	0.00	0.00	11.64	-2.63	0.13	0.15	10.69	-3.40	0.00	14.29	0.00	0.00	0.00	0.01
93	1.00	0.42	0.03	0.00	0.00	21.10	-3.90	-0.25	0.26	10.69	-12.22	0.00	14.29	0.00	0.00	0.00	0.03
94	1.00	0.42	0.03	0.00	0.00	45.22	1.97	0.57	-4.21	10.69	4.25	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.42	0.03	0.00	0.00	24.75	-6.62	0.90	0.31	10.69	-7.92	0.00	14.29	0.00	0.00	0.00	0.02
102	1.00	0.42	0.03	0.00	0.00	45.64	3.44	0.57	-3.40	10.69	-0.63	0.00	14.29	0.00	0.00	0.00	0.00

BARRA 12 NUDO 9

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.42	0.03	0.00	0.00	56.26	0.86	0.70	-6.15	10.69	6.29	0.00	14.29	0.00	0.00	0.00	0.02
92	1.00	0.42	0.03	0.00	0.00	11.64	-2.63	0.13	0.15	10.69	3.40	0.00	14.29	0.00	0.00	0.00	0.01
93	1.00	0.42	0.03	0.00	0.00	21.10	-3.90	-0.25	0.26	10.69	12.22	0.00	14.29	0.00	0.00	0.00	0.03
94	1.00	0.42	0.03	0.00	0.00	45.22	1.97	0.57	-4.21	10.69	-4.24	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.42	0.03	0.00	0.00	24.75	-6.62	0.90	0.31	10.69	7.92	0.00	14.29	0.00	0.00	0.00	0.02
102	1.00	0.42	0.03	0.00	0.00	45.64	3.44	0.57	-3.40	10.69	0.63	0.00	14.29	0.00	0.00	0.00	0.00

BARRA 12 NUDO 6

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.42	0.03	0.00	0.00	56.26	6.07	0.70	-3.09	10.69	-4.82	0.00	14.29	0.00	0.00	0.00	0.01
92	1.00	0.42	0.03	0.00	0.00	11.64	0.10	0.15	-1.33	10.69	-2.42	0.00	14.29	0.00	0.00	0.00	0.01
93	1.00	0.42	0.03	0.00	0.00	21.10	6.87	0.26	1.48	10.69	-10.74	0.00	14.29	0.00	0.00	0.00	0.03
94	1.00	0.42	0.03	0.00	0.00	45.22	-2.70	-3.78	0.57	10.69	5.72	0.00	14.29	0.00	0.00	0.00	0.02
101	1.00	0.42	0.03	0.00	0.00	48.30	-2.89	-4.03	0.60	10.69	4.14	0.00	14.29	0.00	0.00	0.00	0.01
102	1.00	0.42	0.03	0.00	0.00	18.02	7.06	0.23	1.95	10.69	-9.16	0.00	14.29	0.00	0.00	0.00	0.03

BARRA 13 NUDO 18

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	RE
91	1.00	0.42	0.03	0.00	0.00	58.05	-4.15	-9.43	0.73	10.69	6.61	0.00	14.29	0.00	0.00	0.00	0
92	1.00	0.42	0.03	0.00	0.00	11.98	-6.79	2.49	0.15	10.69	5.17	0.00	14.29	0.00	0.00	0.00	0
93	1.00	0.42	0.03	0.00	0.00	21.57	-16.76	7.26	0.27	10.69	14.75	0.00	14.29	0.00	0.00	0.00	0
94	1.00	0.42	0.03	0.00	0.00	45.72	4.48	0.57	-2.80	10.69	-1.57	0.00	14.29	0.00	0.00	0.00	0
101	1.00	0.42	0.03	0.00	0.00	21.57	-16.76	7.26	0.27	10.69	14.75	0.00	14.29	0.00	0.00	0.00	0
102	1.00	0.42	0.03	0.00	0.00	45.72	4.48	0.57	-2.80	10.69	-1.57	0.00	14.29	0.00	0.00	0.00	0

BARRA 13 NUDO 17

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	RE
91	1.00	0.42	0.03	0.00	0.00	58.05	1.13	0.73	-6.20	10.69	-4.65	0.00	14.29	0.00	0.00	0.00	0
92	1.00	0.42	0.03	0.00	0.00	11.98	-2.55	0.04	0.15	10.69	-3.86	0.00	14.29	0.00	0.00	0.00	0
93	1.00	0.42	0.03	0.00	0.00	21.57	-3.84	-0.34	0.27	10.69	-12.79	0.00	14.29	0.00	0.00	0.00	0
94	1.00	0.42	0.03	0.00	0.00	45.72	2.08	0.57	-4.20	10.69	3.53	0.00	14.29	0.00	0.00	0.00	0
101	1.00	0.42	0.03	0.00	0.00	25.09	-6.54	0.82	0.31	10.69	-8.38	0.00	14.29	0.00	0.00	0.00	0
102	1.00	0.42	0.03	0.00	0.00	46.10	3.48	0.58	-3.43	10.69	-1.23	0.00	14.29	0.00	0.00	0.00	0

BARRA 14 NUDO 17

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	R
91	1.00	0.42	0.03	0.00	0.00	58.05	1.13	0.73	-6.20	10.69	4.65	0.00	14.29	0.00	0.00	0.00	0
92	1.00	0.42	0.03	0.00	0.00	11.98	-2.55	0.04	0.15	10.69	3.86	0.00	14.29	0.00	0.00	0.00	0
93	1.00	0.42	0.03	0.00	0.00	21.57	-3.84	-0.34	0.27	10.69	12.79	0.00	14.29	0.00	0.00	0.00	0
94	1.00	0.42	0.03	0.00	0.00	45.72	2.08	0.57	-4.20	10.69	-3.53	0.00	14.29	0.00	0.00	0.00	0
101	1.00	0.42	0.03	0.00	0.00	25.09	-6.54	0.82	0.31	10.69	8.38	0.00	14.29	0.00	0.00	0.00	0
102	1.00	0.42	0.03	0.00	0.00	46.10	3.48	0.58	-3.43	10.69	1.23	0.00	14.29	0.00	0.00	0.00	0

BARRA 14 NUDO 16

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	R
91	1.00	0.42	0.03	0.00	0.00	58.05	4.80	0.73	-3.05	10.69	-3.17	0.00	14.29	0.00	0.00	0.00	0
92	1.00	0.42	0.03	0.00	0.00	11.98	0.61	0.15	-1.08	10.69	-2.88	0.00	14.29	0.00	0.00	0.00	0
93	1.00	0.42	0.03	0.00	0.00	21.57	7.47	0.27	1.77	10.69	-11.32	0.00	14.29	0.00	0.00	0.00	0
94	1.00	0.42	0.03	0.00	0.00	45.72	-1.93	-4.29	0.57	10.69	5.01	0.00	14.29	0.00	0.00	0.00	0
101	1.00	0.42	0.03	0.00	0.00	48.70	-2.12	-4.53	0.61	10.69	3.41	0.00	14.29	0.00	0.00	0.00	0
102	1.00	0.42	0.03	0.00	0.00	18.59	7.66	0.23	2.23	10.69	-9.72	0.00	14.29	0.00	0.00	0.00	0

BARRA 15 NUDO 7

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.40	0.03	0.00	0.00	32.60	-6.60	0.17	0.41	10.15	3.22	0.00	14.29	0.00	0.00	0.00	0.01
92	1.00	0.40	0.03	0.00	0.00	1.73	-8.55	4.99	0.02	10.15	13.64	0.00	14.29	0.00	0.00	0.00	0.04
93	1.00	0.40	0.03	0.00	0.00	28.15	-15.40	6.19	0.35	10.15	15.73	0.00	14.29	0.00	0.00	0.00	0.05
94	1.00	0.40	0.03	0.00	0.00	6.29	2.55	0.08	0.79	10.15	-2.12	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.40	0.03	0.00	0.00	28.15	-15.40	6.19	0.35	10.15	15.73	0.00	14.29	0.00	0.00	0.00	0.05
102	1.00	0.40	0.03	0.00	0.00	6.29	2.55	0.08	0.79	10.15	-2.12	0.00	14.29	0.00	0.00	0.00	0.01

BARRA 15 NUDO 11

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.40	0.03	0.00	0.00	32.60	-4.58	-1.07	0.41	10.15	-1.88	0.00	14.29	0.00	0.00	0.00	0.01
92	1.00	0.40	0.03	0.00	0.00	1.73	1.72	0.02	0.83	10.15	-12.30	0.00	14.29	0.00	0.00	0.00	0.04
93	1.00	0.40	0.03	0.00	0.00	28.15	-3.47	-1.23	0.35	10.15	-14.39	0.00	14.29	0.00	0.00	0.00	0.04
94	1.00	0.40	0.03	0.00	0.00	6.29	0.52	0.08	-0.44	10.15	3.02	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.40	0.03	0.00	0.00	32.00	-4.59	-1.00	0.40	10.15	-3.06	0.00	14.29	0.00	0.00	0.00	0.01
102	1.00	0.40	0.03	0.00	0.00	2.33	1.73	0.03	0.77	10.15	-11.12	0.00	14.29	0.00	0.00	0.00	0.03

BARRA 16 NUDO 11

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.40	0.03	0.00	0.00	32.60	-4.58	-1.07	0.41	10.15	1.88	0.00	14.29	0.00	0.00	0.00	0.01
92	1.00	0.40	0.03	0.00	0.00	1.73	1.72	0.02	0.83	10.15	12.30	0.00	14.29	0.00	0.00	0.00	0.04
93	1.00	0.40	0.03	0.00	0.00	28.15	-3.47	-1.23	0.35	10.15	14.39	0.00	14.29	0.00	0.00	0.00	0.04
94	1.00	0.40	0.03	0.00	0.00	6.29	0.52	0.08	-0.44	10.15	-3.02	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.40	0.03	0.00	0.00	32.00	-4.59	-1.00	0.40	10.15	3.06	0.00	14.29	0.00	0.00	0.00	0.01
102	1.00	0.40	0.03	0.00	0.00	2.33	1.73	0.03	0.77	10.15	11.12	0.00	14.29	0.00	0.00	0.00	0.03

BARRA 16 NUDO 8

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.40	0.03	0.00	0.00	32.60	-3.62	-1.66	0.41	10.15	-0.53	0.00	14.29	0.00	0.00	0.00	0.00
92	1.00	0.40	0.03	0.00	0.00	1.73	10.91	0.02	6.44	10.15	-10.95	0.00	14.29	0.00	0.00	0.00	0.03
93	1.00	0.40	0.03	0.00	0.00	28.15	7.36	0.35	1.17	10.15	-13.04	0.00	14.29	0.00	0.00	0.00	0.04
94	1.00	0.40	0.03	0.00	0.00	6.29	-2.22	0.59	0.08	10.15	3.91	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.40	0.03	0.00	0.00	32.60	-3.62	-1.66	0.41	10.15	-0.53	0.00	14.29	0.00	0.00	0.00	0.00
102	1.00	0.40	0.03	0.00	0.00	1.73	10.91	0.02	6.44	10.15	-10.95	0.00	14.29	0.00	0.00	0.00	0.03

BARRA 17 NUDO 13

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.40	0.03	0.00	0.00	31.93	7.45	0.40	0.78	10.15	-2.36	0.00	14.29	0.00	0.00	0.00	0.0
92	1.00	0.40	0.03	0.00	0.00	1.16	9.54	0.01	5.67	10.15	-13.21	0.00	14.29	0.00	0.00	0.00	0.0
93	1.00	0.40	0.03	0.00	0.00	5.90	-1.96	0.48	0.07	10.15	2.69	0.00	14.29	0.00	0.00	0.00	0.0
94	1.00	0.40	0.03	0.00	0.00	27.46	16.35	0.34	6.87	10.15	-15.28	0.00	14.29	0.00	0.00	0.00	0.0
101	1.00	0.40	0.03	0.00	0.00	5.90	-1.96	0.48	0.07	10.15	2.69	0.00	14.29	0.00	0.00	0.00	0.0
102	1.00	0.40	0.03	0.00	0.00	27.49	16.35	0.34	6.87	10.15	-15.28	0.00	14.29	0.00	0.00	0.00	0.0

BARRA 17 NUDO 12

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.40	0.03	0.00	0.00	31.93	5.05	0.40	-0.70	10.15	3.70	0.00	14.29	0.00	0.00	0.00	0.0
92	1.00	0.40	0.03	0.00	0.00	1.16	-1.46	0.74	0.01	10.15	14.56	0.00	14.29	0.00	0.00	0.00	0.
93	1.00	0.40	0.03	0.00	0.00	5.90	-0.19	-0.59	0.07	10.15	-1.79	0.00	14.29	0.00	0.00	0.00	0.
94	1.00	0.40	0.03	0.00	0.00	27.46	3.71	0.34	-1.01	10.15	16.63	0.00	14.29	0.00	0.00	0.00	0.
101	1.00	0.40	0.03	0.00	0.00	1.76	-1.47	0.68	0.02	10.15	13.38	0.00	14.29	0.00	0.00	0.00	0.
102	1.00	0.40	0.03	0.00	0.00	31.33	5.07	0.39	-0.62	10.15	4.88	0.00	14.29	0.00	0.00	0.00	0.

BARRA 18 NUDO 12

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	RE
91	1.00	0.40	0.03	0.00	0.00	31.93	5.05	0.40	-0.70	10.15	-3.70	0.00	14.29	0.00	0.00	0.00	0.
92	1.00	0.40	0.03	0.00	0.00	1.16	-1.46	0.74	0.01	10.15	-14.56	0.00	14.29	0.00	0.00	0.00	0.
93	1.00	0.40	0.03	0.00	0.00	5.90	-0.19	-0.59	0.07	10.15	1.79	0.00	14.29	0.00	0.00	0.00	0.
94	1.00	0.40	0.03	0.00	0.00	27.46	3.71	0.34	-1.01	10.15	-16.63	0.00	14.29	0.00	0.00	0.00	0.
101	1.00	0.40	0.03	0.00	0.00	1.76	-1.47	0.68	0.02	10.15	-13.38	0.00	14.29	0.00	0.00	0.00	0.
102	1.00	0.40	0.03	0.00	0.00	31.33	5.07	0.39	-0.62	10.15	-4.88	0.00	14.29	0.00	0.00	0.00	0.

BARRA 18 NUDO 14

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	RE
91	1.00	0.40	0.03	0.00	0.00	31.93	1.60	0.40	-2.82	10.15	5.05	0.00	14.29	0.00	0.00	0.00	0.
92	1.00	0.40	0.03	0.00	0.00	1.16	-13.49	8.11	0.01	10.15	15.90	0.00	14.29	0.00	0.00	0.00	0.
93	1.00	0.40	0.03	0.00	0.00	5.90	0.88	0.07	-0.18	10.15	-0.89	0.00	14.29	0.00	0.00	0.00	0.
94	1.00	0.40	0.03	0.00	0.00	27.46	-9.96	2.86	0.34	10.15	17.97	0.00	14.29	0.00	0.00	0.00	0.
101	1.00	0.40	0.03	0.00	0.00	1.16	-13.49	8.11	0.01	10.15	15.90	0.00	14.29	0.00	0.00	0.00	0.
102	1.00	0.40	0.03	0.00	0.00	29.94	2.16	0.37	-2.24	10.15	3.31	0.00	14.29	0.00	0.00	0.00	0.

BARRA 19 NUDO 6

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	42.03	6.09	0.53	3.11	4.74	-10.30	0.00	14.29	0.00	0.00	0.00	0.07
92	1.00	0.20	0.03	0.00	0.00	11.57	-0.89	-0.30	0.14	4.74	1.65	0.00	14.29	0.00	0.00	0.00	0.01
93	1.00	0.20	0.03	0.00	0.00	28.85	-2.89	0.23	0.36	4.74	4.25	0.00	14.29	0.00	0.00	0.00	0.03
94	1.00	0.20	0.03	0.00	0.00	24.36	7.06	0.30	6.58	4.74	-11.16	0.00	14.29	0.00	0.00	0.00	0.07
101	1.00	0.20	0.03	0.00	0.00	28.85	-2.89	0.23	0.36	4.74	4.25	0.00	14.29	0.00	0.00	0.00	0.03
102	1.00	0.20	0.03	0.00	0.00	24.36	7.06	0.30	6.58	4.74	-11.16	0.00	14.29	0.00	0.00	0.00	0.07

BARRA 19 NUDO 8

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	42.03	-9.45	8.06	0.53	4.74	11.67	0.00	14.29	0.00	0.00	0.00	0.07
92	1.00	0.20	0.03	0.00	0.00	11.57	0.78	0.14	-0.45	4.74	-0.73	0.00	14.29	0.00	0.00	0.00	0.00
93	1.00	0.20	0.03	0.00	0.00	28.85	2.14	0.36	-0.79	4.74	-2.87	0.00	14.29	0.00	0.00	0.00	0.02
94	1.00	0.20	0.03	0.00	0.00	24.36	-9.70	10.43	0.30	4.74	12.54	0.00	14.29	0.00	0.00	0.00	0.08
101	1.00	0.20	0.03	0.00	0.00	38.96	-9.75	8.85	0.49	4.74	12.03	0.00	14.29	0.00	0.00	0.00	0.08
102	1.00	0.20	0.03	0.00	0.00	28.85	2.14	0.36	-0.79	4.74	-2.87	0.00	14.29	0.00	0.00	0.00	0.02

BARRA 20 NUDO 8

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	51.17	-2.38	-3.19	0.64	4.74	2.60	0.00	14.29	0.00	0.00	0.00	0.02
92	1.00	0.20	0.03	0.00	0.00	10.31	-0.08	-1.21	0.13	4.74	0.38	0.00	14.29	0.00	0.00	0.00	0.00
93	1.00	0.20	0.03	0.00	0.00	44.33	-4.66	0.82	0.55	4.74	5.35	0.00	14.29	0.00	0.00	0.00	0.03
94	1.00	0.20	0.03	0.00	0.00	19.64	1.37	0.25	-0.68	4.74	-1.48	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.20	0.03	0.00	0.00	34.49	-4.68	2.01	0.43	4.74	5.23	0.00	14.29	0.00	0.00	0.00	0.03
102	1.00	0.20	0.03	0.00	0.00	44.16	1.45	0.55	-3.61	4.74	-1.28	0.00	14.29	0.00	0.00	0.00	0.01

BARRA 20 NUDO 10

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	51.17	-0.45	-5.83	0.64	4.74	-1.69	0.00	14.29	0.00	0.00	0.00	0.01
92	1.00	0.20	0.03	0.00	0.00	10.31	-0.01	-1.29	0.13	4.74	0.23	0.00	14.29	0.00	0.00	0.00	0.00
93	1.00	0.20	0.03	0.00	0.00	44.33	-0.26	-5.23	0.55	4.74	-4.44	0.00	14.29	0.00	0.00	0.00	0.03
94	1.00	0.20	0.03	0.00	0.00	44.13	-0.11	-5.40	0.55	4.74	2.19	0.00	14.29	0.00	0.00	0.00	0.01
101	1.00	0.20	0.03	0.00	0.00	51.17	-0.45	-5.83	0.64	4.74	-1.69	0.00	14.29	0.00	0.00	0.00	0.01
102	1.00	0.20	0.03	0.00	0.00	37.32	0.08	0.47	-4.60	4.74	-0.56	0.00	14.29	0.00	0.00	0.00	0.00

BARRA 21 NUDO 10

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	51.17	-0.45	-5.83	0.64	4.74	1.69	0.00	14.29	0.00	0.00	0.00	0.0
92	1.00	0.20	0.03	0.00	0.00	10.31	-0.01	-1.29	0.13	4.74	-0.23	0.00	14.29	0.00	0.00	0.00	0.0
93	1.00	0.20	0.03	0.00	0.00	44.33	-0.26	-5.23	0.55	4.74	4.44	0.00	14.29	0.00	0.00	0.00	0.0
94	1.00	0.20	0.03	0.00	0.00	44.13	-0.11	-5.40	0.55	4.74	-2.19	0.00	14.29	0.00	0.00	0.00	0.0
101	1.00	0.20	0.03	0.00	0.00	51.17	-0.45	-5.83	0.64	4.74	1.69	0.00	14.29	0.00	0.00	0.00	0.0
102	1.00	0.20	0.03	0.00	0.00	37.32	0.08	0.47	-4.60	4.74	0.56	0.00	14.29	0.00	0.00	0.00	0.0

BARRA 21 NUDO 14

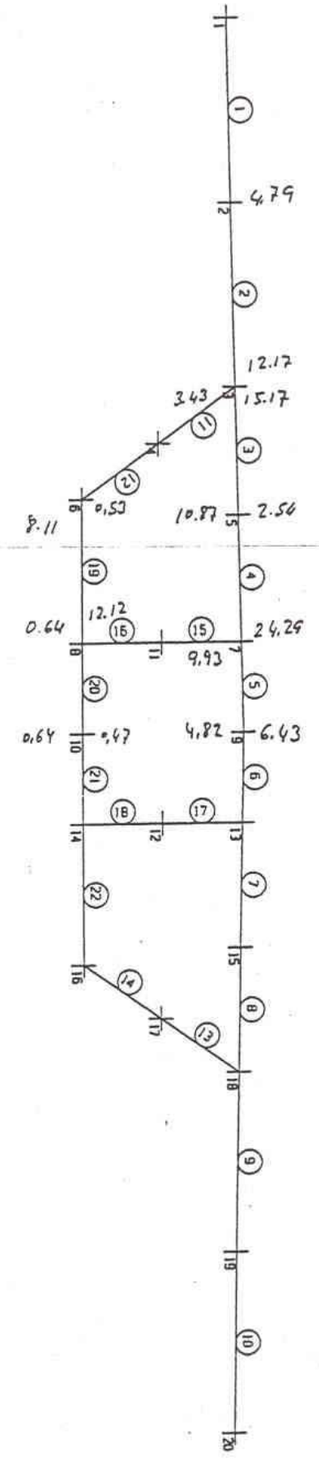
HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	51.17	0.67	0.64	-5.53	4.74	-0.78	0.00	14.29	0.00	0.00	0.00	0.0
92	1.00	0.20	0.03	0.00	0.00	10.31	-0.50	-0.66	0.13	4.74	0.84	0.00	14.29	0.00	0.00	0.00	0.0
93	1.00	0.20	0.03	0.00	0.00	44.33	3.33	0.55	-1.05	4.74	-3.53	0.00	14.29	0.00	0.00	0.00	0.0
94	1.00	0.20	0.03	0.00	0.00	44.13	-2.49	-2.18	0.55	4.74	3.10	0.00	14.29	0.00	0.00	0.00	0.0
101	1.00	0.20	0.03	0.00	0.00	35.32	-2.50	-1.09	0.44	4.74	2.97	0.00	14.29	0.00	0.00	0.00	0.0
102	1.00	0.20	0.03	0.00	0.00	44.33	3.33	0.55	-1.05	4.74	-3.53	0.00	14.29	0.00	0.00	0.00	0.0

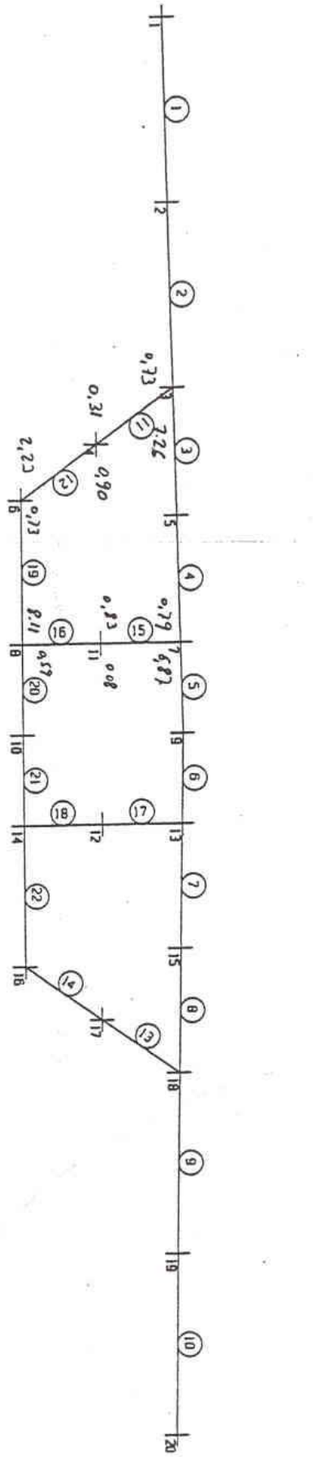
BARRA 22 NUDO 14

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	36.12	-7.81	6.29	0.95	4.74	9.60	0.00	14.29	0.00	0.00	0.00	0.0
92	1.00	0.20	0.03	0.00	0.00	8.65	0.12	0.11	-0.95	4.74	0.10	0.00	14.29	0.00	0.00	0.00	0.0
93	1.00	0.20	0.03	0.00	0.00	18.67	-10.40	12.12	0.23	4.74	13.46	0.00	14.29	0.00	0.00	0.00	0.0
94	1.00	0.20	0.03	0.00	0.00	25.35	1.12	0.32	-1.72	4.74	-1.60	0.00	14.29	0.00	0.00	0.00	0.0
101	1.00	0.20	0.03	0.00	0.00	18.67	-10.40	12.12	0.23	4.74	13.46	0.00	14.29	0.00	0.00	0.00	0.0
102	1.00	0.20	0.03	0.00	0.00	25.35	1.12	0.32	-1.72	4.74	-1.60	0.00	14.29	0.00	0.00	0.00	0.0

BARRA 22 NUDO 16

HIPO	B	H	R	BW	HF	AXIL	MOME	W S/M	W I/M	W M/M	CORT	W	W MIN	TORS	WT	WL	REL
91	1.00	0.20	0.03	0.00	0.00	36.12	4.80	0.95	1.98	4.74	-8.22	0.00	14.29	0.00	0.00	0.00	0.0
92	1.00	0.20	0.03	0.00	0.00	8.65	-0.39	-0.60	0.11	4.74	0.81	0.00	14.29	0.00	0.00	0.00	0.0
93	1.00	0.20	0.03	0.00	0.00	18.67	7.66	0.23	8.11	4.74	-12.08	0.00	14.29	0.00	0.00	0.00	0.0
94	1.00	0.20	0.03	0.00	0.00	25.35	-2.12	-0.39	0.32	4.74	2.98	0.00	14.29	0.00	0.00	0.00	0.0
101	1.00	0.20	0.03	0.00	0.00	25.35	-2.12	-0.39	0.32	4.74	2.98	0.00	14.29	0.00	0.00	0.00	0.0
102	1.00	0.20	0.03	0.00	0.00	18.67	7.66	0.23	8.11	4.74	-12.08	0.00	14.29	0.00	0.00	0.00	0.0


4.79
12.17
15.17
3.43
2.56
10.87
0.53
11.8
24.29
12.12
0.64
9.93
6.43
4.82
0.47
0.64


2.23
0.73
0.90
0.11
0.73
2.22
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0.08
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DESPLAZAMIENTOS DE APOYOS

SPLAZAMIENTOS EN APOYOS

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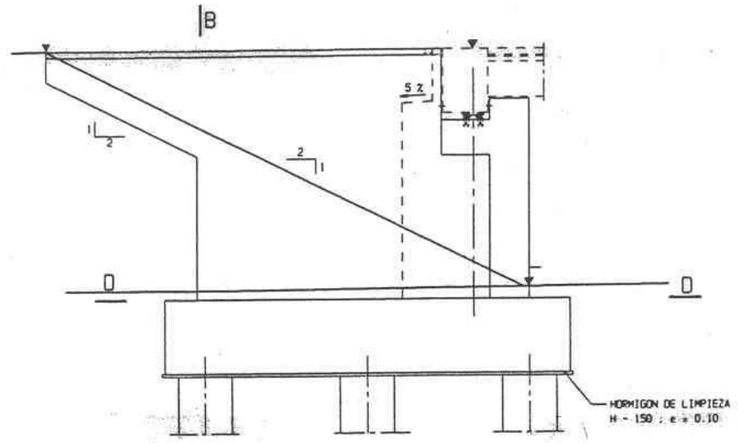
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1	23,50	-0,017	-0,009	0,004
2	54,50	-0,040	-0,021	0,009
3	85,50	-0,063	-0,033	0,015
4	116,50	-0,086	-0,046	0,020
5	147,50	-0,108	-0,058	0,025
6	178,50	-0,131	-0,070	0,031
7	209,50	-0,154	-0,082	0,036
8	240,50	-0,177	-0,094	0,041
9	271,50	-0,199	-0,106	0,047
10	302,50	-0,222	-0,118	0,052
11	333,50	-0,245	-0,130	0,057
12	364,50	-0,268	-0,143	0,063
	388,00	-0,285	-0,152	0,067

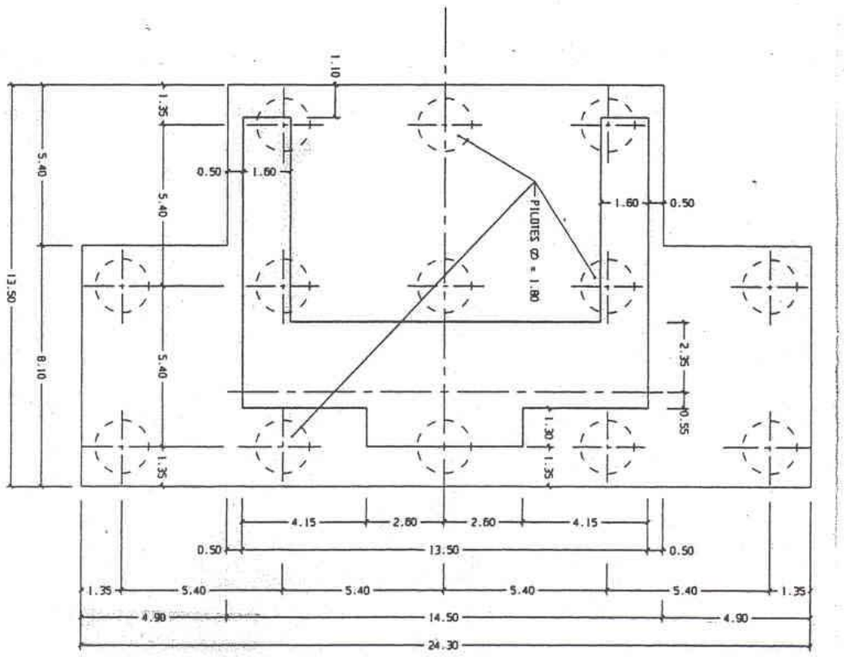
RESUMEN DE APOYOS DE TEFLON

PILA	Desplazamientos máximos	
	D+ (mm)	D- (mm)
E1	0	0
1	4	17
2	9	40
3	15	63
4	20	86
5	25	108
6	31	131
7	36	154
8	41	177
9	47	199
10	52	222
11	57	245
12	63	268
E2	67	285

ESTRIBO 1

ESTRIBO 1





VIADUCTO SOBRE LA RIERA FEMOSA

Esfuerzos de la barra 221 extremo frontal

coeficiente del esfuerzo FX : 1.00
coeficiente del esfuerzo FY : 1.00
coeficiente del esfuerzo FZ : 1.00
coeficiente del esfuerzo MX : 1.00
coeficiente del esfuerzo MY : 1.00
coeficiente del esfuerzo MZ : 1.00

HIP.	FX	FY	FZ	MX	MY	MZ
251 FUER X MAX envolvente (ELS) (tota	-719.08	-168.04	-0.06	0.69	0.06	0.00
252 FUER X MIN envolvente (ELS) (tota	-192.11	-1288.77	-0.13	1.31	0.15	0.00
253 FUER Y MAX envolvente (ELS) (tota	-410.80	-1361.80	13.75	-56.15	-68.69	0.00
254 FUER Y MIN envolvente (ELS) (tota	-514.93	-37.89	12.40	-50.56	-61.85	0.00
255 FUER Z MAX envolvente (ELS) (tota	-481.67	-1035.04	-43.69	294.10	988.99	0.00
256 FUER Z MIN envolvente (ELS) (tota	-579.85	-421.77	50.37	-320.29	-1023.13	0.00
257 MOME X MAX envolvente (ELS) (tota	-567.17	-421.77	41.86	-335.10	-998.29	0.00
258 MOME X MIN envolvente (ELS) (tota	-492.72	-1035.04	-35.18	308.91	964.15	0.00
259 MOME Y MAX envolvente (ELS) (tota	-596.75	-421.77	48.98	-310.96	-1061.67	0.00
260 MOME Y MIN envolvente (ELS) (tota	-499.81	-1035.04	-42.29	284.69	1027.53	0.00
261 MOME Z MAX envolvente (ELS) (tota	-319.97	-728.40	-0.04	0.75	0.05	0.00
262 MOME Z MIN envolvente (ELS) (tota	-319.97	-728.40	-0.04	0.75	0.05	0.00

VIADUCTO RIERA FEMOSA. ESTRIBO 1 - VACIO

2.90 0. 0. 2.65 8.95 2.50 0. 8.70

3.0

2500. 2500. 51000.

terr

2.0 30.

VIADUCTO RIERA FEMOSA. ESTRIBO 1 - VACIO

DIMENSIONES DEL MURO
A= 2.90 B= 0.00 C= 0.00 D= 2.65 E= 8.95 F= 2.50 H= 8.70

ESTABILIDAD AL VUELCO
MOM. VOLCADOR=218.82 MOM. ESTABILIZADOR=2746.00 COEF. SEGURIDAD=12.55

ESTABILIDAD AL DESLIZAMIENTO
FUERZA HORIZ.=53.01 FUERZA VERTICAL=336.28 COEF. SEGURIDAD=3.66

ESFUERZOS EN BASE DE CIMENTACION
CARGA VERTICAL=336.28 MOMENTO=-89.15

TENSIONES AL TERRENO
ELASTICA MAXI=25.74 ELASTICA MINIMA=20.65 PLASTICA=24.07

CALCULO ARMADURA
fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

SEC	B	H	R	AXIL	MOME	W EXT	W INT	W MIN	CORT	W
1	1.00	2.90	0.05	0.00	0.00	0.00	0.00	42.84	0.00	0.00
2	1.00	2.90	0.05	6.31	0.45	0.08	-0.67	42.84	1.12	0.00
3	1.00	2.90	0.05	12.61	2.10	0.16	-1.19	42.84	2.75	0.00
4	1.00	2.90	0.05	18.92	5.38	0.24	-1.53	42.84	4.88	0.00
5	1.00	2.90	0.05	25.23	10.74	0.32	-1.61	42.84	7.52	0.00
6	1.00	2.90	0.05	31.54	18.61	0.39	-1.39	42.84	10.66	0.00
7	1.00	2.90	0.05	37.84	29.43	0.47	-0.82	42.84	14.30	0.00
8	1.00	2.90	0.05	44.15	43.64	0.55	0.17	42.84	18.45	0.00
9	1.00	2.90	0.05	50.46	61.68	0.63	1.61	42.84	23.11	0.00
10	1.00	2.90	0.05	56.77	83.99	0.71	3.58	42.84	28.27	0.00
11	1.00	2.90	0.05	63.07	111.01	0.79	6.13	42.84	33.93	0.00

fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

PUN	1.00	2.50	0.05	0.00	52.62	0.00	7.29	36.83	39.99	0.00
TAL	1.00	2.50	0.05	0.00	-76.61	10.64	0.00	36.83	20.19	0.00

VIADUCTO RIERA FEMOSA. ESTRIBO 1 - SERVICIO CARGA MAXIMA

2.90 0. 0. 2.65 8.95 2.50 0. 8.70

3.0

2500. 2500. 51000.

terr

2.0 30.

hipo CARGA MAXIMA

VIADUCTO RIERA FEMOSA. ESTRIBO 1 - SERVICIO CARGA MAXIMA

hipo CARGA MAXIMA

2.35 2.40 100.9 30.4

DIMENSIONES DEL MURO
A= 2.90 B= 0.00 C= 0.00 D= 2.65 E= 8.95 F= 2.50 H= 8.70

ESTABILIDAD AL VUELCO
MOM. VOLCADOR=1106.74 MOM. ESTABILIZADOR=2843.28 COEF. SEGURIDAD=2.57

ESTABILIDAD AL DESLIZAMIENTO
FUERZA HORIZ.=153.91 FUERZA VERTICAL=366.68 COEF. SEGURIDAD=1.38

ESFUERZOS EN BASE DE CIMENTACION
CARGA VERTICAL=366.68 MOMENTO=921.89

TENSIONES AL TERRENO
ELASTICA MAXI=51.62 ELASTICA MINIMA=0.00 PLASTICA=38.71

CALCULO ARMADURA
fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

SEC	B	H	R	AXIL	MOME	W EXT	W INT	W MIN	CORT	W
1	1.00	2.90	0.05	0.00	0.00	0.00	0.00	42.84	0.00	0.00
2	1.00	2.90	0.05	6.31	0.45	0.08	-0.67	42.84	1.12	0.00
3	1.00	2.90	0.05	12.61	2.10	0.16	-1.19	42.84	2.75	0.00
4	1.00	2.90	0.05	49.32	53.93	0.62	0.81	42.84	105.78	0.00
5	1.00	2.90	0.05	55.63	147.07	0.70	11.34	42.84	108.42	0.00
6	1.00	2.90	0.05	61.94	242.72	0.77	22.30	42.84	111.56	0.00
7	1.00	2.90	0.05	68.24	341.33	0.85	33.79	42.84	115.20	0.00
8	1.00	2.90	0.05	74.55	443.32	0.93	45.86	42.84	119.35	0.00
9	1.00	2.90	0.05	80.86	549.15	1.01	58.60	42.84	124.01	0.19
10	1.00	2.90	0.05	87.17	659.24	1.09	72.10	42.84	129.17	0.91
11	1.00	2.90	0.05	93.47	774.04	1.17	86.45	42.84	134.83	1.70

fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

PUN	1.00	2.50	0.05	0.00	210.93	0.00	29.60	36.83	114.49	0.00
TAL	1.00	2.50	0.05	0.00	-615.50	89.30	0.00	36.83	84.46	0.00

VIADUCTO RIERA FEMOSA. ESTRIBO 1 - SERVICIO CARGA MINIMA

2.90 0. 0. 2.65 8.95 2.50 0. 8.70

3.0

2500. 2500. 51000.

terr

2.0 30.

hipo CARGA MAXIMA

VIADUCTO RIERA FEMOSA. ESTRIBO 1 - SERVICIO CARGA MINIMA

hipo CARGA MAXIMA

2.35 2.40 95.50 14.2

DIMENSIONES DEL MURO
A= 2.90 B= 0.00 C= 0.00 D= 2.65 E= 8.95 F= 2.50 H= 8.70

ESTABILIDAD AL VUELCO
MOM. VOLCADOR=1059.22 MOM. ESTABILIZADOR=2791.44 COEF. SEGURIDAD=2.64

ESTABILIDAD AL DESLIZAMIENTO
FUERZA HORIZ.=148.51 FUERZA VERTICAL=350.48 COEF. SEGURIDAD=1.36

ESFUERZOS EN BASE DE CIMENTACION
CARGA VERTICAL=350.48 MOMENTO=808.76

TENSIONES AL TERRENO
ELASTICA MAXI=47.25 ELASTICA MINIMA=1.09 PLASTICA=35.46

CALCULO ARMADURA
fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

SEC	B	H	R	AXIL	MOME	W EXT	W INT	W MIN	CORT	W
1	1.00	2.90	0.05	0.00	0.00	0.00	0.00	42.84	0.00	0.00
2	1.00	2.90	0.05	6.31	0.45	0.08	-0.67	42.84	1.12	0.00
3	1.00	2.90	0.05	12.61	2.10	0.16	-1.19	42.84	2.75	0.00
4	1.00	2.90	0.05	33.12	38.22	0.41	0.77	42.84	100.38	0.00
5	1.00	2.90	0.05	39.43	126.66	0.49	10.69	42.84	103.02	0.00
6	1.00	2.90	0.05	45.74	217.61	0.57	21.03	42.84	106.16	0.00
7	1.00	2.90	0.05	52.04	311.52	0.65	31.87	42.84	109.80	0.00
8	1.00	2.90	0.05	58.35	408.82	0.73	43.29	42.84	113.95	0.00
9	1.00	2.90	0.05	64.66	509.94	0.81	55.35	42.84	118.61	0.00
10	1.00	2.90	0.05	70.97	615.34	0.89	68.14	42.84	123.77	0.16
11	1.00	2.90	0.05	77.27	725.44	0.97	81.76	42.84	129.43	0.94

fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

PUN	1.00	2.50	0.05	0.00	190.01	0.00	26.62	36.83	103.27	0.00
TAL	1.00	2.50	0.05	0.00	-595.19	86.20	0.00	36.83	84.07	0.00

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

HOJA ____ DE ____

PROYECTO ____ FECHA ____

PILOTES ESTRIBO 1

Cargas

	N (t)	M (mt)
Vacío	4539,78	-1203,53
SERVICIO Carga máx.	4950,18	12445,52
SERVICIO Carga mín.	4731,48	10918,26

Carga en pilote → $N_{pilote} = \frac{N}{n} \pm \frac{M_x}{\Sigma x^2}$

Carga horizontal por pilote → $Q = \frac{1361,8}{13} = 104,8$ t

	$N_{pil\ máx}$ (t)	$N_{pil\ mín}$ (t)	σ (kg/cm²)
Vacío	377,1	324,4	14,8
Servicio carga máx.	668,9	92,7	26,3
Servicio carga mín.	616,7	111,2	24,2

- Long. empotramiento.

$L_{emp} = 1,5 \cdot 6 \cdot 1,8 = 16,2$ m

$M = Q \cdot L_{emp}/2$

VIADUCTO RIERA FEMOSA. PILOTES E-1

FCK 2500 T/M2 FY 51000 T/M2 May. Carg. 1.50 Min. Hor. 1.50 Min. Ace. 1.15

B	H	R	BW	HF	AXIL	MOME	W SUP	W INF	W MIN	CORT	W	W MIN	TORS	WT	WL
0.00	1.80	0.09			324.40	848.88	376.61	0.00	38.25	104.80	8.03	7.57	0.00	0.00	0.00
					92.70	848.88	430.05	0.00	38.25	104.80	8.03	7.57	0.00	0.00	0.00
					111.20	848.88	422.42	0.00	38.25	104.80	8.03	7.57	0.00	0.00	0.00

ARMADO ENCEPADO

Canto = 2,5 m

d = 2,5 - 0,1 = 2,4 m

$$T_d = \frac{N_d \ (v + 0,25a)}{0,85\ d}$$

$$T_d = \frac{1,5 \cdot 668,9 \cdot (5,40 + 0,25 \cdot 2,90)}{0,85 \cdot 2,40} = 3012,5\ t$$

$A_s = 680\ cm^2$

- Armadura horizontal

$A_{s\,sec} = A_s/4 = 170\ cm^2$

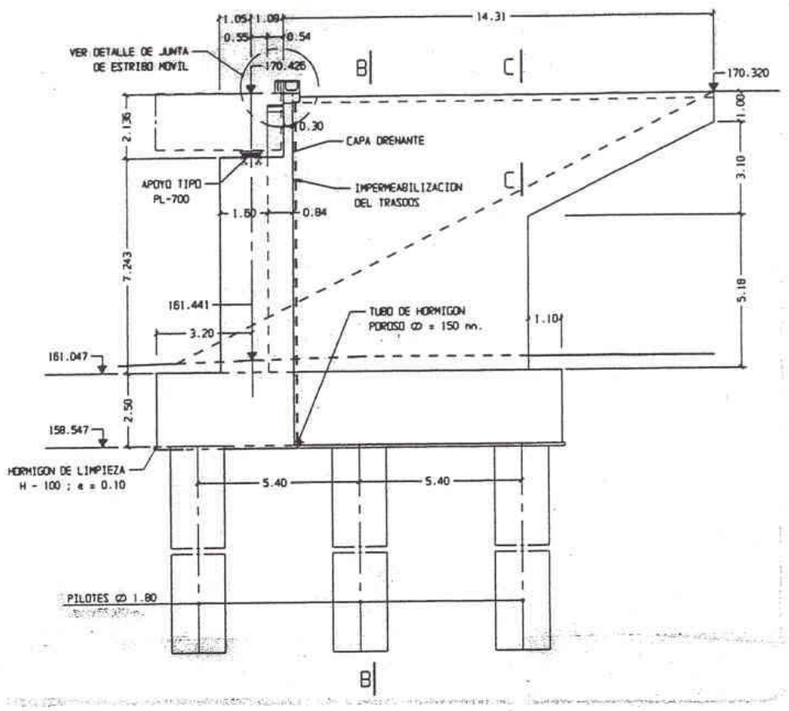
- Armadura vertical.

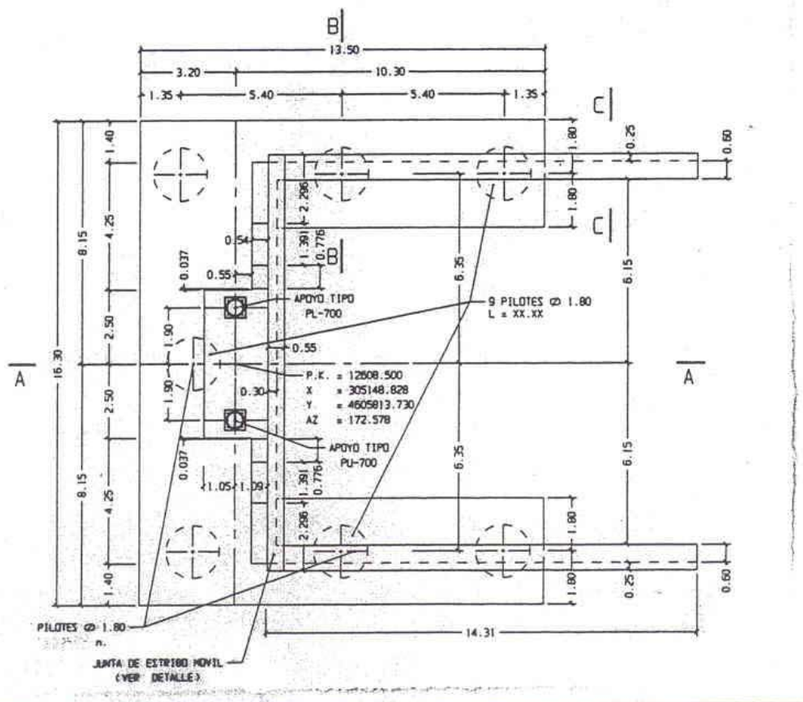
$T_{d\,vert.} = N_d/1,5u = \frac{1,5 \cdot 4950,18}{1,5 \cdot 13} = 380,8\ t$

$A_s = 86,0\ cm^2 \rightarrow c\,\phi 16\ /0,20$

ESTRIBO 2

ESTRIBO 2





ESTRIBO 2

VIADUCTO SOBRE LA RIERA FEMOSA

Esfuerzos de la barra 286 extremo frontal

coeficiente del esfuerzo FX : 1.00
coeficiente del esfuerzo FY : 1.00
coeficiente del esfuerzo FZ : 1.00
coeficiente del esfuerzo MX : 1.00
coeficiente del esfuerzo MY : 1.00
coeficiente del esfuerzo MZ : 1.00

HIP.	FX	FY	FZ	MX	MY	MZ
251 FUER X MAX envolvente (ELS) (tota	-703.41	58.60	-0.11	-2.88	0.10	-0.96
252 FUER X MIN envolvente (ELS) (tota	-271.27	58.60	-4.42	-2.36	5.29	-0.96
253 FUER Y MAX envolvente (ELS) (tota	-329.17	52.74	-0.09	-2.12	0.08	-0.86
254 FUER Y MIN envolvente (ELS) (tota	-367.69	58.60	-0.11	-2.88	0.10	-0.96
255 FUER Z MAX envolvente (ELS) (tota	-459.64	58.60	-25.34	-2.88	524.06	-0.96
256 FUER Z MIN envolvente (ELS) (tota	-497.22	58.60	30.71	-2.36	-555.78	-0.96
257 MOME X MAX envolvente (ELS) (tota	-367.69	58.60	-0.11	-2.88	0.10	-0.96
258 MOME X MIN envolvente (ELS) (tota	-329.17	52.74	-0.09	-2.12	0.08	-0.86
259 MOME Y MAX envolvente (ELS) (tota	-609.88	58.60	26.08	-2.36	-985.39	-0.96
260 MOME Y MIN envolvente (ELS) (tota	-570.89	58.60	-20.74	-2.88	953.70	-0.96
261 MOME Z MAX envolvente (ELS) (tota	-367.69	58.60	-0.11	-2.88	0.10	-0.96
262 MOME Z MIN envolvente (ELS) (tota	-329.17	52.74	-0.09	-2.12	0.08	-0.86

VIADUCTO RIERA FEMOSA. ESTRIBO 2 - VACIO

0.84 0. 0. 3.20 8.90 2.50 0. 9.40

3.0

2500. 2500. 51000.

terr

2.0 30.

VIADUCTO RIERA FEMOSA. ESTRIBO 2 - VACIO

DIMENSIONES DEL MURO
A= 0.84 B= 0.00 C= 0.00 D= 3.20 E= 8.90 F= 2.50 H= 9.40

ESTABILIDAD AL VUELCO
MOM. VOLCADOR=258.04 MOM. ESTABILIZADOR=2241.95 COEF. SEGURIDAD=8.69

ESTABILIDAD AL DESLIZAMIENTO
FUERZA HORIZ.=59.10 FUERZA VERTICAL=294.63 COEF. SEGURIDAD=2.88

ESFUERZOS EN BASE DE CIMENTACION
CARGA VERTICAL=294.63 MOMENTO=-77.62

TENSIONES AL TERRENO
ELASTICA MAXI=25.55 ELASTICA MINIMA=19.99 PLASTICA=23.74

CALCULO ARMADURA
fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

SEC	B	H	R	AXIL	MOME	W EXT	W INT	W MIN	CORT	W
1	1.00	0.84	0.05	0.00	0.00	0.00	0.00	11.88	0.00	0.00
2	1.00	0.84	0.05	1.97	0.53	0.02	-0.01	11.88	1.23	0.00
3	1.00	0.84	0.05	3.95	2.51	0.05	0.61	11.88	3.06	0.00
4	1.00	0.84	0.05	5.92	6.47	0.07	2.08	11.88	5.47	0.00
5	1.00	0.84	0.05	7.90	12.98	0.10	4.68	11.88	8.47	0.00
6	1.00	0.84	0.05	9.87	22.58	0.12	8.69	11.88	12.06	0.00
7	1.00	0.84	0.05	11.84	35.84	0.15	14.42	11.88	16.24	0.00
8	1.00	0.84	0.05	13.82	53.30	0.17	22.24	11.88	21.01	0.00
9	1.00	0.84	0.05	15.79	75.53	0.20	32.64	11.88	26.37	0.00
10	1.00	0.84	0.05	17.77	103.06	0.22	46.22	11.88	32.32	0.00
11	1.00	0.84	0.05	19.74	136.47	0.25	63.89	11.88	38.85	2.44

fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

PUN	1.00	2.50	0.05	0.00	74.08	0.00	10.28	36.83	46.98	0.00
TAL	1.00	2.50	0.05	0.00	-143.96	20.09	0.00	36.83	37.01	0.00

VIADUCTO RIERA FEMOSA. ESTRIBO 2 - SERVICIO CARGA MAXIMA

0.84 0. 0. 3.20 8.90 2.50 0. 9.40

3.0

2500. 2500. 51000.

terr

2.0 30.

hipo CARGA MAXIMA

VIADUCTO RIERA FEMOSA. ESTRIBO 2 - SERVICIO CARGA MAXIMA

hipo CARGA MAXIMA

1.39 2.14 4.34 52.10

DIMENSIONES DEL MURO
A= 0.84 B= 0.00 C= 0.00 D= 3.20 E= 8.90 F= 2.50 H= 9.40

ESTABILIDAD AL VUELCO
MOM. VOLCADOR=300.40 MOM. ESTABILIZADOR=2380.01 COEF. SEGURIDAD=7.92

ESTABILIDAD AL DESLIZAMIENTO
FUERZA HORIZ.=63.44 FUERZA VERTICAL=346.74 COEF. SEGURIDAD=3.16

ESFUERZOS EN BASE DE CIMENTACION
CARGA VERTICAL=346.74 MOMENTO=163.76

TENSIONES AL TERRENO
ELASTICA MAXI=32.66 ELASTICA MINIMA=20.93 PLASTICA=28.91

CALCULO ARMADURA
fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

SEC	B	H	R	AXIL	MOME	W EXT	W INT	W MIN	CORT	W
1	1.00	0.84	0.05	0.00	0.00	0.00	0.00	11.88	0.00	0.00
2	1.00	0.84	0.05	1.97	0.53	0.02	-0.01	11.88	1.23	0.00
3	1.00	0.84	0.05	3.95	2.51	0.05	0.61	11.88	3.06	0.00
4	1.00	0.84	0.05	58.02	59.96	0.73	20.59	11.88	9.81	0.00
5	1.00	0.84	0.05	60.00	70.54	0.75	25.53	11.88	12.81	0.00
6	1.00	0.84	0.05	61.97	84.23	0.77	32.15	11.88	16.40	0.00
7	1.00	0.84	0.05	63.94	101.57	0.80	40.88	11.88	20.58	0.00
8	1.00	0.84	0.05	65.92	123.11	0.82	52.28	11.88	25.35	0.00
9	1.00	0.84	0.05	67.89	149.41	0.85	67.11	11.88	30.71	0.00
10	1.00	0.84	0.05	69.87	181.03	0.87	86.53	11.88	36.66	1.34
11	1.00	0.84	0.05	71.84	218.51	0.90	112.57	11.88	43.19	4.62

fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

PUN	1.00	2.50	0.05	0.00	143.06	0.00	19.97	36.83	81.34	0.00
TAL	1.00	2.50	0.05	0.00	-160.22	22.39	0.00	36.83	23.41	0.00

VIADUCTO RIERA FEMOSA. ESTRIBO 2 - SERVICIO CARGA MINIMA

0.84 0. 0. 3.20 8.90 2.50 0. 9.40

3.0

2500. 2500. 51000.

terr

2.0 30.

hipo CARGA MINIMA

VIADUCTO RIERA FEMOSA. ESTRIBO 2 - SERVICIO CARGA MINIMA

hipo CARGA MINIMA

1.39 2.14 4.34 20.10

DIMENSIONES DEL MURO
A= 0.84 B= 0.00 C= 0.00 D= 3.20 E= 8.90 F= 2.50 H= 9.40

ESTABILIDAD AL VUELCO
MOM. VOLCADOR=300.40 MOM. ESTABILIZADOR=2295.21 COEF. SEGURIDAD=7.64

ESTABILIDAD AL DESLIZAMIENTO
FUERZA HORIZ.=63.44 FUERZA VERTICAL=314.74 COEF. SEGURIDAD=2.86

ESFUERZOS EN BASE DE CIMENTACION
CARGA VERTICAL=314.74 MOMENTO=41.52

TENSIONES AL TERRENO
ELASTICA MAXI=25.81 ELASTICA MINIMA=22.83 PLASTICA=24.83

CALCULO ARMADURA
fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

SEC	B	H	R	AXIL	MOME	W EXT	W INT	W MIN	CORT	W
1	1.00	0.84	0.05	0.00	0.00	0.00	0.00	11.88	0.00	0.00
2	1.00	0.84	0.05	1.97	0.53	0.02	-0.01	11.88	1.23	0.00
3	1.00	0.84	0.05	3.95	2.51	0.05	0.61	11.88	3.06	0.00
4	1.00	0.84	0.05	26.02	28.92	0.33	9.67	11.88	9.81	0.00
5	1.00	0.84	0.05	28.00	39.50	0.35	14.27	11.88	12.81	0.00
6	1.00	0.84	0.05	29.97	53.19	0.37	20.41	11.88	16.40	0.00
7	1.00	0.84	0.05	31.94	70.53	0.40	28.49	11.88	20.58	0.00
8	1.00	0.84	0.05	33.92	92.07	0.42	38.98	11.88	25.35	0.00
9	1.00	0.84	0.05	35.89	118.37	0.45	52.51	11.88	30.71	0.00
10	1.00	0.84	0.05	37.87	149.99	0.47	69.97	11.88	36.66	1.34
11	1.00	0.84	0.05	39.84	187.47	0.50	92.82	11.88	43.19	4.62

fck= 2500.00 (t/m2) fy= 51000.00 (t/m2)

PUN	1.00	2.50	0.05	0.00	107.49	0.00	14.96	36.83	61.82	0.00
TAL	1.00	2.50	0.05	0.00	-178.89	25.04	0.00	36.83	36.17	0.00

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

HOJA ____ DE ____

PROYECTO _____ FECHA _____

PILOTES ESTRIBO 2

Cargas

		N (t)	M (mt)
Vacío		3977,5	- 1047,9
SERVICIO	Carga máx.	4681,0	2210,8
SERVICIO	Carga mín.	4249,0	560,5

Carga en pilote ⇒ $N_{pilote} = \frac{N}{n} \pm \frac{M \cdot x}{\sum x^2}$

Carga horizontal por pilote ⇒ $Q = \frac{58,6}{7} = 8,4\ t$

		$N_{pil.\ máx}$ (t)	$N_{pil\ mín}$ (t)	σ (kg/cm²)
Vacío		607,0	529,4	23,9
Servicio	carga máx.	750,6	586,8	29,5
Servicio	carga mín.	627,8	586,2	24,7

- Long. empotramiento

$L_{emp} = 1,5 \times 6 \cdot 1,3 = 16,2\ m$ ⇒ $M = Q \cdot L_{emp}/2$

VIADUCTO RIERA FEMOSA. PILOTES E-2

FCK 2500 T/M2 FY 51000 T/M2 May. Carg. 1.50 Min. Hor. 1.50 Min. Ace. 1.15

B	H	R	BW	HF	AXIL	MOME	W SUP	W INF	W MIN	CORT	W	W MIN	TORS	WT	WL
0.00	1.80	0.09			529.40	68.04	25.45	0.00	38.25	8.40	0.00	7.57	0.00	0.00	0.00
					586.80	68.04	25.45	0.00	38.25	8.40	0.00	7.57	0.00	0.00	0.00
					586.20	68.04	25.45	0.00	38.25	8.40	0.00	7.57	0.00	0.00	0.00

ARMADO ENCEPADO

Canto = 2,5 m

d = 2,5 - 0,1 = 2,4 m

$$T_d = \frac{N_d\,(v + 0{,}25\,a)}{0{,}85\,d}$$

$$T_d = \frac{1{,}5 \cdot 750{,}6\,(5{,}4 + 0{,}25 - 0{,}34)}{0{,}85 \cdot 2{,}40} = 3096{,}2\ t$$

A_s = 698,9 cm^2

- Armadura secundaria

$A_{sec} = A_c/4$ = 174,7 cm^2

- Armadura vertical

$$T_{d\,vert} = \frac{N_d}{1{,}5n} = \frac{1{,}5 \cdot 4681{,}0}{1{,}5 \cdot 7} = 668{,}7\ t$$

A_s = 151,0 cm^2 ⇒ c ϕ 20 / 0,20

COMPROBACIONES A FATIGA

Según el "EUROCODIGO 2: Proyecto de estructuras de hormigón. Parte 2: Puentes de hormigón", dentro del apartado 4.3.7 Comprobación a fatiga (1. Condiciones de comprobación), dice:

P(101) "Deberán comprobarse a fatiga los elementos estructurales que estén sometidos a una variación de tensión significativa. En tal caso, dicha comprobación deberá realizarse separadamente para el hormigón y el acero.

(102) En general, no es necesaria una comprobación a fatiga en estructuras y elementos estructurales tales como:

.../...

i) acero de armar y de pretensar con uniones soldadas o acopladores en las zonas donde, bajo la acción de la combinación frecuente de acciones con un coeficiente de reducción de 0.85 aplicado al valor característico de la fuerza de pretensado, Pk, existan sólo tensiones de compresión en las fibras extremas.

Se han obtenido las envolventes de SC frecuente para ipf-75, cc-1 y la total, reduciendo el pretensado en un 15%. Las envolventes de tensiones muestran compresiones salvo ligeras tracciones en algún punto, por debajo de la tensión de tracción del hormigón. Por tanto, no cabe esperar ningún problema de fatiga en acopladores.

NUCTO SOBRE LA RIERA FEMOSA

TESIS 1591

Z MAX grupo I (ELS) (ipf-75) (frec) FATIGA(0.85*Pret)

ESFUERZOS EN BARRAS

BA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
	1	4552.905	168.274	0.062	-0.020	-0.937	968.914
	12	-4614.432	-73.309	-0.068	0.022	0.775	-805.976
	12	4614.432	73.309	0.068	-0.022	-0.775	805.976
	13	-4306.999	29.438	-0.082	0.027	0.573	-835.577
	13	4306.999	-29.438	0.082	-0.027	-0.573	835.576
	14	-4335.929	116.044	-0.082	0.027	0.330	-1063.870
	14	4335.928	-116.042	0.082	-0.027	-0.330	1063.870
	15	-4372.219	163.654	-0.082	0.027	0.088	-1512.737
	15	4372.220	-163.656	0.082	-0.027	-0.088	1512.738
	16	-4456.802	-45.914	-0.082	0.027	-0.154	-1834.599
	16	4456.801	45.914	0.082	-0.027	0.154	1834.599
	17	-3635.000	-140.155	-0.111	0.036	-0.889	-1337.689
	17	3635.005	140.155	0.111	-0.036	0.889	1337.688
	18	-3649.003	-86.867	-0.111	0.036	-1.215	-998.983
	18	3648.996	86.867	0.111	-0.036	1.215	998.983
	19	-3762.370	828.549	-0.089	0.090	-1.346	-1864.445
	19	3818.169	863.524	-0.061	0.034	1.346	1864.425
	30	-3695.218	-115.668	0.073	-0.045	-1.517	-701.946
	30	3695.220	115.668	-0.073	0.045	1.517	701.946
	31	-3658.524	-40.383	0.035	-0.022	-0.722	-437.859
	31	3685.937	110.712	-0.035	0.022	0.722	509.012
	32	-4389.103	207.675	0.023	-0.013	-0.065	-614.111
	32	4389.102	-207.676	-0.023	0.013	0.065	614.110
	33	-4491.752	96.655	0.012	-0.007	0.037	-1604.594
	33	4491.751	-96.655	-0.012	0.007	-0.037	1604.593
	34	-4607.711	-194.252	0.012	-0.007	0.082	-1235.052
	34	4607.712	194.252	-0.012	0.007	-0.082	1235.051
	35	-3757.355	-67.762	0.020	-0.014	-0.274	-802.706
	35	3757.349	67.762	-0.020	0.014	0.274	802.705
	36	-3799.920	124.773	0.006	-0.007	-0.644	-595.624
	36	3799.930	-124.774	-0.006	0.007	0.644	595.624
	37	-3853.761	968.805	0.005	-0.006	-0.699	-2215.261
	37	3911.152	771.521	-0.044	0.017	0.699	2215.234
	48	-3794.944	-145.201	0.042	-0.016	-0.456	-1062.106
	48	3794.954	145.201	-0.042	0.016	0.455	1062.107
	49	-3760.316	-43.510	0.010	0.004	0.072	-799.156
	49	3527.628	122.250	-0.010	-0.004	-0.072	858.719
	50	-4431.559	190.908	0.007	0.003	0.369	-844.731
	50	4431.559	-190.908	-0.007	-0.003	-0.369	844.730

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
30.32	30.33	85.42	85.43
34.63	34.65	80.47	80.48
34.63	34.65	80.47	80.48
30.48	30.49	78.00	78.00
30.48	30.49	78.00	78.00
25.75	25.75	86.25	86.25
25.75	25.75	86.25	86.25
16.21	16.21	102.23	102.24
16.21	16.21	102.23	102.24
10.03	10.03	114.36	114.36
10.03	10.03	114.36	114.36
11.71	11.69	87.78	87.77
11.71	11.69	87.78	87.77
19.38	19.36	76.19	76.18
19.38	19.36	76.19	76.18
1.48	1.45	107.50	107.49
2.11	2.09	108.13	108.13
26.50	26.47	66.41	66.40
26.50	26.47	66.41	66.40
31.93	31.92	56.83	56.82
28.39	28.38	57.33	57.33
36.33	36.33	71.25	71.25
36.33	36.33	71.25	71.25
15.53	15.53	106.78	106.78
15.53	15.53	106.78	106.78
25.04	25.05	95.28	95.28
25.04	25.05	95.28	95.28
24.96	24.95	70.61	70.61
24.96	24.95	70.61	70.61
30.04	30.03	63.91	63.91
30.04	30.03	63.91	63.91
-5.27	-5.28	120.71	120.70
-4.62	-4.63	121.36	121.36
19.64	19.63	80.03	80.03
19.64	19.63	80.03	80.03
25.07	25.07	70.52	70.52
21.10	21.10	69.93	69.94
31.69	31.70	79.74	79.74
31.69	31.70	79.74	79.74

	20	51	-4532.763	83.601	-0.004	0.009	0.391	-1753.158	12.70	12.71	112.40	112.40
	21	51	4532.763	-83.601	0.004	-0.009	-0.391	1753.157	12.70	12.71	112.40	112.40
	21	52	-4650.086	-194.802	-0.007	0.011	0.371	-1345.432	23.08	23.08	99.59	99.59
	22	52	4650.087	194.801	0.007	-0.011	-0.371	1345.430	23.08	23.08	99.59	99.59
	22	53	-3797.034	-81.760	-0.004	0.012	0.119	-885.496	23.57	23.57	73.93	73.93
	23	53	3797.043	81.761	0.004	-0.012	-0.119	885.494	23.57	23.57	73.93	73.93
	23	54	-3841.650	126.847	-0.032	0.027	-0.372	-663.973	29.00	28.99	66.75	66.75
	24	54	3841.657	-126.846	0.032	-0.027	0.372	663.973	29.00	28.99	66.75	66.75
	24	55	-3898.887	970.203	-0.034	0.028	-0.575	-2289.353	-6.40	-6.41	123.79	123.79
	25	55	3956.064	774.603	-0.038	0.023	0.575	2289.345	-5.75	-5.76	124.44	124.44
	25	66	-3842.422	-148.824	0.036	-0.021	-0.355	-1123.964	18.80	18.80	82.72	82.72
	26	66	3842.432	148.824	-0.036	0.021	0.355	1123.964	18.80	18.80	82.72	82.72
	26	67	-3809.628	-47.663	0.005	-0.001	0.141	-898.256	24.59	24.59	72.78	72.78
	27	67	3597.861	127.027	-0.005	0.001	-0.141	899.334	21.00	21.00	72.14	72.14
	27	68	-4502.497	189.814	0.006	-0.002	0.369	-878.967	31.74	31.75	81.73	81.73
	28	68	4502.495	-189.814	-0.006	0.002	-0.369	878.966	31.74	31.75	81.73	81.73
	28	69	-4604.990	82.143	-0.005	0.004	0.388	-1788.797	12.73	12.74	114.46	114.46
	29	69	4604.991	-82.142	0.005	-0.004	-0.388	1788.798	12.73	12.74	114.46	114.46
	29	70	-4721.341	-200.224	-0.008	0.006	0.365	-1365.126	23.45	23.46	101.09	101.09
	30	70	4721.340	200.222	0.008	-0.006	-0.365	1365.126	23.45	23.46	101.09	101.09
	30	71	-3872.061	-86.320	-0.008	0.007	0.121	-886.455	24.40	24.41	74.82	74.82
	31	71	3872.068	86.321	0.008	-0.007	-0.121	886.457	24.40	24.41	74.82	74.82
	31	72	-3914.539	127.713	-0.039	0.026	-0.363	-660.101	29.91	29.91	67.45	67.45
	32	72	3914.519	-127.712	0.039	-0.026	0.363	660.102	29.91	29.91	67.45	67.45
	32	73	-3968.080	972.019	-0.040	0.027	-0.587	-2292.901	-5.69	-5.70	124.70	124.70
	81	181	4369.837	768.128	-0.022	0.024	0.456	2254.872	-0.28	-0.28	127.95	127.95
	81	192	-4253.458	-141.934	0.021	-0.022	-0.309	-1116.910	23.64	23.63	87.15	87.15
	82	192	4253.563	141.934	-0.021	0.022	0.309	1116.911	23.64	23.63	87.15	87.15
	82	193	-4218.830	-46.357	-0.002	-0.006	0.087	-862.256	28.89	28.89	77.92	77.92
	83	193	3988.902	125.145	0.002	0.006	-0.087	920.693	24.97	24.98	77.33	77.33
	83	194	-4893.344	191.054	-0.004	-0.004	0.296	-918.425	35.32	35.32	87.55	87.55
	84	194	4893.343	-191.054	0.004	0.004	-0.296	918.430	35.32	35.32	87.55	87.55
	84	195	-4994.611	72.320	-0.006	-0.002	0.276	-1827.834	16.30	16.30	120.25	120.25
	85	195	4994.612	-72.320	0.006	0.002	-0.276	1827.835	16.30	16.30	120.25	120.25
	85	196	-5112.079	-195.407	-0.015	0.004	0.222	-1418.693	26.71	26.71	107.39	107.39
	86	196	5112.080	195.408	0.015	-0.004	-0.222	1418.694	26.71	26.71	107.39	107.39
	86	197	-4258.529	-84.892	-0.014	0.002	-0.040	-903.431	28.43	28.43	79.80	79.80
	87	197	4258.510	84.892	0.014	-0.002	0.040	903.431	28.43	28.43	79.80	79.80
	87	198	-4303.172	129.777	-0.040	0.024	-0.496	-686.445	33.75	33.74	72.79	72.78
	88	198	4303.272	-129.777	0.040	-0.024	0.496	686.445	33.75	33.74	72.79	72.78
	88	199	-4360.556	973.385	-0.041	0.025	-0.717	-2325.456	-1.96	-1.96	130.30	130.29
	89	199	4417.938	781.142	-0.001	0.003	0.717	2325.447	-1.29	-1.30	130.95	130.95
	89	210	-4304.335	-155.522	0.001	-0.002	-0.650	-1135.928	23.80	23.79	88.39	88.39
	90	210	4304.315	155.522	-0.001	0.002	0.650	1135.927	23.80	23.79	88.39	88.39
	90	211	-4271.541	-77.270	-0.009	0.007	-0.298	-803.086	30.80	30.80	76.47	76.47
	91	211	4190.499	152.258	0.009	-0.007	0.298	898.927	27.77	27.76	78.86	78.86
	91	212	-4256.470	118.874	-0.012	0.009	-0.331	-771.913	31.32	31.32	75.22	75.22
	92	212	4256.449	-118.874	0.012	-0.009	0.332	771.915	31.32	31.32	75.22	75.22
	92	213	-5228.343	43.619	-0.007	0.003	-0.104	-1513.837	25.93	25.92	112.02	112.02
	93	213	5228.347	-43.619	0.007	-0.003	0.105	1513.839	25.93	25.92	112.02	112.02
	93	214	-4450.477	-217.912	-0.021	0.015	-0.462	-956.475	29.44	29.43	83.83	83.83
	94	214	4450.454	217.912	0.021	-0.015	0.462	956.476	29.44	29.43	83.83	83.83
	94	215	-3967.936	-150.383	-0.021	0.015	-0.543	-188.812	46.66	46.65	57.40	57.40
	95	215	4467.910	150.384	0.021	-0.015	0.543	188.811	46.66	46.65	57.40	57.39
	95	216	-4487.245	217.211	-0.051	0.038	-1.153	-48.703	30.00	49.98	52.76	52.75

216	4487.224	-217.212	0.051	-0.038	1.153	48.703	50.00	49.98	52.76	52.75
217	-4414.208	1032.489	-0.050	0.036	-1.385	-2122.469	3.17	3.15	123.87	123.86
217	4471.280	578.556	-0.059	0.043	1.386	2122.479	3.82	3.80	124.52	124.51
228	-4391.966	32.291	0.050	-0.035	-1.027	-1397.594	18.99	18.98	98.47	98.46
228	4391.947	-32.291	-0.050	0.035	1.027	1397.593	18.99	18.98	98.47	98.46
229	-4374.531	35.975	0.050	-0.035	-0.881	-1468.858	17.21	17.20	100.74	100.74
229	4619.947	122.830	-0.050	0.035	0.881	1619.643	16.66	16.65	108.77	108.76
230	-4628.183	-42.259	0.050	-0.035	-0.734	-1357.787	22.56	22.55	99.78	99.77
230	4628.156	42.258	-0.050	0.035	0.734	1357.788	22.56	22.55	99.77	99.77
231	-5559.589	233.551	0.035	-0.026	-0.410	-1593.300	27.94	27.93	118.54	118.54
231	5559.591	-233.550	-0.035	0.026	0.410	1593.300	27.94	27.93	118.54	118.54
232	-5495.997	71.300	0.035	-0.026	-0.308	-2228.671	13.12	13.11	139.86	139.86
232	5495.998	-71.300	-0.035	0.026	0.308	2228.669	13.12	13.11	139.86	139.86
233	-5381.333	-191.634	0.035	-0.026	-0.205	-1825.022	20.77	20.76	124.55	124.55
233	5381.333	191.633	-0.035	0.026	0.205	1825.021	20.77	20.76	124.55	124.55
234	-5349.730	-54.351	0.035	-0.026	-0.103	-1418.355	29.43	29.42	110.09	110.09
234	5349.730	54.351	-0.035	0.026	0.103	1418.354	29.43	29.42	110.09	110.08
235	-5310.845	154.129	0.032	-0.023	0.000	-1499.901	27.17	27.17	112.47	112.47

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1592

NOME Z MIN grupo I (ELS) (ipf-75) (frec) FATIGA(0.85*Pret)

ESFUERZOS EN BARRAS

TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	2999.151	124.058	0.102	-0.032	-1.030	-330.577	41.45	41.47	22.66	22.67
1	12	-3050.472	-80.861	-0.096	0.029	0.718	563.576	47.21	47.22	15.16	15.17
2	12	3050.473	80.862	0.096	-0.029	-0.718	-563.577	47.21	47.22	15.16	15.17
2	13	-3100.963	-51.893	-0.096	0.029	0.436	787.312	52.75	52.76	7.98	7.98
3	13	3100.962	51.892	0.096	-0.029	-0.436	-787.312	52.75	52.76	7.98	7.98
3	14	-3493.059	14.348	-0.064	0.019	0.169	874.434	59.15	59.15	9.42	9.42
4	14	3493.060	-14.348	0.064	-0.019	-0.169	-874.434	59.15	59.15	9.42	9.42
4	15	-3523.331	118.930	-0.064	0.019	-0.020	646.934	54.45	54.45	17.65	17.65
5	15	3523.330	-118.931	0.064	-0.019	0.020	-646.933	54.45	54.45	17.65	17.65
5	16	-3593.881	8.994	-0.064	0.019	-0.209	334.821	48.33	48.32	29.29	29.28
6	16	3593.883	-8.993	0.064	-0.019	0.209	-334.822	48.33	48.32	29.29	29.28
6	17	-4506.096	-227.629	-0.036	0.010	0.095	572.538	63.98	63.98	31.42	31.42
7	17	4506.098	227.629	0.036	-0.010	-0.095	-572.538	63.98	63.98	31.42	31.42
7	18	-4522.880	-168.553	-0.030	0.007	0.106	1142.390	76.81	76.81	11.84	11.84
8	18	4522.880	168.552	0.030	-0.007	-0.106	-1142.390	76.81	76.81	11.84	11.84
8	19	-4658.801	520.895	-0.070	-0.037	-0.605	1065.198	76.65	76.64	16.07	16.07
9	19	4714.599	546.653	-0.026	0.019	0.605	-1065.211	77.28	77.27	16.70	16.70
9	30	-4567.197	84.814	-0.008	0.003	-0.121	871.269	71.30	71.30	21.75	21.75
10	30	4567.198	-84.814	0.008	-0.004	0.121	-871.268	71.30	71.30	21.75	21.75
10	31	-4523.205	-117.122	0.031	-0.019	-0.421	1228.131	78.72	78.71	8.87	8.87
11	31	4316.294	201.534	-0.031	0.019	0.421	-1142.828	74.47	74.46	9.48	9.48
11	32	-3546.668	92.910	0.043	-0.028	-0.821	1359.076	70.51	70.50	-6.78	-6.79
12	32	3546.668	-92.911	-0.043	0.028	0.821	-1359.077	70.51	70.50	-6.78	-6.79
12	33	-3632.291	61.215	0.047	-0.030	-0.653	746.660	57.90	57.89	15.44	15.43
13	33	3632.283	-61.214	-0.047	0.030	0.653	-746.661	57.90	57.89	15.44	15.43
13	34	-3729.008	-95.865	0.047	-0.030	-0.471	964.312	63.83	63.82	8.99	8.98
14	34	3729.017	95.865	-0.047	0.030	0.471	-964.311	63.83	63.82	8.99	8.98
14	35	-4641.687	-71.489	0.038	-0.024	0.111	1271.215	81.02	81.02	8.73	8.72
15	35	4641.688	71.488	-0.038	0.024	-0.111	-1271.217	81.02	81.02	8.73	8.73
15	36	-4692.725	-61.857	0.059	-0.034	0.519	1487.825	86.40	86.41	1.79	1.79
16	36	4692.725	61.857	-0.059	0.034	-0.519	-1487.825	86.40	86.41	1.79	1.79
16	37	-4757.262	669.464	0.024	-0.014	0.493	966.233	75.57	75.57	20.62	20.62
17	37	4814.659	424.138	0.006	-0.008	-0.493	-966.227	76.22	76.23	21.27	21.28
17	48	-4675.341	54.545	-0.034	0.025	0.629	856.283	72.19	72.20	23.50	23.50
18	48	4675.341	-54.545	0.034	-0.025	-0.629	-856.283	72.19	72.20	23.50	23.50
18	49	-4633.814	-97.893	0.002	0.003	0.306	1208.932	79.46	79.46	10.93	10.93
19	49	4354.860	192.292	-0.002	-0.003	-0.306	-1133.529	74.70	74.70	10.29	10.29
19	50	-3591.604	89.143	0.004	0.004	0.054	1283.191	69.33	69.33	-3.64	-3.64
20	50	3591.596	-89.143	-0.004	-0.004	-0.054	-1283.192	69.33	69.33	-3.64	-3.64

51	-3676.012	59.417	0.007	0.002	0.077	689.233	57.12	57.12	17.92	17.93
51	3676.022	-59.417	-0.008	-0.002	-0.077	-689.233	57.12	57.12	17.92	17.93
52	-3773.883	-103.672	0.011	0.000	0.111	908.365	63.09	63.10	11.44	11.44
52	3773.876	103.671	-0.011	0.000	-0.111	-908.365	63.09	63.10	11.44	11.44
53	-4677.850	-65.681	0.008	-0.001	0.376	1223.394	80.37	80.37	10.80	10.80
53	4677.850	65.682	-0.008	0.001	-0.376	-1223.395	80.37	80.37	10.79	10.80
54	-4731.327	-75.251	0.040	-0.018	0.724	1464.353	86.32	86.33	3.04	3.05
54	4731.325	75.251	-0.040	0.018	-0.724	-1464.354	86.32	86.33	3.04	3.05
55	-4799.937	664.825	0.008	-0.001	0.526	937.010	75.40	75.41	22.12	22.12
55	4857.136	425.438	0.007	-0.006	-0.526	-937.007	76.05	76.06	22.77	22.77
66	-4720.895	55.222	-0.038	0.025	0.725	887.348	73.40	73.41	22.94	22.95
66	4720.896	-55.222	0.038	-0.025	-0.725	-887.348	73.40	73.41	22.94	22.95
67	-4681.567	-97.529	-0.003	0.003	0.397	1236.491	80.70	80.71	10.38	10.39
67	4427.676	192.677	0.003	-0.003	-0.397	-1175.256	76.45	76.46	9.62	9.62
68	-3660.270	93.589	-0.004	0.004	0.176	1324.276	71.03	71.03	-4.28	-4.28
68	3660.246	-93.589	0.004	-0.004	-0.176	-1324.276	71.02	71.03	-4.28	-4.28
69	-3745.740	63.527	-0.001	0.002	0.167	707.983	58.33	58.33	18.07	18.07
69	3745.748	-63.528	0.001	-0.002	-0.167	-707.983	58.33	58.33	18.07	18.07
70	-3842.797	-102.733	0.002	0.000	0.168	920.443	64.15	64.15	11.80	11.80
70	3842.807	102.732	-0.002	0.000	-0.168	-920.442	64.15	64.15	11.80	11.80
71	-4756.412	-65.702	0.003	-0.001	0.389	1229.846	81.40	81.41	11.47	11.47
71	4756.412	65.702	-0.003	0.001	-0.389	-1229.844	81.40	81.41	11.47	11.47
72	-4807.328	-78.392	0.037	-0.022	0.697	1478.779	87.50	87.51	3.41	3.41
72	4807.331	78.393	-0.037	0.022	-0.697	-1478.778	87.50	87.51	3.41	3.41
73	-4871.544	664.136	0.006	-0.003	0.508	950.404	76.51	76.52	22.47	22.47
181	5273.341	417.971	0.015	-0.009	-0.527	-991.656	82.00	82.01	25.61	25.61
192	-5133.817	61.584	-0.042	0.026	0.648	916.555	78.75	78.76	26.63	26.63
192	5133.817	-61.584	0.042	-0.027	-0.648	-916.554	78.75	78.76	26.63	26.63
193	-5092.177	-84.799	-0.015	0.008	0.331	1231.651	85.27	85.27	15.23	15.23
193	4816.551	179.256	0.015	-0.008	-0.331	-1161.593	80.57	80.58	14.52	14.52
194	-4052.956	99.913	-0.014	0.006	0.056	1282.762	74.57	74.58	1.62	1.63
194	4052.930	-99.913	0.014	-0.006	-0.056	-1282.760	74.57	74.57	1.62	1.63
195	-4137.400	70.038	-0.011	0.004	0.009	647.649	61.45	61.45	24.62	24.62
195	4137.381	-70.038	0.011	-0.004	-0.009	-647.649	61.45	61.45	24.62	24.62
196	-4235.363	-93.428	-0.009	0.002	-0.029	827.547	66.55	66.55	19.49	19.49
196	4235.338	93.429	0.009	-0.002	0.029	-827.547	66.55	66.55	19.49	19.49
197	-5139.882	-52.807	-0.010	0.004	0.141	1049.685	81.77	81.78	22.08	22.08
197	5139.861	52.806	0.010	-0.004	-0.141	-1049.684	81.77	81.78	22.08	22.08
198	-5193.426	-68.052	0.019	-0.020	0.357	1255.518	86.95	86.95	15.55	15.55
198	5193.425	68.053	-0.019	0.020	-0.357	-1255.517	86.95	86.95	15.55	15.55
199	-5262.101	671.164	-0.004	-0.001	0.230	763.907	76.83	76.83	33.38	33.39
199	5319.500	456.310	0.017	-0.011	-0.230	-763.910	77.48	77.48	34.04	34.04
210	-5183.306	13.037	-0.044	0.031	0.252	815.645	77.08	77.08	30.69	30.69
210	5183.309	-13.037	0.044	-0.031	-0.252	-815.646	77.08	77.08	30.69	30.69
211	-5144.016	-115.816	-0.029	0.019	-0.079	1294.897	87.26	87.26	13.62	13.62
211	5046.888	205.718	0.028	-0.019	0.079	-1180.596	83.62	83.62	16.48	16.48
212	-5125.979	129.154	-0.026	0.017	-0.192	1366.946	88.66	88.65	10.92	10.92
212	5125.976	-129.154	0.026	-0.017	0.192	-1366.944	88.66	88.65	10.92	10.92
213	-4341.835	68.893	-0.031	0.023	-0.565	701.056	64.97	64.96	25.09	25.09
213	4341.937	-68.894	0.031	-0.023	0.565	-701.054	64.97	64.96	25.10	25.09
214	-5358.472	-239.197	-0.023	0.015	-0.382	1026.419	83.75	83.74	25.38	25.37
214	5358.469	239.197	0.023	-0.015	0.382	-1026.419	83.75	83.74	25.38	25.37
215	-5379.427	-124.838	-0.023	0.015	-0.471	1796.584	101.07	101.06	-1.10	-1.11
215	5379.429	124.838	0.023	-0.015	0.471	-1796.585	101.07	101.06	-1.10	-1.11
216	-5402.609	25.350	0.008	-0.009	-0.253	1966.755	105.11	105.10	-6.74	-6.74
96	216	5402.611	-25.350	-0.008	0.009	0.253	-1966.754	105.11	105.10	-6.74	-6.74
96	217	-5315.075	728.758	-0.006	0.002	-0.135	1103.038	84.95	84.95	22.22	22.22
97	217	5372.078	247.532	-0.006	0.003	0.135	-1103.020	85.60	85.60	22.87	22.87
97	228	-5276.991	111.992	0.003	0.001	-0.070	992.997	82.08	82.08	25.61	25.61
98	228	5276.989	-111.992	-0.003	-0.001	0.070	-992.997	82.08	82.08	25.61	25.61
98	229	-5256.109	110.157	0.008	-0.003	-0.135	718.214	75.75	75.74	34.90	34.90
99	229	5550.358	80.230	-0.008	0.003	0.135	-537.943	75.09	75.08	44.52	44.52
99	230	-5560.231	39.033	0.008	-0.003	-0.112	623.622	77.11	77.11	41.64	41.64
100	230	5560.229	-39.034	-0.008	0.003	0.112	-623.621	77.11	77.11	41.64	41.64
100	231	-4627.623	208.047	0.023	-0.013	-0.267	347.466	60.37	60.37	40.61	40.61
101	231	4627.601	-208.046	-0.023	0.013	0.267	-347.466	60.37	60.37	40.61	40.61
101	232	-4574.556	137.579	0.023	-0.013	-0.200	-316.672	45.04	45.04	63.05	63.05
102	232	4574.539	-137.579	-0.023	0.013	0.200	316.669	45.04	45.04	63.05	63.04
102	233	-4478.995	-16.870	0.023	-0.013	-0.133	-304.695	44.22	44.21	61.54	61.54
103	233	4478.999	16.869	-0.023	0.013	0.133	304.693	44.22	44.21	61.54	61.54
103	234	-4452.639	162.508	0.023	-0.013	-0.067	-480.752	40.01	40.01	67.35	67.35
104	234	4452.615	-162.509	-0.023	0.013	0.067	480.751	40.01	40.01	67.35	67.35
104	235	-4420.180	344.092	0.026	-0.016	0.000	-1251.025	22.56	22.56	93.70	93.70

ESFUERZOS EN BARRAS

A	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
	1	4521.159	2.140	0.070	-0.021	-0.956	923.674
	12	-4582.686	45.207	-0.073	0.022	0.767	-1169.352
	12	4582.687	-45.206	0.073	-0.022	-0.767	1169.351
	13	-4643.218	7.932	-0.068	0.020	0.586	-1212.930
	13	4643.218	-7.933	0.073	-0.022	-0.592	1212.929
	14	-4672.148	90.414	-0.068	0.020	0.385	-1371.994
	14	4672.147	-90.413	0.073	-0.022	-0.336	1371.994
	15	-4709.438	133.900	-0.068	0.020	0.184	-1739.516
	15	4708.439	-133.902	0.068	-0.020	-0.184	1739.518
	16	-4793.021	-79.792	-0.068	0.020	-0.017	-1967.920
	16	4793.021	79.793	0.068	-0.020	0.017	1967.919
	17	-3971.219	-178.158	-0.102	0.031	-0.803	-1365.436
	17	3971.224	178.158	0.102	-0.031	0.803	1365.434
	18	-3312.786	-79.165	-0.115	0.035	-1.282	-974.694
	18	3312.777	79.165	0.115	-0.035	1.282	974.696
	19	-3426.150	819.806	-0.081	0.085	-1.185	-1987.936
	19	3481.950	834.139	-0.045	0.030	1.185	1987.919
	30	-3358.999	-166.658	0.061	-0.043	-1.502	-778.735
	30	3359.001	166.658	-0.062	0.031	1.620	778.735
	31	-3322.305	-62.875	0.060	-0.043	-0.906	-524.849
	31	3149.719	133.284	-0.060	0.043	0.906	596.002
	32	-4052.884	179.663	0.049	-0.034	-0.149	-603.098
	32	4052.883	-179.664	-0.050	0.021	0.259	603.096
	33	-4155.533	110.652	-0.001	-0.009	0.130	-1551.619
	33	4155.533	-110.651	0.000	-0.004	-0.029	1551.618
	34	-4271.493	-185.696	-0.001	-0.009	0.127	-1225.771
	34	4271.493	185.696	0.001	0.009	-0.127	1225.770
	35	-3421.136	-68.460	0.010	-0.004	-0.369	-801.390
	35	3421.130	68.460	-0.009	0.016	0.271	801.389
	36	-4136.139	-35.152	0.000	0.002	-0.368	-593.067
	36	4136.149	35.151	0.002	0.010	0.275	593.067
	37	-4189.980	946.829	0.006	-0.015	-0.579	-2320.261
	37	4247.371	741.398	0.008	0.002	0.579	2320.256
	48	-4131.163	-193.795	-0.008	-0.002	-0.599	-1088.849
	48	4131.173	193.795	-0.066	0.013	0.399	1088.849
	49	-4096.535	-62.311	0.066	-0.012	0.170	-822.001
	49	3863.847	141.051	-0.066	0.012	-0.170	881.564
	50	-4767.778	166.666	0.063	-0.013	0.683	-784.182
	50	4767.778	-166.666	-0.063	0.013	-0.683	784.181

TENSIONES

SIGMA 1	SIGMA2	SIGMA3	SIGMA4
30.96	30.97	83.49	83.50
26.21	26.22	92.72	92.72
26.21	26.22	92.72	92.72
25.94	25.95	94.92	94.92
25.94	25.95	94.92	94.92
22.74	22.75	100.76	100.77
22.74	22.74	100.76	100.77
15.00	15.01	113.93	113.93
15.00	15.01	113.93	113.93
10.90	10.90	122.81	122.81
10.90	10.90	122.81	122.81
14.92	14.90	92.56	92.56
14.92	14.90	92.56	92.56
16.09	16.07	71.52	71.51
16.09	16.07	71.52	71.51
-5.09	-5.11	107.96	107.95
-4.45	-4.47	108.59	108.58
20.97	20.94	65.25	65.24
20.97	20.94	65.25	65.24
26.18	26.16	56.02	56.01
22.63	22.62	56.52	56.52
32.75	32.75	67.05	67.04
32.75	32.75	67.05	67.04
12.88	12.88	101.12	101.12
12.88	12.88	101.12	101.12
21.42	21.43	91.13	91.13
21.42	21.43	91.13	91.13
21.16	21.16	66.74	66.73
21.16	21.16	66.74	66.73
33.92	33.91	67.65	67.64
33.92	33.92	67.65	67.64
-3.77	-3.78	128.18	128.17
-3.12	-3.13	128.83	128.83
22.87	22.86	84.79	84.78
22.87	22.86	84.79	84.79
28.39	28.39	75.14	75.14
24.42	24.42	74.55	74.55
36.86	36.87	81.46	81.47
36.86	36.87	81.46	81.47

20	51	-4868.981	110.676	0.016	0.008	0.926	-1580.276	20.35	20.37	110.23	110.23
21	51	4868.981	-110.675	-0.016	-0.008	-0.926	1580.276	20.35	20.37	110.23	110.23
21	52	-4986.305	-176.753	0.014	0.010	0.986	-1265.861	28.66	28.68	100.66	100.66
22	52	4986.306	176.753	-0.014	-0.010	-0.986	1265.859	28.66	28.68	100.66	100.66
22	53	-4133.253	-69.152	0.017	0.011	0.817	-845.322	27.84	27.85	77.05	77.06
23	53	4133.262	69.153	-0.017	-0.011	-0.817	845.320	27.84	27.85	77.05	77.06
23	54	-3505.431	176.706	0.015	0.013	0.581	-641.823	25.65	25.66	62.16	62.16
24	54	3505.438	-176.706	-0.015	-0.013	-0.581	641.823	25.65	25.66	62.16	62.16
24	55	-3562.668	941.701	0.015	0.013	0.628	-2353.164	-11.65	-11.64	122.17	122.18
25	55	3619.844	742.819	-0.095	0.151	-0.628	2353.156	-11.00	-10.99	122.82	122.83
25	66	-3506.203	-195.685	0.095	-0.151	1.010	-1114.430	15.18	15.19	78.56	78.57
26	66	3506.213	195.685	-0.096	0.151	-1.010	1114.430	15.18	15.19	78.56	78.57
26	67	-3473.408	-64.705	0.094	-0.151	1.686	-841.449	20.85	20.88	68.71	68.72
27	67	3261.641	144.069	-0.094	0.151	-1.686	892.527	17.31	17.34	68.06	68.09
27	68	-4166.277	167.331	0.095	-0.151	2.260	-795.580	29.75	29.79	75.01	75.02
28	68	4166.275	-167.332	-0.095	0.151	-2.260	795.579	29.75	29.79	75.01	75.02
29	69	-4268.771	111.441	0.050	-0.129	2.630	-1595.528	13.17	13.22	103.92	103.94
29	69	4268.771	-111.441	-0.050	0.129	-2.630	1595.529	13.17	13.22	103.92	103.94
29	70	-4385.121	-179.922	0.048	-0.127	2.820	-1273.641	21.63	21.68	94.08	94.10
30	70	4385.120	179.921	-0.048	0.127	-2.820	1273.641	21.63	21.68	94.08	94.10
30	71	-3535.841	-71.459	0.048	-0.127	2.793	-863.099	21.07	21.12	70.17	70.19
31	71	3535.849	71.459	-0.048	0.127	-2.793	863.100	21.07	21.12	70.17	70.19
31	72	-4250.758	174.298	0.047	-0.126	2.678	-630.099	34.38	34.42	70.23	70.24
32	72	4250.738	-174.297	-0.047	0.126	-2.678	630.100	34.38	34.42	70.22	70.24
32	73	-4304.300	940.233	0.047	-0.126	2.851	-2336.145	-2.85	-2.80	130.02	130.04
81	181	4267.237	736.515	-3.392	0.000	0.583	2312.610	-2.72	-2.73	128.79	128.79
81	192	-4253.458	-190.789	0.013	-0.013	-0.352	-1093.138	24.16	24.16	86.33	86.33
82	192	4253.563	190.789	-0.013	0.013	0.352	1093.139	24.17	24.16	86.33	86.33
82	193	-4312.130	-61.913	-3.366	-0.025	-0.189	-840.633	30.43	30.43	78.24	78.24
83	193	4082.202	140.701	3.366	0.025	0.189	899.070	26.52	26.52	77.65	77.65
83	194	-4981.995	170.057	-3.368	-0.023	-0.089	-833.153	38.22	38.22	85.60	85.60
84	194	4981.994	-170.058	3.368	0.023	0.089	-833.156	38.22	38.22	85.60	85.60
84	195	-5078.611	42.304	-3.369	-0.022	-0.215	-1644.991	21.31	21.31	114.86	114.86
85	195	5078.612	-42.305	3.369	0.022	0.215	1644.992	21.31	21.31	114.86	114.86
85	196	-5204.522	-174.484	-2.852	0.005	-0.381	-1343.531	29.43	29.43	105.84	105.84
86	196	5204.523	174.485	2.852	-0.005	0.381	1343.531	29.43	29.43	105.84	105.84
86	197	-4345.555	-69.410	-2.850	0.002	-0.840	-907.157	29.34	29.33	80.93	80.92
87	197	4345.536	69.410	2.850	-0.002	0.840	907.157	29.34	29.33	80.93	80.92
87	198	-4384.781	175.121	-2.851	0.003	-1.371	-690.021	34.61	34.58	73.84	73.83
88	198	4384.881	-175.121	2.851	-0.003	1.371	690.021	34.61	34.59	73.84	73.83
88	199	-4436.748	940.282	-2.851	0.003	-1.634	-2404.037	-2.81	-2.84	133.89	133.88
89	199	4494.129	756.857	2.927	-0.137	1.634	2404.027	-2.16	-2.19	134.55	134.54
89	210	-4365.086	6.829	3.506	-0.162	1.442	-1123.904	24.74	24.76	88.66	88.67
90	210	4365.066	-6.829	-3.506	0.162	-1.442	1123.904	24.74	24.76	88.66	88.67
90	211	-4215.440	-79.057	3.505	-0.161	2.106	-795.729	30.31	30.34	75.57	75.58
91	211	4134.398	154.046	-3.505	0.161	-2.106	891.070	27.27	27.31	77.96	77.97
91	212	-4196.530	108.144	2.925	-0.134	2.250	-739.783	31.33	31.37	73.41	73.43
92	212	4196.509	-108.144	-2.925	0.134	-2.250	739.785	31.33	31.37	73.41	73.43
92	213	-5173.821	27.449	2.931	-0.139	3.065	-1421.235	27.33	27.39	108.17	108.19
93	213	5173.824	-27.448	-2.931	0.139	-3.065	1421.237	27.33	27.39	108.17	108.19
93	214	-4401.371	-193.596	2.889	-0.109	3.159	-869.445	30.78	30.83	80.24	80.26
94	214	4401.349	193.596	-2.889	0.109	-3.159	869.446	30.78	30.83	80.24	80.26
94	215	-4424.248	-131.507	2.889	-0.109	3.559	-177.112	46.39	46.45	56.48	56.51
95	215	4424.222	131.508	-2.889	0.109	-3.559	177.111	46.39	46.45	56.48	56.51
95	216	-4448.974	266.634	2.883	-0.106	3.539	-47.711	49.54	49.60	52.27	52.30

216	4448.953	-266.634	-2.883	0.106	-3.539	47.711	49.54	49.60	52.27	52.30
217	-4381.355	994.361	2.883	-0.106	3.916	-2163.128	1.85	1.92	124.89	124.91
217	4438.427	587.001	-2.619	0.595	-3.917	2163.135	2.50	2.57	125.54	125.56
228	-4363.221	51.628	2.609	-0.586	3.627	-1341.111	19.88	19.94	96.17	96.19
228	4363.201	-51.628	-2.609	0.586	-3.627	1341.110	19.86	19.94	96.17	96.19
229	-4349.892	51.188	2.609	-0.586	3.108	-1456.790	17.17	17.22	100.03	100.05
229	4595.308	107.616	-2.609	0.586	-3.109	1607.574	16.62	16.67	108.05	108.07
230	-4607.650	-31.170	2.609	-0.586	2.590	-1378.017	21.85	21.90	100.23	100.25
230	4607.624	31.169	-2.609	0.586	-2.590	1378.019	21.85	21.90	100.23	100.25
231	-5543.164	240.516	2.594	-0.577	2.249	-1633.714	26.83	26.87	119.75	119.76
231	5543.165	-240.514	-2.594	0.577	-2.249	1633.714	26.83	26.87	119.75	119.76
232	-5483.677	74.140	2.594	-0.577	1.687	-2277.154	11.89	11.92	141.40	141.41
232	5483.679	-74.140	-2.594	0.577	-1.687	2277.151	11.89	11.92	141.40	141.41
233	-5373.121	-192.917	2.594	-0.577	1.124	-1869.458	19.69	19.70	126.00	126.00
233	5373.120	192.917	-2.594	0.577	-1.124	1869.457	19.68	19.70	126.00	126.00
234	-5346.206	-60.064	3.100	-0.686	0.692	-1446.629	28.75	28.76	111.02	111.03
234	5346.206	60.064	-3.100	0.686	-0.692	1446.628	28.75	28.76	111.02	111.03
235	-5310.845	136.003	0.030	-0.020	0.000	-1499.896	27.17	27.17	112.47	112.47

VIADUCTO SOBRE LA RIERA FEMOSA

HIPOTESIS 1612

MOMI Z MIN grupo I (ELS) (ec-1) (frec) FATIGA(0.85*Pret)

ESFUERZOS EN BARRAS — TENSIONES

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z	SIGMA 1	SIGMA2	SIGMA3	SIGMA4
1	1	3030.897	197.620	0.091	-0.031	-0.812	-285.325	40.81	40.83	24.59	24.60
1	12	-3082.218	-133.949	-0.087	0.030	0.538	694.020	50.47	50.47	11.00	11.00
2	12	3082.219	133.949	0.087	-0.030	-0.538	-694.021	50.47	50.47	11.09	11.00
2	13	-3132.709	-91.162	-0.092	0.032	0.249	1053.407	59.01	59.02	-0.89	-0.89
3	13	3132.708	91.162	0.087	-0.030	-0.283	-1053.407	59.01	59.02	-0.89	-0.89
3	14	-3156.840	51.515	-0.092	0.032	-0.021	1099.447	60.31	60.31	-2.21	-2.21
4	14	3156.841	-51.514	0.087	-0.030	-0.029	-1099.446	60.31	60.31	-2.21	-2.21
4	15	-3187.112	161.666	-0.092	0.032	-0.290	754.590	53.01	53.00	10.09	10.09
5	15	3187.111	-161.668	0.092	-0.032	0.290	-754.588	53.01	53.00	10.09	10.09
5	16	-3257.662	57.300	-0.092	0.032	-0.559	308.759	43.93	43.92	26.36	26.36
6	16	3257.664	-57.299	0.092	-0.032	0.559	-308.760	43.93	43.92	26.36	26.36
6	17	-4169.876	-173.754	-0.058	0.021	-0.243	396.398	56.25	56.24	33.70	33.70
7	17	4169.879	173.754	0.058	-0.021	0.243	-396.399	56.25	56.24	33.70	33.70
7	18	-4859.100	-329.087	-0.008	-0.001	0.480	1000.769	77.49	77.50	20.58	20.58
8	18	4859.100	329.086	0.008	0.001	-0.480	-1000.769	77.49	77.50	20.58	20.58
8	19	-4995.020	495.595	-0.051	-0.046	-0.206	1180.275	83.02	83.02	15.90	15.90
9	19	5050.818	512.375	-0.001	0.001	0.206	-1180.284	83.66	83.66	16.54	16.54
9	30	-4903.416	249.674	-0.014	0.012	0.292	799.786	73.54	73.54	28.06	28.06
10	30	4903.417	-249.673	0.015	0.000	-0.410	-799.786	73.54	73.55	28.06	28.06
10	31	-4859.424	-125.468	0.019	-0.004	-0.467	1178.914	81.45	81.45	14.41	14.40
11	31	4652.513	209.890	-0.019	0.004	0.467	-1093.611	77.21	77.20	15.01	15.01
11	32	-3882.887	91.911	0.031	-0.013	-0.917	1327.965	73.65	73.63	-1.88	-1.88
12	32	3882.887	-91.912	-0.030	0.026	0.807	-1327.966	73.65	73.63	-1.88	-1.88
12	33	-3968.510	71.235	0.033	-0.015	-0.798	693.710	60.56	60.54	21.10	21.10
13	33	3968.502	-71.235	-0.032	0.027	0.692	-693.711	60.56	60.54	21.10	21.10
13	34	-4065.227	-78.497	0.033	-0.015	-0.671	858.297	65.31	65.29	16.49	16.49
14	34	4065.236	78.498	-0.033	0.015	0.671	-858.296	65.31	65.29	16.49	16.49
14	35	-4977.905	-42.960	0.022	-0.019	-0.053	1069.016	80.36	80.36	19.57	19.57
15	35	4977.906	42.960	-0.023	0.007	0.150	-1069.018	80.36	80.36	19.57	19.57
15	36	-4356.506	-205.762	0.040	-0.031	0.737	1316.719	78.78	78.79	3.90	3.90
16	36	4356.506	205.761	-0.041	0.019	-0.643	-1316.719	78.78	78.79	3.90	3.90
16	37	-4421.043	660.357	0.041	-0.018	0.814	1018.188	72.89	72.90	14.99	14.99
17	37	4478.440	392.417	-0.010	-0.013	-0.814	-1018.178	73.54	73.56	15.64	15.65
17	48	-4339.122	181.987	0.022	0.010	0.832	669.664	64.23	64.24	26.15	26.15
18	48	4339.123	-181.987	0.052	-0.021	-0.632	-669.663	64.23	64.24	26.15	26.15
18	49	-4297.596	-111.721	-0.039	0.011	-0.138	1063.082	72.49	72.49	12.03	12.03
19	49	4018.642	206.120	0.039	-0.011	0.138	-991.673	67.73	67.73	11.33	11.33
19	50	-3255.385	82.662	-0.036	0.012	-0.548	1180.689	63.24	63.23	-3.91	-3.91
20	50	3255.377	-82.662	0.036	-0.012	0.548	-1180.690	63.24	63.23	-3.91	-3.91

51	-3339.793	63.846	-0.034	0.011	-0.685	585.138	50.99	50.98	17.71	17.71
51	3339.803	-63.845	0.034	-0.011	0.685	-585.135	50.99	50.98	17.71	17.71
52	-3437.664	-88.311	-0.032	0.009	-0.815	771.811	56.25	56.23	12.35	12.35
52	3437.658	88.311	0.032	-0.009	0.815	-771.813	56.25	56.23	12.35	12.35
53	-4341.631	-42.974	-0.035	0.008	-0.716	1013.084	71.89	71.87	14.27	14.26
53	4341.631	42.975	0.035	-0.008	0.716	-1013.086	71.89	71.87	14.27	14.26
54	-5067.546	-204.367	-0.019	-0.004	-0.209	1257.045	85.55	85.55	14.06	14.06
54	5067.543	204.367	0.019	0.004	0.209	-1257.046	85.55	85.55	14.06	14.06
55	-5136.155	660.573	-0.019	-0.004	-0.270	958.178	79.71	79.70	25.21	25.21
55	5193.356	394.963	0.099	-0.156	0.270	-958.170	80.36	80.35	25.86	25.86
66	-5057.114	181.967	-0.089	0.154	-0.621	685.866	72.77	72.76	33.76	33.76
66	5057.115	-181.967	0.089	-0.154	0.621	-685.866	72.77	72.76	33.76	33.76
67	-5017.787	-115.030	-0.074	0.143	-1.564	1032.558	80.02	79.99	21.29	21.28
67	4763.896	210.178	0.074	-0.143	1.564	-971.321	75.77	75.74	20.52	20.51
68	-3996.490	83.435	-0.074	0.144	-2.058	1173.924	71.54	71.50	4.76	4.75
68	3996.466	-83.435	0.074	-0.144	2.058	-1173.924	71.54	71.50	4.76	4.75
69	-4081.959	64.274	-0.073	0.143	-2.343	570.207	59.12	59.08	26.68	26.67
69	4081.968	-64.274	0.073	-0.143	2.343	-570.207	59.12	59.08	26.68	26.67
70	-4179.017	-91.084	-0.071	0.142	-2.621	764.332	64.53	64.49	21.05	21.04
70	4179.026	91.083	0.071	-0.142	2.621	-764.332	64.53	64.49	21.05	21.04
71	-5092.631	-46.705	-0.070	0.141	-2.682	1014.358	80.48	80.43	22.78	22.76
71	5092.631	46.705	0.070	-0.141	2.682	-1014.356	80.48	80.43	22.78	22.76
72	-4471.108	-205.660	-0.056	0.130	-2.327	1267.012	79.00	78.96	6.94	6.92
72	4471.111	205.661	0.056	-0.130	2.327	-1267.011	79.00	78.96	6.94	6.92
73	-4535.324	660.396	-0.056	0.130	-2.533	968.369	73.11	73.07	18.03	18.01
181	5375.941	416.685	3.402	-0.003	-0.967	-1005.490	83.47	83.49	26.30	26.30
192	-5133.817	-189.671	0.023	-0.016	-0.700	-707.091	74.10	74.11	33.89	33.90
193	-4998.876	-104.571	3.368	0.017	0.253	1020.032	79.51	79.51	21.50	21.51
193	4723.250	199.028	-3.368	-0.017	-0.253	-949.972	74.82	74.82	20.80	20.80
194	-3964.306	87.488	3.370	0.015	0.161	1140.695	70.41	70.42	5.54	5.55
194	3964.280	-87.488	-3.370	-0.015	-0.161	-1140.692	70.41	70.42	5.54	5.54
195	-4053.399	68.538	3.371	0.014	0.295	533.825	57.97	57.97	27.61	27.61
195	4053.381	-68.538	-3.371	-0.014	-0.295	-533.824	57.97	57.97	27.61	27.61
196	-4142.920	-83.725	2.815	0.011	0.323	711.116	62.92	62.92	22.48	22.48
196	4142.896	83.726	-2.815	-0.011	-0.323	-711.117	62.92	62.92	22.48	22.48
197	-5052.856	-35.756	2.814	0.013	0.640	889.773	77.23	77.24	26.64	26.64
197	5052.855	35.756	-2.814	-0.013	-0.640	-889.773	77.23	77.24	26.64	26.64
198	-5111.817	-191.930	2.823	0.004	1.244	1038.394	81.19	81.22	22.15	22.16
198	5111.816	191.930	-2.823	-0.004	-1.244	-1038.393	81.19	81.22	22.15	22.16
199	-5135.910	642.733	2.836	-0.002	1.489	787.930	76.48	76.51	31.68	31.69
199	5243.309	449.379	-2.898	0.115	-1.489	-787.939	77.13	77.16	32.33	32.34
210	-5122.555	154.503	-3.527	0.180	-1.416	634.040	72.37	72.35	36.31	36.30
210	5122.558	-154.503	3.527	-0.180	1.416	-634.041	72.37	72.35	36.31	36.30
211	-5200.117	-141.909	-3.521	0.172	-2.719	1086.842	83.31	83.26	21.49	21.47
211	5102.988	231.811	3.521	-0.172	2.719	-972.540	79.67	79.62	24.35	24.33
212	-5185.918	113.909	-2.942	0.144	-2.927	1238.462	86.51	86.46	16.07	16.05
212	5185.916	-113.910	2.942	-0.144	2.928	-1238.459	86.51	86.46	16.07	16.05
213	-4396.357	60.996	-2.947	0.150	-3.807	609.056	63.57	63.51	28.92	28.89
213	4396.459	-60.996	2.947	-0.150	3.807	-609.052	63.57	63.51	28.92	28.89
214	-5407.578	-236.081	-2.941	0.143	-4.134	939.698	82.42	82.35	28.96	28.93
214	5407.574	236.081	2.941	-0.143	4.134	-939.696	82.42	82.35	28.96	28.93
215	-5423.115	-114.375	-2.941	0.143	-4.733	1675.199	98.91	98.83	3.62	3.59
215	5423.117	114.375	2.941	-0.143	4.733	-1675.199	98.91	98.83	3.62	3.59
216	-5440.880	-137.394	-2.913	0.127	-4.644	1805.405	102.00	101.92	-0.70	-0.73
96	216	5440.881	137.394	2.913	-0.127	4.644	-1805.405	102.00	101.92	-0.70	-0.73
96	217	-5347.928	696.658	-2.913	0.127	-5.138	1111.311	85.55	85.46	22.33	22.29
97	217	5404.930	249.336	2.567	-0.563	5.138	-1111.298	86.20	86.11	22.98	22.94
97	228	-5305.736	245.501	-2.567	0.563	-4.504	819.492	78.60	78.52	31.97	31.94
98	228	5305.734	-245.501	2.567	-0.563	4.504	-819.492	78.60	78.52	31.97	31.94
98	229	-5280.749	121.143	-2.548	0.546	-4.190	512.609	71.50	71.43	42.33	42.30
99	229	5574.998	69.243	2.548	-0.546	4.190	-331.833	70.84	70.77	51.95	51.92
99	230	-5580.764	15.192	-2.542	0.540	-3.575	448.401	73.49	73.43	47.97	47.94
100	230	5580.762	-15.193	2.542	-0.540	3.575	-448.401	73.49	73.43	47.97	47.94
100	231	-4644.048	187.954	-2.528	0.532	-3.024	227.966	57.93	57.88	44.95	44.93
101	231	4644.027	-187.954	2.528	-0.532	3.024	-227.967	57.93	57.88	44.95	44.93
101	232	-4586.875	123.056	-2.528	0.532	-2.268	-391.662	43.53	43.49	65.79	65.78
102	232	4586.857	-123.056	2.528	-0.532	2.268	391.659	43.53	43.49	65.79	65.78
102	233	-4487.107	-25.823	-2.528	0.532	-1.512	-351.536	43.28	43.26	63.27	63.26
103	233	4487.211	25.823	2.528	-0.532	1.512	351.535	43.28	43.26	63.27	63.26
103	234	-4456.163	159.429	-3.034	0.641	-0.886	-515.805	39.28	39.27	68.61	68.60
104	234	4456.139	-159.430	3.034	-0.641	0.886	515.805	39.28	39.27	68.61	68.60
104	235	-4420.180	316.749	0.035	-0.025	0.000	-1251.030	22.56	22.56	93.70	93.70

Criterios de funcionalidad en relación con las deformaciones y las vibraciones

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CALCULO DE FLECHAS Y GIROS.

TRAMOS IMPARES CARGADOS : 1 vía cargada. 8 t/m

VANO	barras
1	1 a 8
3	17 a 24
5	33 a 40
7	49 a 56
9	65 a 72
11	81 a 88
13	97 a 104
15	113 a 120

TRAMOS IMPARES CARGADOS : 2 vías cargadas 16 t/m

TRAMOS PARES CARGADOS : 1 vía cargada. 8 t/ml

VANO	barras
2	9 a 16
4	25 a 32
6	41 a 48
8	57 a 64
10	73 a 80
12	89 a 96
14	105 a 112

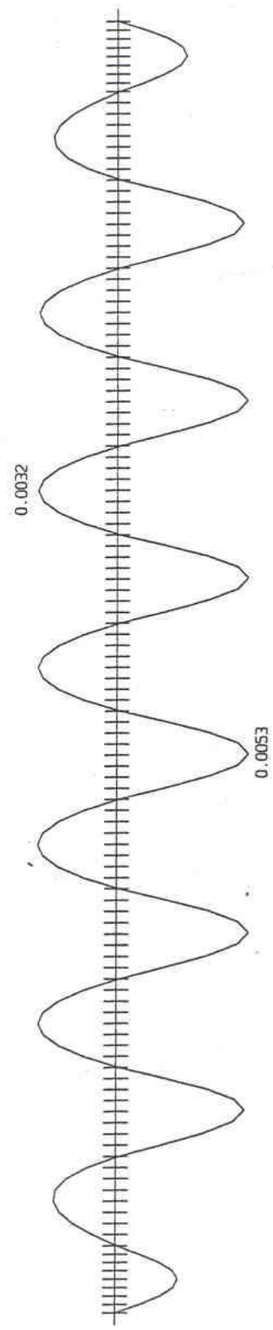
TRAMOS PARES CARGADOS : 2 vías cargadas.

Para 8 t/m en 1 sola vía.

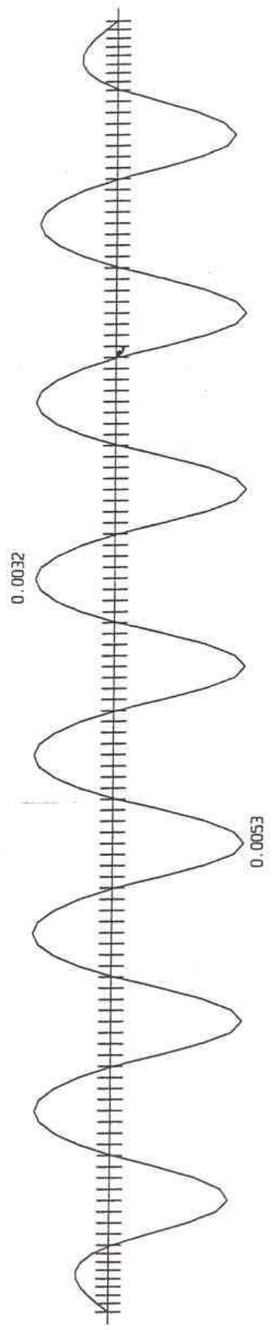
fier y unif -8.00 t/m
momento x unif 20.40 tm/m

$M_{TRANSF} = 8.00 * 2.55 = 20.4$ tm/m

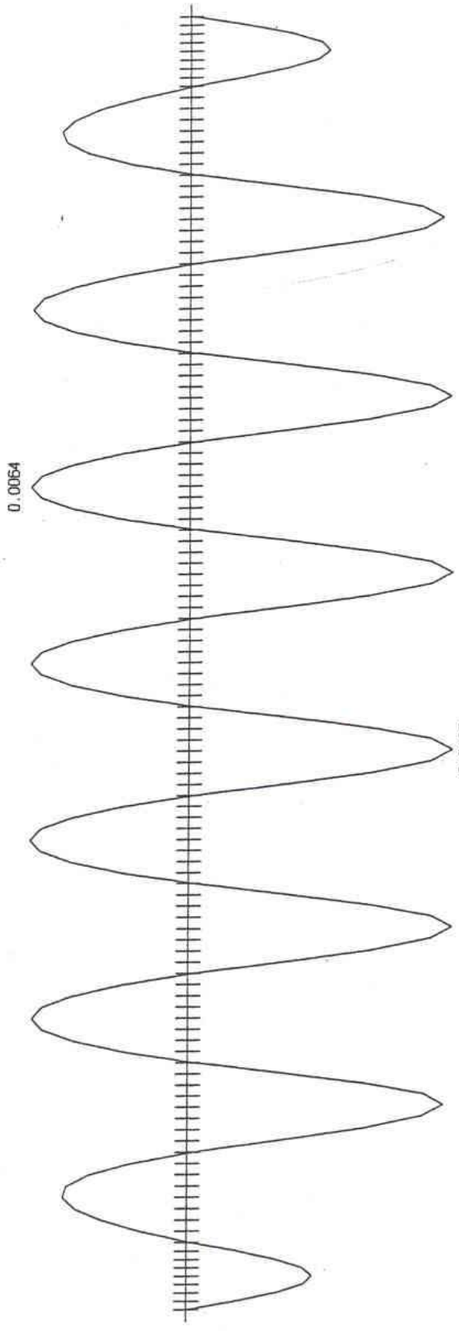
proc
hipo ! TRAMOS IMPARES CARGADOS (1 VIA CARGADA 8 t/m) F. Y 2.5 -3



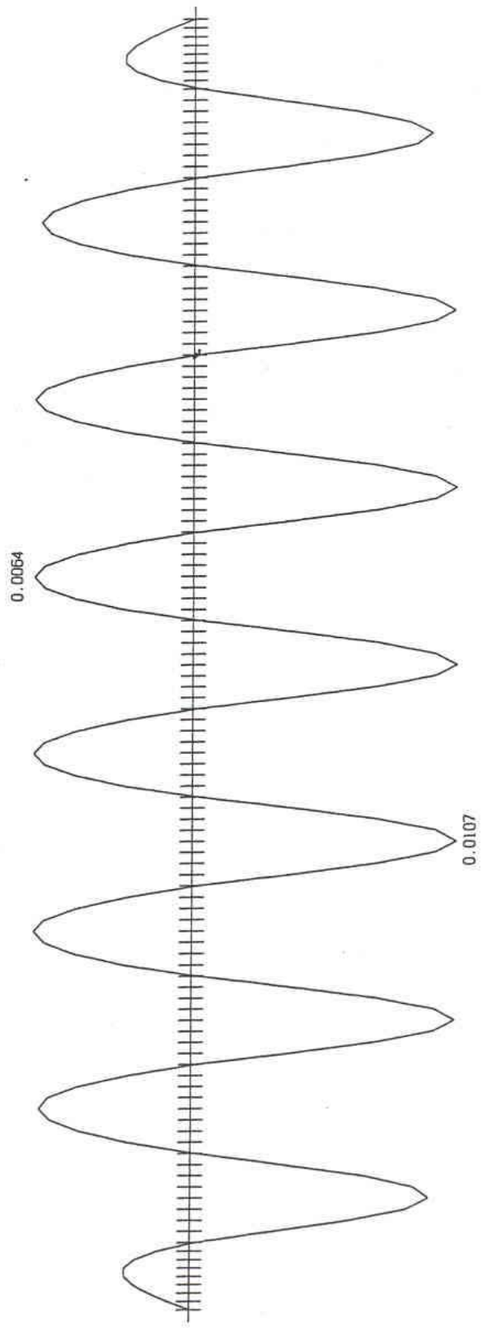
proc
hipo 2 TRAMOS PARES CARGADOS (1 VIA CARGADA 8 t/m) F. Y . 2.5 -3



proc
hipo 3 TRAMOS PARES CARGADOS (2 VIAS CARGADAS 16 t/m) F. Y 2.5 -3



proc
hipo 4 TRAMOS PARES CARGADOS (2 VIAS CARGADAS 16 t/m) F. Y 2.5 -3



VALORES LIMITE DE δ/L PARA LA MAXIMA DEFORMACION VERTICAL DE UNA ESTRUCTURA SIMPLEMENTE APOYADA.

Velocidad del tren V [km/h]	L del vano [m]				
	$L \leq 15$ m	$15 < L \leq 30$	$30 < L \leq 50$	$50 < L \leq 90$	$90 < L \leq 120$
$V \leq 120$	1/800	1/900	1/800	1/600	1/600
$120 < V \leq 160$	1/900	1/1200	1/1200	1/800	1/600
$160 < V \leq 200$	1/1000	1/1400	1/1500	1/1300	1/600
$200 < V \leq 280$	1/1200	1/1500	1/2100	1/2100	1/1400
$280 < V \leq 350$	1/1500	1/1600	1/2100	1/2400	1/2200

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Las acotaciones de la flecha vertical, según la UIC, han de encontrarse en los valores del cuadro adjunto.

$$\frac{f}{L} = \frac{0.0107}{31} = 0.000345 < \frac{1}{2897} = \frac{1}{3000} < \frac{1}{2100}$$

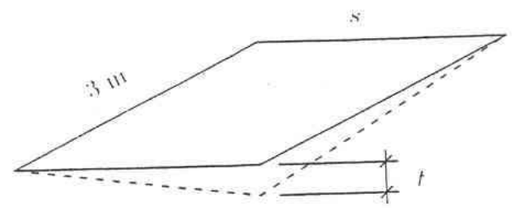
Por tanto se cumple la condición de máxima deformación vertical.

Alabeo del tablero. El alabeo del tablero del puente se calculará teniendo en cuenta los trenes de carga definidos en 2.3.2 y 2.3.4.

El máximo alabeo t, medido en una longitud de 3 m, no será mayor de:

$$\begin{aligned} V \leq 120 \text{ km/h} \quad & t \leq 4.5 \text{ mm/3m} \\ 120 < V \leq 220 \text{ km/h} \quad & t \leq 3.0 \text{ mm/3m} \\ V > 220 \text{ km/h} \quad & t \leq 1.5 \text{mm/3m} \end{aligned} \tag{4.1}$$

Para velocidades $V > 220$ km/h se requiere una comprobación adicional para asegurar que $t \leq 1.2$ mm/3m para la carga de tráfico actual, multiplicada por el correspondiente coeficiente dinámico.



Alabeo permitido en el tablero.

Salvo especificación en contra, el alabeo total debido a cualquier alabeo que pueda presentarse en la vía cuando el puente está descargado (es decir en una curva de transición), y el debido a la deformación total del puente no deben exceder **2.5 mm/m**.

Giros en el final del tablero (en vías con balasto). Con los valores característicos del tren de cargas tipo, multiplicados por el coeficiente dinámico Φ y las acciones térmicas, los máximos giros medidos en el final del tablero en el eje de la vía no deben exceder:

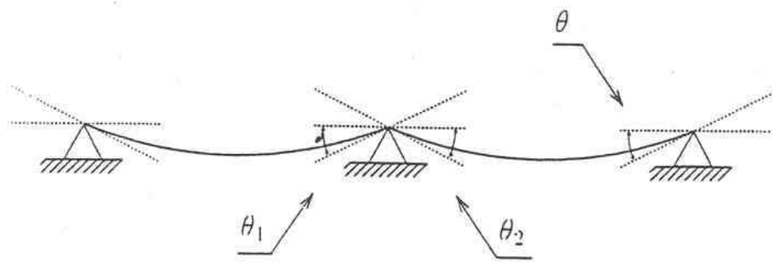
- Para puentes con vía única
  $(-) = 6.5 \times 10^{-3}$ radianes para transiciones entre el tablero y el estribo
  $(-)_1 + (-)_2 = 10 \times 10^{-3}$ radianes entre dos tableros consecutivos
- Para puentes con vía doble
  $(-) = 3.5 \times 10^{-3}$ radianes para transiciones entre el tablero y el estribo
  $(-)_1 + (-)_2 = 5 \times 10^{-3}$ radianes entre dos tableros consecutivos

Para velocidades $V > 220$ km/h. se debe realizar una comprobación adicional para las cargas del tráfico real. multiplicadas por el correspondiente coeficiente dinámico.

$\Theta = \frac{2 \cdot 10^{-3}}{h_{(m)}}$ radianes para transiciones entre el tablero y el estribo

$\Theta_1 + \Theta_2 = \frac{4 \cdot 10^{-3}}{h_{(m)}}$ radianes entre dos tableros consecutivos

donde $h_{(m)}$ es la distancia entre el carril y la fibra neutra.



... Giros al final del tablero.

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HOJA ____ DE ____

PROYECTO ____ FECHA ____

GIROS EN EL FINAL DEL TABLERO PARA VIAS CON BALASTO.

- PUENTES CON VIA DOBLE #

$\Theta < 3.5 * 10^{-3}$ rd Transición ESTRIBO-TABLERO

$\Theta < 5. * 10^{-3}$ rd. Transición entre 2 tableros consecutivos.

Según listados se obtienen giros máximos:

$\Theta = 0.000667$ rd $= 0,7 * 10^{-3}$ rd

con lo que se cumple la prescripción, incluso multiplicando por el coeficiente de impacto:

$0.7 * 10^{-3}$ rd $* 1,113 = 0.78 * 10^{-3}$ rd.

Las prescripciones relativas al alabeo máximo se cumplen también.

VIBRACIONES – Se cumple el ELS correspondiente al encontrarse la frecuencia de vibración del modo fundamental fuera del rango previsto para no tener que comprobar este ELS.

```
estr
nume de nudo  281
nume de barr  296
nume de hipo 4
nume de apoy   16
tipo port espa
list todo
coor de nudo
    1      0.0000      0.000      0.0000
    2      0.0000      0.000     -1.9000
    3      0.0000      0.000      1.9000
    4      0.0000     -1.733      0.0000
    5      0.0000     -1.733     -1.9000
    6      0.0000     -1.733      1.9000
    7      0.0000    -14.942      0.0000 s
    8      0.0000    -12.942      0.0000
    9      0.0000     -4.535      0.0000
   10      0.0000     -7.338      0.0000
   11      0.0000     -4.535      0.0000
   12      2.9375      0.000      0.0000
   13      5.8750      0.000      0.0000
   14      8.8125      0.000      0.0000
   15     11.7500      0.000      0.0000
   16     14.6875      0.000      0.0000
   17     17.6250      0.000      0.0000
   18     20.5625      0.000      0.0000
   19     23.5000      0.000      0.0000
   20     23.5000      0.000     -1.9000
   21     23.5000      0.000      1.9000
   22     23.5000     -1.458      0.0000
   23     23.5000     -1.458     -1.9000
   24     23.5000     -1.458      1.9000
   25     23.5000    -14.731      0.0000 s
   26     23.5000    -12.381      0.0000
   27     23.5000     -9.650      0.0000
   28     23.5000     -6.920      0.0000
   29     23.5000     -4.458      0.0000
   30     27.3750      0.000      0.0000
   31     31.2500      0.000      0.0000
   32     35.1250      0.000      0.0000
   33     39.0000      0.000      0.0000
   34     42.8750      0.000      0.0000
   35     46.7500      0.000      0.0000
   36     50.6250      0.000      0.0000
   37     54.5000      0.000      0.0000
   38     54.5000      0.000     -1.9000
   39     54.5000      0.000      1.9000
   40     54.5000     -1.458      0.0000
   41     54.5000     -1.458     -1.9000
   42     54.5000     -1.458      1.9000
   43     54.5000    -16.552      0.0000 s
   44     54.5000    -14.202      0.0000
   45     54.5000    -11.016      0.0000
   46     54.5000     -7.830      0.0000
   47     54.5000     -4.458      0.0000
   48     58.3750      0.000      0.0000
   49     62.2500      0.000      0.0000
   50     66.1250      0.000      0.0000
   51     70.0000      0.000      0.0000
   52     73.8750      0.000      0.0000
   53     77.7500      0.000      0.0000
   54     81.6250      0.000      0.0000
   55     85.5000      0.000      0.0000
   56     85.5000      0.000     -1.9000
   57     85.5000      0.000      1.9000
   58     85.5000     -1.458      0.0000
   59     85.5000     -1.458     -1.9000
   60     85.5000     -1.458      1.9000
   61     85.5000    -18.283      0.0000 s
   62     85.5000    -15.933      0.0000
   63     85.5000    -12.314      0.0000
   64     85.5000     -8.696      0.0000
   65     85.5000     -4.458      0.0000
   66     89.3750      0.000      0.0000
   67     93.2500      0.000      0.0000
   68     97.1250      0.000      0.0000
   69    101.0000      0.000      0.0000
   70    104.8750      0.000      0.0000
   71    108.7500      0.000      0.0000
   72    112.6250      0.000      0.0000
   73    116.5000      0.000      0.0000
   74    116.5000      0.000     -1.9000
   75    116.5000      0.000      1.9000
   76    116.5000     -1.458      0.0000
   77    116.5000     -1.458     -1.9000
   78    116.5000     -1.458      1.9000
   79    116.5000    -18.344      0.0000 s
   80    116.5000    -15.994      0.0000
   81    116.5000    -12.360      0.0000
   82    116.5000     -8.726      0.0000
   83    116.5000     -4.458      0.0000
   84    120.3750      0.000      0.0000
   85    124.2500      0.000      0.0000
   86    128.1250      0.000      0.0000
   87    132.0000      0.000      0.0000
   88    135.8750      0.000      0.0000
   89    139.7500      0.000      0.0000
   90    143.6250      0.000      0.0000
   91    147.5000      0.000      0.0000
   92    147.5000      0.000     -1.9000
   93    147.5000      0.000      1.9000
   94    147.5000     -1.458      0.0000
   95    147.5000     -1.458     -1.9000
   96    147.5000     -1.458      1.9000
   97    147.5000    -18.065      0.0000 s
   98    147.5000    -15.715      0.0000
   99    147.5000    -12.151      0.0000
  100    147.5000     -8.587      0.0000
  101    147.5000     -4.458      0.0000
  102    151.3750      0.000      0.0000
  103    155.2500      0.000      0.0000
  104    159.1250      0.000      0.0000
  105    163.0000      0.000      0.0000
  106    166.8750      0.000      0.0000
  107    170.7500      0.000      0.0000
  108    174.6250      0.000      0.0000
  109    178.5000      0.000      0.0000
  110    178.5000      0.000     -1.9000
  111    178.5000      0.000      1.9000
```

112	178.5000	-1.458	0.0000		120	168	271.5000	-1.458	1.9000		176
113	178.5000	-1.458	-1.9000		121	169	271.5000	-18.072	0.0000	s	177
114	178.5000	-1.458	1.9000		122	170	271.5000	-14.749	0.0000		178
115	178.5000	-17.636	0.0000	s	123	171	271.5000	-11.426	0.0000		179
116	178.5000	-15.286	0.0000		124	172	271.5000	-8.104	0.0000		180
117	178.5000	-11.829	0.0000		125	173	271.5000	-4.458	0.0000		181
118	178.5000	-8.372	0.0000		126	174	275.3750	0.000	0.0000		182
119	178.5000	-4.458	0.0000		127	175	279.2500	0.000	0.0000		183
120	182.3750	0.000	0.0000		128	176	283.1250	0.000	0.0000		184
121	186.2500	0.000	0.0000		129	177	287.0000	0.000	0.0000		185
122	190.1250	0.000	0.0000		130	178	290.8750	0.000	0.0000		186
123	194.0000	0.000	0.0000		131	179	294.7500	0.000	0.0000		187
124	197.8750	0.000	0.0000		132	180	298.6250	0.000	0.0000		188
125	201.7500	0.000	0.0000		133	181	302.5000	0.000	0.0000		189
126	205.6250	0.000	0.0000		134	182	302.5000	0.000	-1.9000		190
127	209.5000	0.000	0.0000		135	183	302.5000	0.000	1.9000		191
128	209.5000	0.000	-1.9000		136	184	302.5000	-1.458	0.0000		192
129	209.5000	0.000	1.9000		137	185	302.5000	-1.458	-1.9000		193
130	209.5000	-1.458	0.0000		138	186	302.5000	-1.458	1.9000		194
131	209.5000	-1.458	-1.9000		139	187	302.5000	-16.770	0.0000	s	195
132	209.5000	-1.458	1.9000		140	188	302.5000	-14.420	0.0000		196
133	209.5000	-17.457	0.0000	s	141	189	302.5000	-11.180	0.0000		197
134	209.5000	-15.107	0.0000		142	190	302.5000	-7.939	0.0000		198
135	209.5000	-11.695	0.0000		143	191	302.5000	-4.458	0.0000		199
136	209.5000	-8.283	0.0000		144	192	306.3750	0.000	0.0000		200
137	209.5000	-4.458	0.0000		145	193	310.2500	0.000	0.0000		201
138	213.3750	0.000	0.0000		146	194	314.1250	0.000	0.0000		202
139	217.2500	0.000	0.0000		147	195	318.0000	0.000	0.0000		203
140	221.1250	0.000	0.0000		148	196	321.8750	0.000	0.0000		204
141	225.0000	0.000	0.0000		149	197	325.7500	0.000	0.0000		205
142	228.8750	0.000	0.0000		150	198	329.6250	0.000	0.0000		206
143	232.7500	0.000	0.0000		151	199	333.5000	0.000	0.0000		207
144	236.6250	0.000	0.0000		152	200	333.5000	0.000	-1.9000		208
145	240.5000	0.000	0.0000		153	201	333.5000	0.000	1.9000		209
146	240.5000	0.000	-1.9000		154	202	333.5000	-1.458	0.0000		210
147	240.5000	0.000	1.9000		155	203	333.5000	-1.458	-1.9000		211
148	240.5000	-1.458	0.0000		156	204	333.5000	-1.458	1.9000		212
149	240.5000	-1.458	-1.9000		157	205	333.5000	-16.491	0.0000	s	213
150	240.5000	-1.458	1.9000		158	206	333.5000	-14.141	0.0000		214
151	240.5000	-18.358	0.0000	s	159	207	333.5000	-10.970	0.0000		215
152	240.5000	-14.978	0.0000		160	208	333.5000	-7.800	0.0000		216
153	240.5000	-11.598	0.0000		161	209	333.5000	-4.458	0.0000		217
154	240.5000	-8.218	0.0000		162	210	337.3750	0.000	0.0000		218
155	240.5000	-4.458	0.0000		163	211	341.2500	0.000	0.0000		219
156	244.3750	0.000	0.0000		164	212	345.1250	0.000	0.0000		220
157	248.2500	0.000	0.0000		165	213	349.0000	0.000	0.0000		221
158	252.1250	0.000	0.0000		166	214	352.8750	0.000	0.0000		222
159	256.0000	0.000	0.0000		167	215	356.7500	0.000	0.0000		223
160	259.8750	0.000	0.0000		168	216	360.6250	0.000	0.0000		224
161	263.7500	0.000	0.0000		169	217	364.5000	0.000	0.0000		225
162	267.6250	0.000	0.0000		170	218	364.5000	0.000	-1.9000		226
163	271.5000	0.000	0.0000		171	219	364.5000	0.000	1.9000		227
164	271.5000	0.000	-1.9000		172	220	364.5000	-1.458	0.0000		228
165	271.5000	0.000	1.9000		173	221	364.5000	-1.458	-1.9000		229
166	271.5000	-1.458	0.0000		174	222	364.5000	-1.458	1.9000		230
167	271.5000	-1.458	-1.9000		175	223	364.5000	-16.362	0.0000	s	231

224	364.5000	-14.012	0.0000
225	364.5000	-10.874	0.0000
226	364.5000	-7.735	0.0000
227	364.5000	-4.458	0.0000
228	368.3750	0.000	0.0000
229	372.2500	0.000	0.0000
230	376.1250	0.000	0.0000
231	380.0000	0.000	0.0000
232	383.8750	0.000	0.0000
233	387.7500	0.000	0.0000
234	391.6250	0.000	0.0000
235	395.5000	0.000	0.0000
236	395.5000	0.000	-1.9000
237	395.5000	0.000	1.9000
238	395.5000	-1.458	0.0000
239	395.5000	-1.458	-1.9000
240	395.5000	-1.458	1.9000
241	395.5000	-16.333	0.0000 s
242	395.5000	-13.983	0.0000
243	395.5000	-10.852	0.0000
244	395.5000	-7.721	0.0000
245	395.5000	-4.458	0.0000
246	399.3750	0.000	0.0000
247	403.2500	0.000	0.0000
248	407.1250	0.000	0.0000
249	411.0000	0.000	0.0000
250	414.8750	0.000	0.0000
251	418.7500	0.000	0.0000
252	422.6250	0.000	0.0000
253	426.5000	0.000	0.0000
254	426.5000	0.000	-1.9000
255	426.5000	0.000	1.9000
256	426.5000	-1.458	0.0000
257	426.5000	-1.458	-1.9000
258	426.5000	-1.458	1.9000
259	426.5000	-16.154	0.0000 s
260	426.5000	-13.804	0.0000
261	426.5000	-10.718	0.0000
262	426.5000	-7.631	0.0000
263	426.5000	-4.458	0.0000
264	429.5437	0.000	0.0000
265	432.5875	0.000	0.0000
266	435.6313	0.000	0.0000
267	438.6750	0.000	0.0000
268	441.7187	0.000	0.0000
269	444.7625	0.000	0.0000
270	447.8062	0.000	0.0000
271	450.8500	0.000	0.0000
272	450.8500	0.000	-1.9000
273	450.8500	0.000	1.9000
274	450.8500	-1.458	0.0000
275	450.8500	-1.458	-1.9000
276	450.8500	-1.458	1.9000
277	450.8500	-16.135	0.0000 s
278	450.8500	-13.785	0.0000
279	450.8500	-10.703	0.0000
280	450.8500	-7.622	0.0000
281	450.8500	-4.540	0.0000

inci de barr

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33	73	84
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39	89	90
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41	91	102
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49	109	120
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51	121	122
52	122	123
53	123	124

54	124	125
55	125	126
56	126	127
57	127	138
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61	141	142
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97	217	228
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113	253	264
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118	268	269
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120	270	271
121	2	1
122	1	3
123	5	4
124	4	6
125	20	19
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156	148	150
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176	238	240
177	254	253
178	253	255
179	257	256
180	256	258
181	272	271
182	271	273
183	275	274
184	274	276
185	6	3
186	5	2
187	24	21
188	23	20
189	42	39
190	41	38
191	60	57
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193	78	75
194	77	74
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197	114	111
198	113	110
199	132	129
200	131	128
201	150	147
202	149	146
203	168	165
204	167	164
205	186	183
206	185	182
207	204	201
208	203	200
209	222	219
210	221	218
211	240	237
212	239	236
213	258	255
214	257	254
215	276	273
216	275	272
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221	11	4

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242	97	98
243	98	99
244	99	100
245	100	101
246	101	94
247	115	116
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250	118	119
251	119	112
252	133	134
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254	135	136
255	136	137
256	137	130
257	151	152
258	152	153
259	153	154
260	154	155
261	155	148
262	169	170
263	170	171
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266	173	166
267	187	188
268	188	189
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271	191	184
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275	208	209
276	209	202
277	223	224

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  279  225  226
  280  226  227
  281  227  220
  282  241  242
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  285  244  245
  286  245  238
  287  259  260
  288  260  261
  289  261  262
  290  262  263
  291  263  256
  292  277  278
  293  278  279
  294  279  280
  295  280  281
  296  281  274
libe de barr
* E1
  185 inic          mome x y z
  186 inic fuer   z mome x y z
* P01
  187 inic fuer y   mome x y z
  188 inic fuer y z mome x y z
* P02
  189 inic fuer y   mome x y z
  190 inic fuer y z mome x y z
* P03
  191 inic fuer y   mome x y z
  192 inic fuer y z mome x y z
* P04
  193 inic fuer y   mome x y z
  194 inic fuer y z mome x y z
* P05
  195 inic fuer y   mome x y z
  196 inic fuer y z mome x y z
* P06
  197 inic fuer y   mome x y z
  198 inic fuer y z mome x y z
* P07
  199 inic fuer y   mome x y z
  200 inic fuer y z mome x y z
* P08
  201 inic fuer y   mome x y z
  202 inic fuer y z mome x y z
* P09
  203 inic fuer y   mome x y z
  204 inic fuer y z mome x y z
* P10
  205 inic fuer y   mome x y z
  206 inic fuer y z mome x y z
* P11
  207 inic fuer y   mome x y z
  208 inic fuer y z mome x y z
* P12
  209 inic fuer y   mome x y z
  210 inic fuer y z mome x y z
* P13
  211 inic fuer y   mome x y z
  212 inic fuer y z mome x y z
* P14
  213 inic fuer y   mome x y z
  214 inic fuer y z mome x y z
* P15
  215 inic fuer y   mome x y z
  216 inic fuer y z mome x y z
mate de barr
    1 a  120    1
  121 a  216    1
         217    3
  218 a  221    3
         222    3
  223 a  226    2
         227    3
  228 a  231    2
         232    3
  233 a  236    2
         237    3
  238 a  241    2
         242    3
  243 a  246    2
         247    3
  248 a  251    2
         252    3
  253 a  261    2
         262    3
  263 a  266    2
         267    3
  268 a  271    2
         272    3
  273 a  276    2
         277    3
  278 a  281    2
         282    3
  283 a  286    2
         287    3
  288 a  291    2
         292    3
  293 a  296    3
prop de barr pris
* TABLERO
    1 a  120 8.787 2.972 3.860  5.447 80.54 3.341
* BARRAS DE GRAN RIGIDEZ
  121 a  184 100. 100. 100.  100. 1000. 100.
* APARATOS DE APOYO
* E1
  185 a  186 100. 100. 100.  100.  500. 100.
* P01
  187 a  188 100. 100. 100.  100.  500. 100.
* P02
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  189 a  190 100. 100. 100.  100.  500. 100.
* P03
  191 a  192 100. 100. 100.  100.  500. 100.
* P04
  193 a  194 100. 100. 100.  100.  500. 100.
* P05
  195 a  196 100. 100. 100.  100.  500. 100.
* P06
  197 a  198 100. 100. 100.  100.  500. 100.
* P07
  199 a  200 100. 100. 100.  100.  500. 100.
* P08
  201 a  202 100. 100. 100.  100.  500. 100.
* P09
  203 a  204 100. 100. 100.  100.  500. 100.
* P10
  205 a  206 100. 100. 100.  100.  500. 100.
* P11
  207 a  208 100. 100. 100.  100.  500. 100.
* P12
  209 a  210 100. 100. 100.  100.  500. 100.
* P13
  211 a  212 100. 100. 100.  100.  500. 100.
* P14
  213 a  214 100. 100. 100.  100.  500. 100.
* P15
  215 a  216 100. 100. 100.  100.  500. 100.
* FUSTES DE ESTRIBOS Y PILAS
* E1
        217 158.4  132.   132.   3182.3  3379.2 1293.7
  218 a 221  54.17  45.14  45.14   44.19 1129.3  337.3
*
* 3 ULTIMOS METROS SIN TABIQUE DE UNION
*
* P01
        222 65.61 54.68 54.68  606.24 358.72 358.72
  223 a 225  5.16  4.30  4.30    1.166 14.31   0.722
        226  3.60  3.00  3.00    0.887 13.43   0.675
*
* P02
        227 65.61 54.68 54.68  606.24 358.72 358.72
  228 a 230  5.16  4.30  4.30    1.166 14.31   0.722
        231  3.60  3.00  3.00    0.887 13.43   0.675
*
* P03
        232 65.61 54.68 54.68  606.24 358.72 358.72
  233 a 235  5.16  4.30  4.30    1.166 14.31   0.722
        236  3.60  3.00  3.00    0.887 13.43   0.675
*
* P04
        237 65.61 54.68 54.68  606.24 358.72 358.72
  238 a 240  5.16  4.30  4.30    1.166 14.31   0.722
        241  3.60  3.00  3.00    0.887 13.43   0.675
*
* P05
        242 65.61 54.68 54.68  606.24 358.72 358.72
  243 a 245  5.16  4.30  4.30    1.166 14.31   0.722
        246  3.60  3.00  3.00    0.887 13.43   0.675
*
* P06
        247 65.61 54.68 54.68  606.24 358.72 358.72
  248 a 250  5.16  4.30  4.30    1.166 14.31   0.722
        251  3.60  3.00  3.00    0.887 13.43   0.675
*
* P07
        252 65.61 54.68 54.68  606.24 358.72 358.72
  253 a 255  5.16  4.30  4.30    1.166 14.31   0.722
        256  3.60  3.00  3.00    0.887 13.43   0.675
*
* P08
        257 65.61 54.68 54.68  606.24 358.72 358.72
  258 a 260  5.16  4.30  4.30    1.166 14.31   0.722
        261  3.60  3.00  3.00    0.887 13.43   0.675
*
* P09
        262 65.61 54.68 54.68  606.24 358.72 358.72
  263 a 265  5.16  4.30  4.30    1.166 14.31   0.722
        266  3.60  3.00  3.00    0.887 13.43   0.675
*
* P10
        267 65.61 54.68 54.68  606.24 358.72 358.72
  268 a 270  5.16  4.30  4.30    1.166 14.31   0.722
        271  3.60  3.00  3.00    0.887 13.43   0.675
*
* P11
        272 65.61 54.68 54.68  606.24 358.72 358.72
  273 a 275  5.16  4.30  4.30    1.166 14.31   0.722
        276  3.60  3.00  3.00    0.887 13.43   0.675
*
* P12
        277 65.61 54.68 54.68  606.24 358.72 358.72
  278 a 280  5.16  4.30  4.30    1.166 14.31   0.722
        281  3.60  3.00  3.00    0.887 13.43   0.675
*
* P13
        282 65.61 54.68 54.68  606.24 358.72 358.72
  283 a 285  5.16  4.30  4.30    1.166 14.31   0.722
        286  3.60  3.00  3.00    0.887 13.43   0.675
*
* P14
        287 65.61 54.68 54.68  606.24 358.72 358.72
  288 a 290  5.16  4.30  4.30    1.166 14.31   0.722
        291  3.60  3.00  3.00    0.887 13.43   0.675
*
* PILA 15 (PILA DOBLE)
        292 65.61 54.68 54.68  606.24 358.72 358.72
  293 a 295 13.40 11.16 11.16   7.335 31.86   8.860
        296  7.68  6.40  6.40   2.815 28.65   6.554
*
cons de mate
* HORMIGON TABLERO fck=40 MPa
* E=100000*[9.50*(40.00+8)**1/3]=3452529.
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* G=E/2(1+nu=0.2)=1438554.
    1 3452529. 1438554. 2.5
* HORMIGON PILAS fck=3000 t/m2
* E=100000*[9.50*(30.00+8)**1/3]=3193877.
* G=E/2(1+nu=0.2)=1330782.
    2 3193877. 1330782. 2.5
* HORMIGON ZAPATAS Y ESTRIBOS fck=2500 t/m2
* E=950000*[9.50*(25.00+8)**1/3]=3047158.
* G=E/2(1+nu=0.2)=1269649.
    3 3047158. 1269649. 2.5
hipo   1 TRAMOS IMPARES CARGADOS (1 VIA CARGADA 8 t/m)
carga en barr
*
  1 a 8   fuer y unif -8.000
  1 a 8   mome x unif 20.400
*
 17 a 24  fuer y unif -8.000
 17 a 24  mome x unif 20.400
*
 33 a 40  fuer y unif -8.000
 33 a 40  mome x unif 20.400
*
 49 a 56  fuer y unif -8.000
 49 a 56  mome x unif 20.400
*
 65 a 72  fuer y unif -8.000
 65 a 72  mome x unif 20.400
*
 81 a 88  fuer y unif -8.000
 81 a 88  mome x unif 20.400
*
 97 a 104 fuer y unif -8.000
 97 a 104 mome x unif 20.400
*
113 a 120 fuer y unif -8.000
113 a 120 mome x unif 20.400
*
hipo   2 TRAMOS PARES CARGADOS (1 VIA CARGADA 8 t/m)
carga en barr
*
  9 a 16  fuer y unif -8.000
  9 a 16  mome x unif 20.400
*
 25 a 32  fuer y unif -8.000
 25 a 32  mome x unif 20.400
*
 41 a 48  fuer y unif -8.000
 41 a 48  mome x unif 20.400
*
 57 a 64  fuer y unif -8.000
 57 a 64  mome x unif 20.400
*
 73 a 80  fuer y unif -8.000
 73 a 80  mome x unif 20.400
*
 89 a 96  fuer y unif -8.000
 89 a 96  mome x unif 20.400
*
105 a 112 fuer y unif -8.000
105 a 112 mome x unif 20.400
*
hipo   3 TRAMOS PARES CARGADOS (2 VIAS CARGADAS 16 t/m)
carga en barr
*
  1 a 8   fuer y unif -16.000
*
 17 a 24  fuer y unif -16.000
*
 33 a 40  fuer y unif -16.000
*
 49 a 56  fuer y unif -16.000
*
 65 a 72  fuer y unif -16.000
*
 81 a 88  fuer y unif -16.000
*
 97 a 104 fuer y unif -16.000
*
113 a 120 fuer y unif -16.000
*
hipo   4 TRAMOS PARES CARGADOS (2 VIAS CARGADAS 16 t/m)
carga en barr
*
  9 a 16  fuer y unif -16.000
*
 25 a 32  fuer y unif -16.000
*
 41 a 48  fuer y unif -16.000
*
 57 a 64  fuer y unif -16.000
*
 73 a 80  fuer y unif -16.000
*
 89 a 96  fuer y unif -16.000
*
105 a 112 fuer y unif -16.000
  calcula y almacena
problema bien definido, empieza la ejecucion
```

estr

hipo 1 TRAMOS IMPARES CARGADOS (1 VIA CARGADA 8 t/m)

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	0.00	88.34	-3.34	-256.44	41.31	0.01
1	12	0.00	-64.84	3.34	196.51	-31.50	224.98
2	12	0.00	64.84	-3.34	-196.51	31.50	-224.98
2	13	0.00	-41.34	3.34	136.59	-21.70	380.93
3	13	0.00	41.34	-3.34	-136.59	21.70	-380.93
3	14	0.00	-17.84	3.34	76.66	-11.89	467.85
4	14	0.00	17.84	-3.34	-76.66	11.89	-467.85
4	15	0.00	5.66	3.34	16.74	-2.09	485.74
5	15	0.00	-5.66	-3.34	-16.74	2.09	-485.74
5	16	0.00	29.16	3.34	-43.19	7.72	434.59
6	16	0.00	-29.16	-3.34	43.19	-7.72	-434.59
6	17	0.00	52.66	3.34	-103.11	17.52	314.42
7	17	0.00	-52.66	-3.34	103.11	-17.52	-314.42
7	18	0.00	76.16	3.34	-163.04	27.33	125.22
8	18	0.00	-76.16	-3.34	163.04	-27.33	-125.22
8	19	0.00	99.66	3.34	-222.96	37.13	-133.02
9	19	0.00	-7.59	-0.33	-9.12	-37.13	133.03
9	30	0.00	7.59	0.33	9.12	38.39	-162.43
10	30	0.00	-7.59	-0.33	-9.12	-38.39	162.43
10	31	0.00	7.59	0.33	9.12	39.65	-191.83
11	31	0.00	-7.59	-0.33	-9.12	-39.65	191.83
11	32	0.00	7.59	0.33	9.12	40.91	-221.23
12	32	0.00	-7.59	-0.33	-9.12	-40.91	221.23
12	33	0.00	7.59	0.33	9.12	42.17	-250.62
13	33	0.00	-7.59	-0.33	-9.12	-42.17	250.62
13	34	0.00	7.59	0.33	9.12	43.44	-280.02
14	34	0.00	-7.59	-0.33	-9.12	-43.44	280.02
14	35	0.00	7.59	0.33	9.12	44.70	-309.42
15	35	0.00	-7.59	-0.33	-9.12	-44.70	309.42
15	36	0.00	7.59	0.33	9.12	45.96	-338.82
16	36	0.00	-7.59	-0.33	-9.12	-45.96	338.82
16	37	0.00	7.59	0.33	9.12	47.22	-368.22
17	37	0.00	125.94	0.14	-319.30	-47.22	368.21
17	48	0.00	-94.94	-0.14	240.25	46.66	59.77
18	48	0.00	94.94	0.14	-240.25	-46.66	-59.77
18	49	0.00	-63.94	-0.14	161.20	46.11	367.62
19	49	0.00	63.94	0.14	-161.20	-46.11	-367.62
19	50	0.00	-32.94	-0.14	82.15	45.55	555.34
20	50	0.00	32.94	0.14	-82.15	-45.55	-555.34
20	51	0.00	-1.94	-0.14	3.10	45.00	622.94
21	51	0.00	1.94	0.14	-3.10	-45.00	-622.94
21	52	0.00	29.06	-0.14	-75.95	44.44	570.41
22	52	0.00	-29.06	0.14	75.95	-44.44	-570.41
22	53	0.00	60.06	-0.14	-155.00	43.89	397.76
23	53	0.00	-60.06	0.14	155.00	-43.89	-397.76
23	54	0.00	91.06	-0.14	-234.05	43.33	104.98
24	54	0.00	-91.06	0.14	234.05	-43.33	-104.98
24	55	0.00	122.06	-0.14	-313.10	42.78	-307.92
25	55	0.00	-0.50	0.77	-0.83	-42.78	307.94
25	66	0.00	0.50	-0.77	0.83	39.78	-309.88
26	66	0.00	-0.50	0.77	-0.83	-39.78	309.88
26	67	0.00	0.50	-0.77	0.83	36.78	-311.82
27	67	0.00	-0.50	0.77	-0.83	-36.78	311.82
27	68	0.00	0.50	-0.77	0.83	33.79	-313.75
28	68	0.00	-0.50	0.77	-0.83	-33.79	313.75
28	69	0.00	0.50	-0.77	0.83	30.79	-315.69
29	69	0.00	-0.50	0.77	-0.83	-30.79	315.69
29	70	0.00	0.50	-0.77	0.83	27.80	-317.63
30	70	0.00	-0.50	0.77	-0.83	-27.80	317.63
30	71	0.00	0.50	-0.77	0.83	24.80	-319.57
31	71	0.00	-0.50	0.77	-0.83	-24.80	319.57
31	72	0.00	0.50	-0.77	0.83	21.80	-321.51
32	72	0.00	-0.50	0.77	-0.83	-21.80	321.51
32	73	0.00	0.50	-0.77	0.83	18.81	-323.45
33	73	0.00	124.13	0.51	-315.77	-18.81	323.44
33	84	0.00	-93.13	-0.51	236.72	16.82	97.49
34	84	0.00	93.13	0.51	-236.72	-16.82	-97.49
34	85	0.00	-62.13	-0.51	157.67	14.84	398.30
35	85	0.00	62.13	0.51	-157.67	-14.84	-398.30
35	86	0.00	-31.13	-0.51	78.62	12.85	578.98
36	86	0.00	31.13	0.51	-78.62	-12.85	-578.98
36	87	0.00	-0.13	-0.51	-0.43	10.87	639.53
37	87	0.00	0.13	0.51	0.43	-10.87	-639.53
37	88	0.00	30.87	-0.51	-79.48	8.88	579.96
38	88	0.00	-30.87	0.51	79.48	-8.88	-579.96
38	89	0.00	61.87	-0.51	-158.53	6.90	400.26
39	89	0.00	-61.87	0.51	158.53	-6.90	-400.26
39	90	0.00	92.87	-0.51	-237.58	4.91	100.44
40	90	0.00	-92.87	0.51	237.58	-4.91	-100.44
40	91	0.00	123.87	-0.51	-316.63	2.93	-319.51
41	91	0.00	-0.03	0.28	0.65	-2.93	319.52
41	102	0.00	0.03	-0.28	-0.65	1.85	-319.65
42	102	0.00	-0.03	0.28	0.65	-1.85	319.65
42	103	0.00	0.03	-0.28	-0.65	0.77	-319.79
43	103	0.00	-0.03	0.28	0.65	-0.77	319.79
43	104	0.00	0.03	-0.28	-0.65	-0.31	-319.92
44	104	0.00	-0.03	0.28	0.65	0.31	319.92
44	105	0.00	0.03	-0.28	-0.65	-1.39	-320.05
45	105	0.00	-0.03	0.28	0.65	1.39	320.05
45	106	0.00	0.03	-0.28	-0.65	-2.47	-320.18
46	106	0.00	-0.03	0.28	0.65	2.47	320.18
46	107	0.00	0.03	-0.28	-0.65	-3.55	-320.31
47	107	0.00	-0.03	0.28	0.65	3.55	320.31
47	108	0.00	0.03	-0.28	-0.65	-4.63	-320.44

48	108	0.00	-0.03	0.28	0.65	4.63	320.44
48	109	0.00	0.03	-0.28	-0.65	-5.70	-320.58
49	109	0.00	124.01	-0.08	-315.71	5.70	320.56
49	120	0.00	-93.01	0.08	236.66	-5.39	99.91
50	120	0.00	93.01	-0.08	-236.66	5.39	-99.91
50	121	0.00	-62.01	0.08	157.61	-5.07	400.26
51	121	0.00	62.01	-0.08	-157.61	5.07	-400.26
51	122	0.00	-31.01	0.08	78.56	-4.75	580.48
52	122	0.00	31.01	-0.08	-78.56	4.75	-580.48
52	123	0.00	-0.01	0.08	-0.49	-4.43	640.57
53	123	0.00	0.01	-0.08	0.49	4.43	-640.57
53	124	0.00	30.99	0.08	-79.54	-4.11	580.54
54	124	0.00	-30.99	-0.08	79.54	4.11	-580.54
54	125	0.00	61.99	0.08	-158.59	-3.79	400.39
55	125	0.00	-61.99	-0.08	158.59	3.79	-400.39
55	126	0.00	92.99	0.08	-237.64	-3.48	100.11
56	126	0.00	-92.99	-0.08	237.64	3.48	-100.11
56	127	0.00	123.99	0.08	-316.69	-3.16	-320.30
57	127	0.00	0.00	-0.18	0.35	3.16	320.31
57	138	0.00	0.00	0.18	-0.35	-2.46	-320.31
58	138	0.00	0.00	-0.18	0.35	2.46	320.31
58	139	0.00	0.00	0.18	-0.35	-1.77	-320.31
59	139	0.00	0.00	-0.18	0.35	1.77	320.31
59	140	0.00	0.00	0.18	-0.35	-1.07	-320.31
60	140	0.00	0.00	-0.18	0.35	1.07	320.31
60	141	0.00	0.00	0.18	-0.35	-0.38	-320.30
61	141	0.00	0.00	-0.18	0.35	0.38	320.30
61	142	0.00	0.00	0.18	-0.35	0.32	-320.30
62	142	0.00	0.00	-0.18	0.35	-0.32	320.30
62	143	0.00	0.00	0.18	-0.35	1.01	-320.30
63	143	0.00	0.00	-0.18	0.35	-1.01	320.30
63	144	0.00	0.00	0.18	-0.35	1.70	-320.29
64	144	0.00	0.00	-0.18	0.35	-1.70	320.29
64	145	0.00	0.00	0.18	-0.35	2.40	-320.29
65	145	0.00	123.99	0.00	-315.81	-2.40	320.28
65	156	0.00	-92.99	0.00	236.76	2.41	100.14
66	156	0.00	92.99	0.00	-236.76	-2.41	-100.14
66	157	0.00	-61.99	0.00	157.71	2.42	400.43
67	157	0.00	61.99	0.00	-157.71	-2.42	-400.43
67	158	0.00	-30.99	0.00	78.66	2.44	580.59
68	158	0.00	30.99	0.00	-78.66	-2.44	-580.59
68	159	0.00	0.01	0.00	-0.39	2.45	640.63
69	159	0.00	-0.01	0.00	0.39	-2.45	-640.63
69	160	0.00	31.01	0.00	-79.44	2.46	580.54
70	160	0.00	-31.01	0.00	79.44	-2.46	-580.54
70	161	0.00	62.01	0.00	-158.49	2.47	400.33
71	161	0.00	-62.01	0.00	158.49	-2.47	-400.33
71	162	0.00	93.01	0.00	-237.54	2.48	99.99
72	162	0.00	-93.01	0.00	237.54	-2.48	-99.99
72	163	0.00	124.01	0.00	-316.59	2.50	-320.47
73	163	0.00	0.03	0.18	0.44	-2.50	320.48
73	174	0.00	-0.03	-0.18	-0.44	1.81	-320.38
74	174	0.00	0.03	0.18	0.44	-1.81	320.38
74	175	0.00	-0.03	-0.18	-0.44	1.13	-320.28
75	175	0.00	0.03	0.18	0.44	-1.13	320.28
75	176	0.00	-0.03	-0.18	-0.44	0.44	-320.18
76	176	0.00	0.03	0.18	0.44	-0.44	320.18
76	177	0.00	-0.03	-0.18	-0.44	-0.24	-320.08
77	177	0.00	0.03	0.18	0.44	0.24	320.08
77	178	0.00	-0.03	-0.18	-0.44	-0.93	-319.98
78	178	0.00	0.03	0.18	0.44	0.93	319.98
78	179	0.00	-0.03	-0.18	-0.44	-1.62	-319.88
79	179	0.00	0.03	0.18	0.44	1.62	319.88
79	180	0.00	-0.03	-0.18	-0.44	-2.30	-319.78
80	180	0.00	0.03	0.18	0.44	2.30	319.78
80	181	0.00	-0.03	-0.18	-0.44	-2.99	-319.68
81	181	0.00	123.89	0.04	-315.87	2.99	319.67
81	192	0.00	-92.89	-0.04	236.82	-3.13	100.35
82	192	0.00	92.89	0.04	-236.82	3.13	-100.35
82	193	0.00	-61.89	-0.04	157.77	-3.27	400.25
83	193	0.00	61.89	0.04	-157.77	3.27	-400.25
83	194	0.00	-30.89	-0.04	78.72	-3.42	580.02
84	194	0.00	30.89	0.04	-78.72	3.42	-580.02
84	195	0.00	0.11	-0.04	-0.33	-3.56	639.66
85	195	0.00	-0.11	0.04	0.33	3.56	-639.66
85	196	0.00	31.11	-0.04	-79.38	-3.70	579.18
86	196	0.00	-31.11	0.04	79.38	3.70	-579.18
86	197	0.00	62.11	-0.04	-158.43	-3.85	398.58
87	197	0.00	-62.11	0.04	158.43	3.85	-398.58
87	198	0.00	93.11	-0.04	-237.48	-3.99	97.85
88	198	0.00	-93.11	0.04	237.48	3.99	-97.85
88	199	0.00	124.11	-0.04	-316.53	-4.13	-323.01
89	199	0.00	0.42	-0.40	0.23	4.13	323.02
89	210	0.00	-0.42	0.40	-0.23	-2.60	-321.38
90	210	0.00	0.42	-0.40	0.23	2.60	321.38
90	211	0.00	-0.42	0.40	-0.23	-1.07	-319.73
91	211	0.00	0.42	-0.40	0.23	1.07	319.73
91	212	0.00	-0.42	0.40	-0.23	0.47	-318.09
92	212	0.00	0.42	-0.40	0.23	-0.47	318.09
92	213	0.00	-0.42	0.40	-0.23	2.00	-316.45
93	213	0.00	0.42	-0.40	0.23	-2.00	316.45
93	214	0.00	-0.42	0.40	-0.23	3.54	-314.80
94	214	0.00	0.42	-0.40	0.23	-3.54	314.80
94	215	0.00	-0.42	0.40	-0.23	5.07	-313.16
95	215	0.00	0.42	-0.40	0.23	-5.07	313.16
95	216	0.00	-0.42	0.40	-0.23	6.60	-311.51
96	216	0.00	0.42	-0.40	0.23	-6.60	311.51
96	217	0.00	-0.42	0.40	-0.23	8.14	-309.87
97	217	0.00	122.33	-0.96	-315.03	-8.14	309.86
97	228	0.00	-91.33	0.96	235.98	11.87	104.13
98	228	0.00	91.33	-0.96	-235.98	-11.87	-104.13
98	229	0.00	-60.33	0.96	156.93	15.60	397.99
99	229	0.00	60.33	-0.96	-156.93	-15.60	-397.99
99	230	0.00	-29.33	0.96	77.88	19.33	571.72
100	230	0.00	29.33	-0.96	-77.88	-19.33	-571.72
100	231	0.00	1.67	0.96	-1.17	23.06	625.33
101	231	0.00	-1.67	-0.96	1.17	-23.06	-625.33
101	232	0.00	32.67	0.96	-80.22	26.78	558.82
102	232	0.00	-32.67	-0.96	80.22	-26.78	-558.82
102	233	0.00	63.67	0.96	-159.27	30.51	372.17
103	233	0.00	-63.67	-0.96	159.27	-30.51	-372.17
103	234	0.00	94.67	0.96	-238.32	34.24	65.41

104	234	0.00	-94.67	-0.96	238.32	-34.24	-65.41
104	235	0.00	125.67	0.96	-317.37	37.97	-361.48
105	235	0.00	6.53	0.10	5.28	-37.97	361.50
105	246	0.00	-6.53	-0.10	-5.28	37.59	-336.19
106	246	0.00	6.53	0.10	5.28	-37.59	336.19
106	247	0.00	-6.53	-0.10	-5.28	37.20	-310.88
107	247	0.00	6.53	0.10	5.28	-37.20	310.88
107	248	0.00	-6.53	-0.10	-5.28	36.82	-285.57
108	248	0.00	6.53	0.10	5.28	-36.82	285.56
108	249	0.00	-6.53	-0.10	-5.28	36.43	-260.25
109	249	0.00	6.53	0.10	5.28	-36.43	260.25
109	250	0.00	-6.53	-0.10	-5.28	36.05	-234.94
110	250	0.00	6.53	0.10	5.28	-36.05	234.94
110	251	0.00	-6.53	-0.10	-5.28	35.66	-209.63
111	251	0.00	6.53	0.10	5.28	-35.66	209.63
111	252	0.00	-6.53	-0.10	-5.28	35.28	-184.32
112	252	0.00	6.53	0.10	5.28	-35.28	184.32
112	253	0.00	-6.53	-0.10	-5.28	34.89	-159.01
113	253	0.00	103.93	1.43	-239.03	-34.89	159.00
113	264	0.00	-79.58	-1.43	176.94	30.53	120.28
114	264	0.00	79.58	1.43	-176.94	-30.53	-120.28
114	265	0.00	-55.23	-1.43	114.85	26.17	325.44
115	265	0.00	55.23	1.43	-114.85	-26.17	-325.44
115	266	0.00	-30.88	-1.43	52.75	21.81	456.50
116	266	0.00	30.88	1.43	-52.75	-21.81	-456.50
116	267	0.00	-6.53	-1.43	-9.34	17.45	513.43
117	267	0.00	6.53	1.43	9.34	-17.45	-513.43
117	268	0.00	17.82	-1.43	-71.43	13.08	496.25
118	268	0.00	-17.82	1.43	71.43	-13.08	-496.25
118	269	0.00	42.17	-1.43	-133.52	8.72	404.95
119	269	0.00	-42.17	1.43	133.52	-8.72	-404.95
119	270	0.00	66.52	-1.43	-195.61	4.36	239.54
120	270	0.00	-66.52	1.43	195.61	-4.36	-239.54
120	271	0.00	90.87	-1.43	-257.71	0.00	0.01
121	2	0.00	-24.84	10.87	-18.83	0.00	0.00
121	1	0.00	24.84	-10.87	18.83	-20.65	-47.19
122	1	3.34	-113.18	10.87	-18.84	-20.65	-209.25
122	3	-3.34	113.18	-10.87	18.84	0.00	-5.78
123	5	0.00	24.84	-10.87	0.00	0.00	0.00
123	4	0.00	-24.84	10.87	0.00	20.65	47.19
124	4	-3.34	113.18	-10.87	0.00	20.65	215.04
124	6	3.34	-113.18	10.87	0.00	0.00	0.00
125	20	0.00	-13.88	0.00	0.00	0.00	0.01
125	19	0.00	13.88	0.00	0.00	0.00	-26.37
126	19	-3.01	-105.95	0.00	0.00	0.00	-205.71
126	21	3.01	105.95	0.00	0.00	0.00	4.40
127	23	0.00	13.88	0.00	0.00	0.00	0.00
127	22	0.00	-13.88	0.00	0.00	0.00	26.37
128	22	3.01	105.95	0.00	0.00	0.00	201.31
128	24	-3.01	-105.95	0.00	0.00	0.00	0.00
129	38	0.00	-14.68	0.00	-0.01	0.00	0.01
129	37	0.00	14.68	0.00	0.01	0.00	-27.89
130	37	-0.47	-148.21	0.00	0.01	0.00	-282.29
130	39	0.47	148.21	0.00	-0.01	0.00	0.69
131	41	0.00	14.68	0.00	0.00	0.00	0.00
131	40	0.00	-14.68	0.00	0.00	0.00	27.89
132	40	0.47	148.21	0.00	0.00	0.00	281.60
132	42	-0.47	-148.21	0.00	0.00	0.00	0.00
133	56	0.00	-21.59	0.00	0.01	0.00	0.01
133	55	0.00	21.59	0.00	-0.01	0.00	-41.03
134	55	-0.63	-143.14	0.00	-0.01	0.00	-272.90
134	57	0.63	143.14	0.00	0.01	0.00	0.93
135	59	0.00	21.59	0.00	0.00	0.00	0.00
135	58	0.00	-21.59	0.00	0.00	0.00	41.02
136	58	0.63	143.14	0.00	0.00	0.00	271.97
136	60	-0.63	-143.14	0.00	0.00	0.00	0.00
137	74	0.00	-20.66	0.00	-0.01	0.00	0.01
137	73	0.00	20.66	0.00	0.01	0.00	-39.27
138	73	0.26	-145.29	0.00	0.01	0.00	-275.68
138	75	-0.26	145.29	0.00	-0.01	0.00	-0.37
139	77	0.00	20.66	0.00	0.00	0.00	0.00
139	76	0.00	-20.66	0.00	0.00	0.00	39.26
140	76	-0.27	145.29	0.00	0.00	0.00	276.05
140	78	0.27	-145.29	0.00	0.00	0.00	0.00
141	92	0.00	-21.32	0.00	0.01	0.00	0.01
141	91	0.00	21.32	0.00	-0.01	0.00	-40.51
142	91	0.23	-145.16	0.00	-0.01	0.00	-275.47
142	93	-0.23	145.16	0.00	0.01	0.00	-0.33
143	95	0.00	21.32	0.00	0.00	0.00	0.00
143	94	0.00	-21.32	0.00	0.00	0.00	40.51
144	94	-0.24	145.16	0.00	0.00	0.00	275.80
144	96	0.24	-145.16	0.00	0.00	0.00	0.00
145	110	-0.01	-21.36	0.00	-0.01	0.00	0.01
145	109	0.01	21.36	0.00	0.01	0.00	-40.60
146	109	0.36	-145.41	0.00	0.01	0.00	-275.76
146	111	-0.36	145.41	0.00	-0.01	0.00	-0.52
147	113	0.00	21.36	0.00	0.00	0.00	0.00
147	112	0.00	-21.36	0.00	0.00	0.00	40.59
148	112	-0.36	145.41	0.00	0.00	0.00	276.27
148	114	0.36	-145.41	0.00	0.00	0.00	0.00
149	128	0.00	-21.28	0.00	0.01	0.00	0.01
149	127	0.00	21.28	0.00	-0.01	0.00	-40.45
150	127	0.10	-145.28	0.00	-0.01	0.00	-275.89
150	129	-0.10	145.28	0.00	0.01	0.00	-0.13
151	131	0.00	21.28	0.00	0.00	0.00	0.00
151	130	0.00	-21.28	0.00	0.00	0.00	40.44
152	130	-0.10	145.28	0.00	0.00	0.00	276.02
152	132	0.10	-145.28	0.00	0.00	0.00	0.00
153	146	0.00	-21.13	0.00	-0.01	0.00	0.01
153	145	0.00	21.13	0.00	0.01	0.00	-40.16
154	145	-0.17	-145.12	0.00	0.01	0.00	-276.00
154	147	0.17	145.12	0.00	-0.01	0.00	0.26
155	149	0.00	21.13	0.00	0.00	0.00	0.00
155	148	0.00	-21.13	0.00	0.00	0.00	40.15
156	148	0.18	145.12	0.00	0.00	0.00	275.74
156	150	-0.18	-145.12	0.00	0.00	0.00	0.00
157	164	0.01	-21.11	0.00	0.01	0.00	0.01
157	163	-0.01	21.11	0.00	-0.01	0.00	-40.11
158	163	-0.17	-145.14	0.00	-0.01	0.00	-276.04
158	165	0.17	145.14	0.00	0.01	0.00	0.27
159	167	0.00	21.11	0.00	0.00	0.00	0.00
159	166	0.00	-21.11	0.00	0.00	0.00	40.11

160	166	0.18	145.14	0.00	0.00	0.00	275.77
160	168	-0.18	-145.14	0.00	0.00	0.00	0.00
161	182	-0.01	-21.36	0.00	-0.01	0.00	0.01
161	181	0.01	21.36	0.00	0.01	0.00	-40.59
162	181	0.13	-145.22	0.00	0.01	0.00	-275.73
162	183	-0.13	145.22	0.00	-0.01	0.00	-0.20
163	185	0.00	21.36	0.00	0.00	0.00	0.00
163	184	0.00	-21.36	0.00	0.00	0.00	40.58
164	184	-0.14	145.22	0.00	0.00	0.00	275.92
164	186	0.14	-145.22	0.00	0.00	0.00	0.00
165	200	0.00	-21.13	0.00	0.01	0.00	0.01
165	199	0.00	21.13	0.00	-0.01	0.00	-40.16
166	199	0.43	-145.66	0.00	-0.01	0.00	-276.14
166	201	-0.43	145.66	0.00	0.01	0.00	-0.62
167	203	0.00	21.13	0.00	0.00	0.00	0.00
167	202	0.00	-21.13	0.00	0.00	0.00	40.15
168	202	-0.43	145.66	0.00	0.00	0.00	276.76
168	204	0.43	-145.66	0.00	0.00	0.00	0.00
169	218	0.00	-22.22	0.00	-0.01	0.00	0.01
169	217	0.00	22.22	0.00	0.01	0.00	-42.23
170	217	0.56	-144.13	0.00	0.01	0.00	-273.03
170	219	-0.56	144.13	0.00	-0.01	0.00	-0.82
171	221	0.00	22.22	0.00	0.00	0.00	0.00
171	220	0.00	-22.22	0.00	0.00	0.00	42.22
172	220	-0.56	144.13	0.00	0.00	0.00	273.85
172	222	0.56	-144.13	0.00	0.00	0.00	0.00
173	236	0.00	-15.62	0.00	0.01	0.00	0.01
173	235	0.00	15.62	0.00	-0.01	0.00	-29.68
174	235	-1.06	-147.82	0.00	-0.01	0.00	-282.41
174	237	1.06	147.82	0.00	0.01	0.00	1.55
175	239	0.00	15.62	0.00	0.00	0.00	0.00
175	238	0.00	-15.62	0.00	0.00	0.00	29.68
176	238	1.06	147.82	0.00	0.00	0.00	280.85
176	240	-1.06	-147.82	0.00	0.00	0.00	0.00
177	254	0.00	-15.08	0.00	-0.01	0.00	0.01
177	253	0.00	15.08	0.00	0.01	0.00	-28.66
178	253	-1.33	-112.48	0.00	0.01	0.00	-215.66
178	255	1.33	112.48	0.00	-0.01	0.00	1.95
179	257	0.00	15.08	0.00	0.00	0.00	0.00
179	256	0.00	-15.08	0.00	0.00	0.00	28.65
180	256	1.33	112.48	0.00	0.00	0.00	213.71
180	258	-1.33	-112.48	0.00	0.00	0.00	0.00
181	272	0.00	-22.93	0.00	0.01	0.00	0.00
181	271	0.00	22.93	0.00	-0.01	0.00	-43.57
182	271	1.43	-113.80	0.00	-0.01	0.00	-214.14
182	273	-1.43	113.80	0.00	0.01	0.00	-2.09
183	275	0.00	22.93	0.00	0.00	0.00	0.00
183	274	0.00	-22.93	0.00	0.00	0.00	43.57
184	274	-1.43	113.80	0.00	0.00	0.00	216.22
184	276	1.43	-113.80	0.00	0.00	0.00	0.00
185	6	113.18	-10.87	-3.34	0.00	0.00	0.00
185	3	-113.18	10.87	3.34	0.00	5.78	-18.84
186	5	-24.84	10.87	0.00	0.00	0.00	0.00
186	2	24.84	-10.87	0.00	0.00	0.00	18.83
187	24	105.95	0.00	3.01	0.00	0.00	0.00
187	21	-105.95	0.00	-3.01	0.00	-4.40	0.00
188	23	-13.88	0.00	0.00	0.00	0.00	0.00
188	20	13.88	0.00	0.00	0.00	0.00	0.00
189	42	148.21	0.00	0.47	0.00	0.00	0.00
189	39	-148.21	0.00	-0.47	0.00	-0.70	0.01
190	41	-14.68	0.00	0.00	0.00	0.00	0.00
190	38	14.68	0.00	0.00	0.00	-0.01	0.01
191	60	143.14	0.00	0.63	0.00	0.00	0.00
191	57	-143.14	0.00	-0.63	0.00	-0.93	-0.01
192	59	-21.59	0.00	0.00	0.00	0.00	0.00
192	56	21.59	0.00	0.00	0.00	-0.01	-0.01
193	78	145.29	0.00	-0.26	0.00	0.00	0.00
193	75	-145.29	0.00	0.26	0.00	0.37	0.01
194	77	-20.66	0.00	0.00	0.00	0.00	0.00
194	74	20.66	0.00	0.00	0.00	-0.01	0.01
195	96	145.16	0.00	-0.23	0.00	0.00	0.00
195	93	-145.16	0.00	0.23	0.00	0.33	-0.01
196	95	-21.32	0.00	0.00	0.00	0.00	0.00
196	92	21.32	0.00	0.00	0.00	-0.01	-0.01
197	114	145.40	0.00	-0.36	0.00	0.00	0.00
197	111	-145.40	0.00	0.36	0.00	0.51	0.01
198	113	-21.36	0.00	0.00	0.00	0.00	0.00
198	110	21.36	0.00	0.00	0.00	-0.01	0.01
199	132	145.27	0.00	-0.10	0.00	0.00	0.00
199	129	-145.27	0.00	0.10	0.00	0.14	-0.01
200	131	-21.28	0.00	0.00	0.00	0.00	0.00
200	128	21.28	0.00	0.00	0.00	-0.01	-0.01
201	150	145.13	0.00	0.18	0.00	0.00	0.00
201	147	-145.13	0.00	-0.18	0.00	-0.26	0.01
202	149	-21.13	0.00	0.00	0.00	0.00	0.00
202	146	21.13	0.00	0.00	0.00	-0.01	0.01
203	168	145.14	0.00	0.18	0.00	0.00	0.00
203	165	-145.14	0.00	-0.18	0.00	-0.27	-0.01
204	167	-21.11	0.00	0.00	0.00	0.00	0.00
204	164	21.11	0.00	0.00	0.00	-0.01	-0.01
205	186	145.22	0.00	-0.14	0.00	0.00	0.00
205	183	-145.22	0.00	0.14	0.00	0.20	0.01
206	185	-21.36	0.00	0.00	0.00	0.00	0.00
206	182	21.36	0.00	0.00	0.00	-0.01	0.01
207	204	145.66	0.00	-0.43	0.00	0.00	0.00
207	201	-145.66	0.00	0.43	0.00	0.62	-0.01
208	203	-21.13	0.00	0.00	0.00	0.00	0.00
208	200	21.13	0.00	0.00	0.00	-0.01	-0.01
209	222	144.13	0.00	-0.57	0.00	0.00	0.00
209	219	-144.13	0.00	0.57	0.00	0.82	0.01
210	221	-22.22	0.00	0.00	0.00	0.00	0.00
210	218	22.22	0.00	0.00	0.00	-0.01	0.01
211	240	147.82	0.00	1.06	0.00	0.00	0.00
211	237	-147.82	0.00	-1.06	0.00	-1.56	-0.01
212	239	-15.62	0.00	0.00	0.00	0.00	0.00
212	236	15.62	0.00	0.00	0.00	-0.01	-0.01
213	258	112.48	0.00	1.33	0.00	0.00	0.00
213	255	-112.48	0.00	-1.33	0.00	-1.95	0.00
214	257	-15.08	0.00	0.00	0.00	0.00	0.00
214	254	15.08	0.00	0.00	0.00	-0.01	0.00
215	276	113.80	0.00	-1.43	0.00	0.00	0.00
215	273	-113.80	0.00	1.43	0.00	2.09	-0.01

216	275	-22.93	0.00	0.00	0.00	0.00	0.00
216	272	22.93	0.00	0.00	0.00	0.00	-0.01
217	7	88.34	0.00	-3.34	41.30	306.31	0.00
217	8	-88.34	0.00	3.34	-41.30	-299.64	0.00
218	8	88.34	0.00	-3.34	41.30	299.64	0.00
218	9	-88.34	0.00	3.34	-41.30	-271.58	0.00
219	9	-88.34	0.00	-3.34	-41.30	-271.58	0.00
219	10	88.34	0.00	3.34	41.30	280.93	0.00
220	10	88.34	0.00	-3.34	41.30	280.93	0.00
220	11	-88.34	0.00	3.34	-41.30	-271.58	0.00
221	11	88.34	0.00	-3.34	41.30	271.58	0.00
221	4	-88.34	0.00	3.34	-41.30	-262.22	0.00
222	25	92.07	0.00	3.01	0.00	187.70	0.00
222	26	-92.07	0.00	-3.01	0.00	-194.78	0.00
223	26	92.07	0.00	3.01	0.00	194.78	0.00
223	27	-92.07	0.00	-3.01	0.00	-203.00	0.00
224	27	92.07	0.00	3.01	0.00	203.00	0.00
224	28	-92.07	0.00	-3.01	0.00	-211.23	0.00
225	28	92.07	0.00	3.01	0.00	211.23	0.00
225	29	-92.07	0.00	-3.01	0.00	-218.64	0.00
226	29	92.07	0.00	3.01	0.00	218.64	0.00
226	22	-92.07	0.00	-3.01	0.00	-227.68	0.00
227	43	133.53	0.00	0.47	0.00	302.40	0.00
227	44	-133.53	0.00	-0.47	0.00	-303.50	0.00
228	44	133.53	0.00	0.47	0.00	303.50	0.00
228	45	-133.53	0.00	-0.47	0.00	-305.00	0.00
229	45	133.53	0.00	0.47	0.00	305.00	0.00
229	46	-133.53	0.00	-0.47	0.00	-306.49	0.00
230	46	133.53	0.00	0.47	0.00	306.49	0.00
230	47	-133.53	0.00	-0.47	0.00	-308.07	0.00
231	47	133.53	0.00	0.47	0.00	308.07	0.00
231	40	-133.53	0.00	-0.47	0.00	-309.48	0.00
232	61	121.55	0.00	0.63	0.00	302.39	0.00
232	62	-121.55	0.00	-0.63	0.00	-303.87	0.00
233	62	121.55	0.00	0.63	0.00	303.87	0.00
233	63	-121.55	0.00	-0.63	0.00	-306.15	0.00
234	63	121.55	0.00	0.63	0.00	306.15	0.00
234	64	-121.55	0.00	-0.63	0.00	-308.43	0.00
235	64	121.55	0.00	0.63	0.00	308.43	0.00
235	65	-121.55	0.00	-0.63	0.00	-311.10	0.00
236	65	121.55	0.00	0.63	0.00	311.10	0.00
236	58	-121.55	0.00	-0.63	0.00	-312.99	0.00
237	79	124.63	0.00	-0.26	0.00	319.72	0.00
237	80	-124.63	0.00	0.26	0.00	-319.10	0.00
238	80	124.63	0.00	-0.26	0.00	319.10	0.00
238	81	-124.63	0.00	0.26	0.00	-318.16	0.00
239	81	124.63	0.00	-0.26	0.00	318.16	0.00
239	82	-124.63	0.00	0.26	0.00	-317.21	0.00
240	82	124.63	0.00	-0.26	0.00	317.21	0.00
240	83	-124.63	0.00	0.26	0.00	-316.09	0.00
241	83	124.63	0.00	-0.26	0.00	316.09	0.00
241	76	-124.63	0.00	0.26	0.00	-315.31	0.00
242	97	123.84	0.00	-0.23	0.00	320.19	0.00
242	98	-123.84	0.00	0.23	0.00	-319.64	0.00
243	98	123.84	0.00	-0.23	0.00	319.64	0.00
243	99	-123.84	0.00	0.23	0.00	-318.80	0.00
244	99	123.84	0.00	-0.23	0.00	318.80	0.00
244	100	-123.84	0.00	0.23	0.00	-317.97	0.00
245	100	123.84	0.00	-0.23	0.00	317.97	0.00
245	101	-123.84	0.00	0.23	0.00	-317.01	0.00
246	101	123.84	0.00	-0.23	0.00	317.01	0.00
246	94	-123.84	0.00	0.23	0.00	-316.30	0.00
247	115	124.04	0.00	-0.36	0.00	322.70	0.00
247	116	-124.04	0.00	0.36	0.00	-321.85	0.00
248	116	124.04	0.00	-0.36	0.00	321.85	0.00
248	117	-124.04	0.00	0.36	0.00	-320.61	0.00
249	117	124.04	0.00	-0.36	0.00	320.61	0.00
249	118	-124.04	0.00	0.36	0.00	-319.36	0.00
250	118	124.04	0.00	-0.36	0.00	319.36	0.00
250	119	-124.04	0.00	0.36	0.00	-317.95	0.00
251	119	124.04	0.00	-0.36	0.00	317.95	0.00
251	112	-124.04	0.00	0.36	0.00	-316.87	0.00
252	133	123.99	0.00	-0.10	0.00	318.02	0.00
252	134	-123.99	0.00	0.10	0.00	-317.79	0.00
253	134	123.99	0.00	-0.10	0.00	317.79	0.00
253	135	-123.99	0.00	0.10	0.00	-317.46	0.00
254	135	123.99	0.00	-0.10	0.00	317.46	0.00
254	136	-123.99	0.00	0.10	0.00	-317.13	0.00
255	136	123.99	0.00	-0.10	0.00	317.13	0.00
255	137	-123.99	0.00	0.10	0.00	-316.75	0.00
256	137	123.99	0.00	-0.10	0.00	316.76	0.00
256	130	-123.99	0.00	0.10	0.00	-316.46	0.00
257	151	123.99	0.00	0.18	0.00	312.91	0.00
257	152	-123.99	0.00	-0.18	0.00	-313.50	0.00
258	152	123.99	0.00	0.18	0.00	313.50	0.00
258	153	-123.99	0.00	-0.18	0.00	-314.10	0.00
259	153	123.99	0.00	0.18	0.00	314.10	0.00
259	154	-123.99	0.00	-0.18	0.00	-314.69	0.00
260	154	123.99	0.00	0.18	0.00	314.69	0.00
260	155	-123.99	0.00	-0.18	0.00	-315.35	0.00
261	155	123.99	0.00	0.18	0.00	315.35	0.00
261	148	-123.99	0.00	-0.18	0.00	-315.88	0.00
262	169	124.03	0.00	0.18	0.00	312.88	0.00
262	170	-124.03	0.00	-0.18	0.00	-313.48	0.00
263	170	124.03	0.00	0.18	0.00	313.48	0.00
263	171	-124.03	0.00	-0.18	0.00	-314.08	0.00
264	171	124.03	0.00	0.18	0.00	314.08	0.00
264	172	-124.03	0.00	-0.18	0.00	-314.68	0.00
265	172	124.03	0.00	0.18	0.00	314.68	0.00
265	173	-124.03	0.00	-0.18	0.00	-315.33	0.00
266	173	124.03	0.00	0.18	0.00	315.33	0.00
266	166	-124.03	0.00	-0.18	0.00	-315.87	0.00
267	187	123.87	0.00	-0.14	0.00	318.64	0.00
267	188	-123.87	0.00	0.14	0.00	-318.31	0.00
268	188	123.87	0.00	-0.14	0.00	318.31	0.00
268	189	-123.87	0.00	0.14	0.00	-317.86	0.00
269	189	123.87	0.00	-0.14	0.00	317.86	0.00
269	190	-123.87	0.00	0.14	0.00	-317.41	0.00
270	190	123.87	0.00	-0.14	0.00	317.41	0.00
270	191	-123.87	0.00	0.14	0.00	-316.92	0.00
271	191	123.87	0.00	-0.14	0.00	316.92	0.00
271	184	-123.87	0.00	0.14	0.00	-316.50	0.00

272	205	124.53	0.00	-0.43	0.00	323.42	0.00
272	206	-124.53	0.00	0.43	0.00	-322.40	0.00
273	206	124.53	0.00	-0.43	0.00	322.40	0.00
273	207	-124.53	0.00	0.43	0.00	-321.03	0.00
274	207	124.53	0.00	-0.43	0.00	321.03	0.00
274	208	-124.53	0.00	0.43	0.00	-319.66	0.00
275	208	124.53	0.00	-0.43	0.00	319.66	0.00
275	209	-124.53	0.00	0.43	0.00	-318.21	0.00
276	209	124.53	0.00	-0.43	0.00	318.21	0.00
276	202	-124.53	0.00	0.43	0.00	-316.91	0.00
277	223	121.91	0.00	-0.57	0.00	324.51	0.00
277	224	-121.91	0.00	0.57	0.00	-323.18	0.00
278	224	121.91	0.00	-0.57	0.00	323.18	0.00
278	225	-121.91	0.00	0.57	0.00	-321.40	0.00
279	225	121.91	0.00	-0.57	0.00	321.40	0.00
279	226	-121.91	0.00	0.57	0.00	-319.62	0.00
280	226	121.91	0.00	-0.57	0.00	319.62	0.00
280	227	-121.91	0.00	0.57	0.00	-317.77	0.00
281	227	121.91	0.00	-0.57	0.00	317.77	0.00
281	220	-121.91	0.00	0.57	0.00	-316.07	0.00
282	241	132.20	0.00	1.06	0.00	294.73	0.00
282	242	-132.20	0.00	-1.06	0.00	-297.23	0.00
283	242	132.20	0.00	1.06	0.00	297.23	0.00
283	243	-132.20	0.00	-1.06	0.00	-300.55	0.00
284	243	132.20	0.00	1.06	0.00	300.55	0.00
284	244	-132.20	0.00	-1.06	0.00	-303.88	0.00
285	244	132.20	0.00	1.06	0.00	303.88	0.00
285	245	-132.20	0.00	-1.06	0.00	-307.34	0.00
286	245	132.20	0.00	1.06	0.00	307.34	0.00
286	238	-132.20	0.00	-1.06	0.00	-310.53	0.00
287	259	97.40	0.00	1.33	0.00	222.76	0.00
287	260	-97.40	0.00	-1.33	0.00	-225.89	0.00
288	260	97.40	0.00	1.33	0.00	225.89	0.00
288	261	-97.40	0.00	-1.33	0.00	-230.01	0.00
289	261	97.40	0.00	1.33	0.00	230.01	0.00
289	262	-97.40	0.00	-1.33	0.00	-234.12	0.00
290	262	97.40	0.00	1.33	0.00	234.12	0.00
290	263	-97.40	0.00	-1.33	0.00	-238.36	0.00
291	263	97.40	0.00	1.33	0.00	238.36	0.00
291	256	-97.40	0.00	-1.33	0.00	-242.36	0.00
292	277	90.87	0.00	-1.43	0.00	280.83	0.00
292	278	-90.87	0.00	1.43	0.00	-277.46	0.00
293	278	90.87	0.00	-1.43	0.00	277.46	0.00
293	279	-90.87	0.00	1.43	0.00	-273.04	0.00
294	279	90.87	0.00	-1.43	0.00	273.04	0.00
294	280	-90.87	0.00	1.43	0.00	-268.63	0.00
295	280	90.87	0.00	-1.43	0.00	268.63	0.00
295	281	-90.87	0.00	1.43	0.00	-264.21	0.00
296	281	90.87	0.00	-1.43	0.00	264.21	0.00
296	274	-90.87	0.00	1.43	0.00	-259.79	0.00

CARGAS APLICADAS EN LOS NUDOS LIBRES

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00

57	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.01	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00
99	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00
101	0.00	0.00	0.00	0.00	0.00	0.00
102	0.00	0.00	0.00	0.00	0.00	0.00
103	0.00	0.00	0.00	0.00	0.00	0.00
104	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00
106	0.00	0.00	0.00	0.00	0.00	0.00
107	0.00	0.00	0.00	0.00	0.00	0.00
108	0.00	0.00	0.00	0.00	0.00	0.00
109	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	-0.01	0.00	0.00	0.00
111	0.00	0.00	0.01	0.00	0.00	0.00
112	0.00	0.00	0.00	0.00	0.00	0.00
113	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00
116	0.00	0.00	0.00	0.00	0.00	0.00
117	0.00	0.00	0.00	0.00	0.00	0.00
118	0.00	0.00	0.00	0.00	0.00	0.00
119	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00
121	0.00	0.00	0.00	0.00	0.00	0.00
122	0.00	0.00	0.00	0.00	0.00	0.00
123	0.00	0.00	0.00	0.00	0.00	0.00
124	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.00	0.00	0.00	0.00
128	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	-0.01	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00
134	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00
136	0.00	0.00	0.00	0.00	0.00	0.00
137	0.00	0.00	0.00	0.00	0.00	0.00
138	0.00	0.00	0.00	0.00	0.00	0.00
139	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00
142	0.00	0.00	0.00	0.00	0.00	0.00
143	0.00	0.00	0.00	0.00	0.00	0.00
144	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00
146	0.00	0.00	0.00	0.00	0.00	0.00
147	0.00	0.00	0.00	0.00	0.00	0.00
148	0.00	0.00	0.00	0.00	0.00	0.00
149	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00
152	0.00	0.00	0.00	0.00	0.00	0.00
153	0.00	0.00	0.00	0.00	0.00	0.00
154	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00
156	0.00	0.00	0.00	0.00	0.00	0.00
157	0.00	0.00	0.00	0.00	0.00	0.00
158	0.00	0.00	0.00	0.00	0.00	0.00
159	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00
161	0.00	0.00	0.00	0.00	0.00	0.00
162	0.00	0.00	0.00	0.00	0.00	0.00
163	0.00	0.00	0.00	0.00	-0.01	0.00
164	0.00	0.00	0.01	0.00	0.00	0.00
165	0.00	0.00	-0.01	0.00	0.00	0.00
166	0.00	0.00	0.00	0.00	0.00	0.00
167	0.00	0.00	0.00	0.00	0.00	0.00
168	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00
171	0.00	0.00	0.00	0.00	0.00	0.00
172	0.00	0.00	0.00	0.00	0.00	0.00
173	0.00	0.00	0.00	0.00	0.00	0.00
174	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00

176	0.00	0.00	0.00	0.00	0.00	0.00
177	0.00	0.00	0.00	0.00	0.00	0.00
178	0.00	0.00	0.00	0.00	0.00	0.00
179	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00
181	0.00	0.00	0.00	0.00	0.00	0.00
182	0.00	0.00	-0.01	0.00	0.00	0.00
183	0.00	0.00	0.01	0.00	0.00	0.00
184	0.00	0.00	0.00	0.00	0.00	0.00
185	0.00	0.00	0.00	0.00	0.00	0.00
186	0.00	0.00	0.00	0.00	0.00	0.00
188	0.00	0.00	0.00	0.00	0.00	0.00
189	0.00	0.00	0.00	0.00	0.00	0.00
190	0.00	0.00	0.00	0.00	0.00	0.00
191	0.00	0.00	0.00	0.00	0.00	0.00
192	0.00	0.00	0.00	0.00	0.00	0.00
193	0.00	0.00	0.00	0.00	0.00	0.00
194	0.00	0.00	0.00	0.00	0.00	0.00
195	0.00	0.00	0.00	0.00	0.00	0.00
196	0.00	0.00	0.00	0.00	0.00	0.00
197	0.00	0.00	0.00	0.00	0.00	0.00
198	0.00	0.00	0.00	0.00	0.00	0.00
199	0.00	0.00	0.00	0.00	0.00	0.00
200	0.00	0.00	0.00	0.00	0.00	0.00
201	0.00	0.00	0.00	0.00	0.00	0.00
202	0.00	0.00	0.00	0.00	0.00	0.00
203	0.00	0.00	0.00	0.00	0.00	0.00
204	0.00	0.00	0.00	0.00	0.00	0.00
206	0.00	0.00	0.00	0.00	0.00	0.00
207	0.00	0.00	0.00	0.00	0.00	0.00
208	0.00	0.00	0.00	0.00	0.00	0.00
209	0.00	0.00	0.00	0.00	0.00	0.00
210	0.00	0.00	0.00	0.00	0.00	0.00
211	0.00	0.00	0.00	0.00	0.00	0.00
212	0.00	0.00	0.00	0.00	0.00	0.00
213	0.00	0.00	0.00	0.00	0.00	0.00
214	0.00	0.00	0.00	0.00	0.00	0.00
215	0.00	0.00	0.00	0.00	0.00	0.00
216	0.00	0.00	0.00	0.00	0.00	0.00
217	0.00	0.00	0.00	0.00	0.00	0.00
218	0.00	0.00	0.00	0.00	0.00	0.00
219	0.00	0.00	0.00	0.00	0.00	0.00
220	0.00	0.00	0.00	0.00	0.00	0.00
221	0.00	0.00	0.00	0.00	0.00	0.00
222	0.00	0.00	0.00	0.00	0.00	0.00
224	0.00	0.00	0.00	0.00	0.00	0.00
225	0.00	0.00	0.00	0.00	0.00	0.00
226	0.00	0.00	0.00	0.00	0.00	0.00
227	0.00	0.00	0.00	0.00	0.00	0.00
228	0.00	0.00	0.00	0.00	0.00	0.00
229	0.00	0.00	0.00	0.00	0.00	0.00
230	0.00	0.00	0.00	0.00	0.00	0.00
231	0.00	0.00	0.00	0.00	0.00	0.00
232	0.00	0.00	0.00	0.00	0.00	0.00
233	0.00	0.00	0.00	0.00	0.00	0.00
234	0.00	0.00	0.00	0.00	0.00	0.00
235	0.00	0.00	0.00	0.00	0.00	0.00
236	0.00	0.00	0.00	0.00	0.00	0.00
237	0.00	0.00	0.00	0.00	0.00	0.00
238	0.00	0.00	0.00	0.00	0.00	0.00
239	0.00	0.00	0.00	0.00	0.00	0.00
240	0.00	0.00	0.00	0.00	0.00	0.00
242	0.00	0.00	0.00	0.00	0.00	0.00
243	0.00	0.00	0.00	0.00	0.00	0.00
244	0.00	0.00	0.00	0.00	0.00	0.00
245	0.00	0.00	0.00	0.00	0.00	0.00
246	0.00	0.00	0.00	0.00	0.00	0.00
247	0.00	0.00	0.00	0.00	0.00	0.00
248	0.00	0.00	0.00	0.00	0.00	0.00
249	0.00	0.00	0.00	0.00	0.00	0.00
250	0.00	0.00	0.00	0.00	0.00	0.00
251	0.00	0.00	0.00	0.00	0.00	0.00
252	0.00	0.00	0.00	0.00	0.00	0.00
253	0.00	0.00	0.00	0.00	0.00	0.00
254	0.00	0.00	0.00	0.00	0.00	0.00
255	0.00	0.00	0.00	0.00	0.00	0.00
256	0.00	0.00	0.00	0.00	0.00	0.00
257	0.00	0.00	0.00	0.00	0.00	0.00
258	0.00	0.00	0.00	0.00	0.00	0.00
260	0.00	0.00	0.00	0.00	0.00	0.00
261	0.00	0.00	0.00	0.00	0.00	0.00
262	0.00	0.00	0.00	0.00	0.00	0.00
263	0.00	0.00	0.00	0.00	0.00	0.00
264	0.00	0.00	0.00	0.00	0.00	0.00
265	0.00	0.00	0.00	0.00	0.00	0.00
266	0.00	0.00	0.00	0.00	0.00	0.00
267	0.00	0.00	0.00	0.00	0.00	0.00
268	0.00	0.00	0.00	0.00	0.00	0.00
269	0.00	0.00	0.00	0.00	0.00	0.00
270	0.00	0.00	0.00	0.00	0.00	0.00
271	0.00	0.00	0.00	0.00	0.00	0.00
272	0.00	0.00	0.00	0.00	0.00	0.00
273	0.00	0.00	0.00	0.00	0.00	0.00
274	0.00	0.00	0.00	0.00	0.00	0.00
275	0.00	0.00	0.00	0.00	0.00	0.00
276	0.00	0.00	0.00	0.00	0.00	0.00
278	0.00	0.00	0.00	0.00	0.00	0.00
279	0.00	0.00	0.00	0.00	0.00	0.00
280	0.00	0.00	0.00	0.00	0.00	0.00
281	0.00	0.00	0.00	0.00	0.00	0.00

REACCIONES EN LOS APOYOS

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
7	0.00	88.34	-3.34	-306.31	41.30	0.00
25	0.00	92.07	3.01	-187.70	0.00	0.00
43	0.00	133.53	0.47	-302.40	0.00	0.00

61	0.00	121.55	0.63	-302.39	0.00	0.00
79	0.00	124.63	-0.26	-319.72	0.00	0.00
97	0.00	123.84	-0.23	-320.19	0.00	0.00
115	0.00	124.04	-0.36	-322.70	0.00	0.00
133	0.00	123.99	-0.10	-318.02	0.00	0.00
151	0.00	123.99	0.18	-312.91	0.00	0.00
169	0.00	124.03	0.18	-312.88	0.00	0.00
187	0.00	123.87	-0.14	-318.64	0.00	0.00
205	0.00	124.53	-0.43	-323.42	0.00	0.00
223	0.00	121.91	-0.57	-324.51	0.00	0.00
241	0.00	132.20	1.06	-294.73	0.00	0.00
259	0.00	97.40	1.33	-222.76	0.00	0.00
277	0.00	90.87	-1.43	-280.83	0.00	0.00

DESPLAZAMIENTOS DE LOS NUDOS LIBRES

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
1	0.000578	-0.000011	0.000013	0.000003	-0.000013	-0.000334
2	0.000603	-0.000006	0.000013	0.000003	-0.000013	-0.000334
3	0.000554	-0.000015	0.000013	0.000002	-0.000013	-0.000333
4	0.000000	-0.000009	0.000009	0.000001	-0.000012	0.000000
5	0.000024	-0.000006	0.000009	0.000002	-0.000012	0.000000
6	-0.000024	-0.000014	0.000009	0.000002	-0.000012	0.000000
8	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9	0.000000	-0.000005	0.000004	0.000001	-0.000006	0.000000
10	0.000000	-0.000006	0.000002	0.000001	-0.000008	0.000000
11	0.000000	-0.000008	0.000005	0.000001	-0.000010	0.000000
12	0.000578	-0.001014	0.000053	0.000088	-0.000013	-0.000304
13	0.000578	-0.001837	0.000095	0.000150	-0.000014	-0.000225
14	0.000578	-0.002363	0.000136	0.000190	-0.000014	-0.000115
15	0.000578	-0.002527	0.000179	0.000208	-0.000014	0.000007
16	0.000578	-0.002315	0.000221	0.000203	-0.000014	0.000126
17	0.000578	-0.001767	0.000263	0.000175	-0.000014	0.000223
18	0.000578	-0.000972	0.000304	0.000126	-0.000013	0.000280
19	0.000578	-0.000071	0.000345	0.000053	-0.000013	0.000281
20	0.000603	0.000029	0.000345	0.000053	-0.000013	0.000281
21	0.000554	-0.000170	0.000345	0.000053	-0.000013	0.000281
22	0.000000	-0.000069	0.000268	0.000052	0.000000	0.000000
23	0.000000	0.000029	0.000268	0.000052	0.000000	0.000000
24	0.000000	-0.000170	0.000268	0.000052	0.000000	0.000000
26	0.000000	-0.000001	0.000000	0.000000	0.000000	0.000000
27	0.000000	-0.000016	0.000016	0.000012	0.000000	0.000000
28	0.000000	-0.000032	0.000065	0.000025	0.000000	0.000000
29	0.000000	-0.000045	0.000139	0.000036	0.000000	0.000000
30	0.000578	0.000931	0.000395	0.000058	-0.000013	0.000231
31	0.000578	0.001721	0.000443	0.000062	-0.000012	0.000172
32	0.000578	0.002262	0.000488	0.000067	-0.000011	0.000102
33	0.000578	0.002515	0.000532	0.000071	-0.000011	0.000023
34	0.000578	0.002442	0.000573	0.000076	-0.000010	-0.000066
35	0.000578	0.002004	0.000612	0.000080	-0.000010	-0.000165
36	0.000578	0.001163	0.000648	0.000085	-0.000009	-0.000274
37	0.000578	-0.000118	0.000682	0.000089	-0.000008	-0.000393
38	0.000594	0.000051	0.000682	0.000089	-0.000008	-0.000393
39	0.000562	-0.000285	0.000682	0.000089	-0.000008	-0.000393
40	0.000000	-0.000115	0.000553	0.000087	0.000000	0.000000
41	0.000000	0.000051	0.000553	0.000088	0.000000	0.000000
42	0.000000	-0.000284	0.000553	0.000088	0.000000	0.000000
44	0.000000	-0.000002	0.000001	0.000001	0.000000	0.000000
45	0.000000	-0.000027	0.000036	0.000022	0.000000	0.000000
46	0.000000	-0.000053	0.000140	0.000043	0.000000	0.000000
47	0.000000	-0.000081	0.000323	0.000066	0.000000	0.000000
48	0.000578	-0.001881	0.000713	0.000228	-0.000008	-0.000441
49	0.000578	-0.003550	0.000741	0.000327	-0.000007	-0.000366
50	0.000578	-0.004726	0.000767	0.000387	-0.000006	-0.000208
51	0.000578	-0.005163	0.000791	0.000408	-0.000006	-0.000006
52	0.000578	-0.004775	0.000812	0.000390	-0.000005	0.000197
53	0.000578	-0.003629	0.000831	0.000333	-0.000005	0.000363
54	0.000578	-0.001951	0.000847	0.000237	-0.000004	0.000451
55	0.000578	-0.000120	0.000861	0.000102	-0.000003	0.000421
56	0.000585	0.000072	0.000861	0.000101	-0.000003	0.000421
57	0.000572	-0.000311	0.000861	0.000101	-0.000003	0.000421
58	0.000000	-0.000118	0.000714	0.000100	0.000000	0.000000
59	0.000000	0.000072	0.000714	0.000100	0.000000	0.000000
60	0.000000	-0.000310	0.000714	0.000100	0.000000	0.000000
62	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
63	0.000000	-0.000028	0.000046	0.000025	0.000000	0.000000
64	0.000000	-0.000055	0.000180	0.000049	0.000000	0.000000
65	0.000000	-0.000086	0.000448	0.000078	0.000000	0.000000
66	0.000578	0.001309	0.000872	0.000102	-0.000003	0.000317
67	0.000578	0.002334	0.000881	0.000102	-0.000002	0.000212
68	0.000578	0.002954	0.000888	0.000103	-0.000002	0.000107
69	0.000578	0.003165	0.000894	0.000103	-0.000001	0.000002
70	0.000578	0.002966	0.000897	0.000104	-0.000001	-0.000105
71	0.000578	0.002353	0.000900	0.000104	-0.000001	-0.000212
72	0.000578	0.001324	0.000900	0.000104	0.000000	-0.000320
73	0.000578	-0.000124	0.000900	0.000105	0.000000	-0.000428
74	0.000578	0.000075	0.000900	0.000105	0.000000	-0.000428
75	0.000579	-0.000320	0.000900	0.000104	0.000000	-0.000428
76	0.000000	-0.000121	0.000748	0.000103	0.000000	0.000000
77	0.000000	0.000075	0.000748	0.000103	0.000000	0.000000
78	0.000000	-0.000320	0.000748	0.000104	0.000000	0.000000
80	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
81	0.000000	-0.000029	0.000050	0.000026	0.000000	0.000000
82	0.000000	-0.000056	0.000190	0.000051	0.000000	0.000000
83	0.000000	-0.000089	0.000472	0.000081	0.000000	0.000000
84	0.000578	-0.001993	0.000899	0.000241	0.000000	-0.000463
85	0.000578	-0.003721	0.000897	0.000339	0.000001	-0.000376
86	0.000578	-0.004914	0.000894	0.000397	0.000001	-0.000208
87	0.000578	-0.005339	0.000890	0.000417	0.000001	0.000000
88	0.000578	-0.004917	0.000886	0.000397	0.000001	0.000208
89	0.000578	-0.003724	0.000881	0.000338	0.000001	0.000376
90	0.000578	-0.001996	0.000876	0.000240	0.000001	0.000463
91	0.000578	-0.000121	0.000871	0.000103	0.000001	0.000430
92	0.000576	0.000075	0.000871	0.000103	0.000001	0.000430
93	0.000581	-0.000314	0.000871	0.000102	0.000001	0.000430
94	0.000000	-0.000118	0.000722	0.000101	0.000000	0.000000
95	0.000000	0.000074	0.000722	0.000101	0.000000	0.000000

96	0.000000	-0.000314	0.000722	0.000102	0.000000	0.000000
98	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
99	0.000000	-0.000028	0.000048	0.000026	0.000000	0.000000
100	0.000000	-0.000055	0.000183	0.000050	0.000000	0.000000
101	0.000000	-0.000086	0.000451	0.000079	0.000000	0.000000
102	0.000578	0.001337	0.000866	0.000103	0.000001	0.000323
103	0.000578	0.002379	0.000860	0.000103	0.000001	0.000215
104	0.000578	0.003004	0.000855	0.000102	0.000001	0.000108
105	0.000578	0.003213	0.000849	0.000102	0.000001	0.000000
106	0.000578	0.003006	0.000844	0.000102	0.000001	-0.000107
107	0.000578	0.002382	0.000839	0.000101	0.000001	-0.000215
108	0.000578	0.001340	0.000834	0.000101	0.000001	-0.000323
109	0.000578	-0.000118	0.000829	0.000101	0.000001	-0.000430
110	0.000576	0.000073	0.000829	0.000100	0.000001	-0.000430
111	0.000581	-0.000306	0.000829	0.000100	0.000001	-0.000430
112	0.000000	-0.000115	0.000683	0.000099	0.000000	0.000000
113	0.000000	0.000073	0.000683	0.000099	0.000000	0.000000
114	0.000000	-0.000306	0.000683	0.000099	0.000000	0.000000
116	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
117	0.000000	-0.000027	0.000045	0.000025	0.000000	0.000000
118	0.000000	-0.000053	0.000174	0.000049	0.000000	0.000000
119	0.000000	-0.000083	0.000420	0.000076	0.000000	0.000000
120	0.000578	-0.001994	0.000825	0.000237	0.000001	-0.000464
121	0.000578	-0.003726	0.000821	0.000335	0.000001	-0.000377
122	0.000578	-0.004921	0.000817	0.000393	0.000001	-0.000208
123	0.000578	-0.005345	0.000813	0.000412	0.000001	0.000000
124	0.000578	-0.004921	0.000810	0.000393	0.000001	0.000208
125	0.000578	-0.003725	0.000807	0.000334	0.000001	0.000377
126	0.000578	-0.001994	0.000805	0.000236	0.000001	0.000464
127	0.000578	-0.000117	0.000802	0.000099	0.000001	0.000430
128	0.000577	0.000070	0.000802	0.000099	0.000001	0.000430
129	0.000580	-0.000301	0.000802	0.000098	0.000001	0.000430
130	0.000000	-0.000114	0.000659	0.000097	0.000000	0.000000
131	0.000000	0.000070	0.000659	0.000097	0.000000	0.000000
132	0.000000	-0.000301	0.000659	0.000098	0.000000	0.000000
134	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
135	0.000000	-0.000027	0.000044	0.000024	0.000000	0.000000
136	0.000000	-0.000053	0.000167	0.000048	0.000000	0.000000
137	0.000000	-0.000082	0.000402	0.000075	0.000000	0.000000
138	0.000578	0.001343	0.000800	0.000099	0.000001	0.000323
139	0.000578	0.002385	0.000797	0.000098	0.000001	0.000215
140	0.000578	0.003011	0.000795	0.000098	0.000001	0.000108
141	0.000578	0.003219	0.000793	0.000098	0.000001	0.000000
142	0.000578	0.003011	0.000791	0.000098	0.000001	-0.000108
143	0.000578	0.002385	0.000789	0.000098	0.000001	-0.000215
144	0.000578	0.001343	0.000787	0.000097	0.000001	-0.000323
145	0.000578	-0.000116	0.000785	0.000097	0.000001	-0.000430
146	0.000577	0.000068	0.000785	0.000097	0.000001	-0.000430
147	0.000580	-0.000298	0.000785	0.000097	0.000001	-0.000430
148	0.000000	-0.000114	0.000644	0.000095	0.000000	0.000000
149	0.000000	0.000068	0.000644	0.000095	0.000000	0.000000
150	0.000000	-0.000298	0.000644	0.000096	0.000000	0.000000
152	0.000000	-0.000002	0.000002	0.000001	0.000000	0.000000
153	0.000000	-0.000027	0.000044	0.000024	0.000000	0.000000
154	0.000000	-0.000053	0.000165	0.000047	0.000000	0.000000
155	0.000000	-0.000081	0.000391	0.000073	0.000000	0.000000
156	0.000578	-0.001993	0.000782	0.000234	0.000001	-0.000464
157	0.000578	-0.003724	0.000780	0.000331	0.000001	-0.000377
158	0.000578	-0.004920	0.000777	0.000390	0.000001	-0.000208
159	0.000578	-0.005344	0.000774	0.000409	0.000001	0.000000
160	0.000578	-0.004919	0.000771	0.000390	0.000001	0.000209
161	0.000578	-0.003723	0.000768	0.000331	0.000001	0.000377
162	0.000578	-0.001992	0.000765	0.000233	0.000001	0.000464
163	0.000578	-0.000115	0.000762	0.000096	0.000001	0.000430
164	0.000577	0.000067	0.000762	0.000096	0.000001	0.000430
165	0.000580	-0.000294	0.000762	0.000095	0.000001	0.000430
166	0.000000	-0.000112	0.000623	0.000094	0.000000	0.000000
167	0.000000	0.000067	0.000623	0.000094	0.000000	0.000000
168	0.000000	-0.000293	0.000623	0.000095	0.000000	0.000000
170	0.000000	-0.000002	0.000002	0.000001	0.000000	0.000000
171	0.000000	-0.000027	0.000043	0.000024	0.000000	0.000000
172	0.000000	-0.000052	0.000159	0.000047	0.000000	0.000000
173	0.000000	-0.000080	0.000375	0.000072	0.000000	0.000000
174	0.000578	0.001345	0.000758	0.000096	0.000001	0.000323
175	0.000578	0.002387	0.000754	0.000095	0.000001	0.000215
176	0.000578	0.003012	0.000751	0.000095	0.000001	0.000108
177	0.000578	0.003220	0.000747	0.000095	0.000001	0.000000
178	0.000578	0.003012	0.000743	0.000095	0.000001	-0.000107
179	0.000578	0.002387	0.000739	0.000094	0.000001	-0.000215
180	0.000578	0.001346	0.000736	0.000094	0.000001	-0.000322
181	0.000578	-0.000111	0.000732	0.000094	0.000001	-0.000430
182	0.000577	0.000067	0.000732	0.000094	0.000001	-0.000430
183	0.000580	-0.000287	0.000732	0.000093	0.000001	-0.000430
184	0.000000	-0.000109	0.000596	0.000092	0.000000	0.000000
185	0.000000	0.000067	0.000596	0.000092	0.000000	0.000000
186	0.000000	-0.000286	0.000596	0.000093	0.000000	0.000000
188	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
189	0.000000	-0.000026	0.000040	0.000023	0.000000	0.000000
190	0.000000	-0.000050	0.000152	0.000046	0.000000	0.000000
191	0.000000	-0.000076	0.000353	0.000070	0.000000	0.000000
192	0.000578	-0.001986	0.000729	0.000231	0.000001	-0.000463
193	0.000578	-0.003714	0.000726	0.000328	0.000001	-0.000376
194	0.000578	-0.004907	0.000723	0.000387	0.000001	-0.000208
195	0.000578	-0.005329	0.000720	0.000406	0.000001	0.000000
196	0.000578	-0.004903	0.000717	0.000386	0.000001	0.000208
197	0.000578	-0.003709	0.000715	0.000328	0.000001	0.000376
198	0.000578	-0.001981	0.000713	0.000230	0.000001	0.000463
199	0.000578	-0.000110	0.000711	0.000093	0.000000	0.000428
200	0.000577	0.000066	0.000711	0.000093	0.000000	0.000428
201	0.000579	-0.000283	0.000711	0.000092	0.000000	0.000428
202	0.000000	-0.000107	0.000577	0.000091	0.000000	0.000000
203	0.000000	0.000066	0.000577	0.000091	0.000000	0.000000
204	0.000000	-0.000282	0.000577	0.000092	0.000000	0.000000
206	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
207	0.000000	-0.000025	0.000039	0.000023	0.000000	0.000000
208	0.000000	-0.000049	0.000147	0.000045	0.000000	0.000000
209	0.000000	-0.000075	0.000338	0.000069	0.000000	0.000000
210	0.000578	0.001340	0.000710	0.000093	0.000000	0.000320
211	0.000578	0.002371	0.000708	0.000092	0.000000	0.000212
212	0.000578	0.002986	0.000707	0.000092	0.000000	0.000105
213	0.000578	0.003187	0.000706	0.000092	0.000000	-0.000001
214	0.000578	0.002976	0.000704	0.000092	0.000000	-0.000107

215	0.000578	0.002356	0.000703	0.000092	0.000001	-0.000213
216	0.000578	0.001327	0.000701	0.000092	0.000001	-0.000318
217	0.000578	-0.000107	0.000699	0.000092	0.000001	-0.000422
218	0.000577	0.000067	0.000699	0.000092	0.000001	-0.000422
219	0.000580	-0.000278	0.000699	0.000091	0.000001	-0.000422
220	0.000000	-0.000104	0.000566	0.000090	0.000000	0.000000
221	0.000000	0.000067	0.000566	0.000090	0.000000	0.000000
222	0.000000	-0.000277	0.000566	0.000091	0.000000	0.000000
224	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
225	0.000000	-0.000025	0.000038	0.000023	0.000000	0.000000
226	0.000000	-0.000048	0.000145	0.000045	0.000000	0.000000
227	0.000000	-0.000072	0.000329	0.000068	0.000000	0.000000
228	0.000578	-0.001944	0.000697	0.000228	0.000001	-0.000453
229	0.000578	-0.003631	0.000694	0.000325	0.000001	-0.000366
230	0.000578	-0.004785	0.000690	0.000383	0.000001	-0.000199
231	0.000578	-0.005180	0.000685	0.000402	0.000002	0.000005
232	0.000578	-0.004746	0.000679	0.000382	0.000002	0.000207
233	0.000578	-0.003569	0.000672	0.000323	0.000002	0.000367
234	0.000578	-0.001892	0.000663	0.000225	0.000003	0.000444
235	0.000578	-0.000115	0.000652	0.000087	0.000003	0.000398
236	0.000572	0.000050	0.000652	0.000087	0.000003	0.000398
237	0.000585	-0.000278	0.000652	0.000086	0.000003	0.000398
238	0.000000	-0.000112	0.000526	0.000085	0.000000	0.000000
239	0.000000	0.000050	0.000526	0.000085	0.000000	0.000000
240	0.000000	-0.000277	0.000526	0.000086	0.000000	0.000000
242	0.000000	-0.000002	0.000001	0.000001	0.000000	0.000000
243	0.000000	-0.000027	0.000034	0.000021	0.000000	0.000000
244	0.000000	-0.000052	0.000132	0.000042	0.000000	0.000000
245	0.000000	-0.000078	0.000303	0.000064	0.000000	0.000000
246	0.000578	0.001190	0.000638	0.000085	0.000004	0.000280
247	0.000578	0.002057	0.000622	0.000082	0.000004	0.000172
248	0.000578	0.002520	0.000604	0.000079	0.000005	0.000072
249	0.000578	0.002611	0.000585	0.000077	0.000005	-0.000020
250	0.000578	0.002363	0.000563	0.000074	0.000006	-0.000103
251	0.000578	0.001809	0.000539	0.000071	0.000006	-0.000178
252	0.000578	0.000983	0.000514	0.000069	0.000007	-0.000244
253	0.000578	-0.000084	0.000486	0.000066	0.000007	-0.000302
254	0.000564	0.000042	0.000486	0.000066	0.000007	-0.000302
255	0.000592	-0.000208	0.000486	0.000066	0.000007	-0.000302
256	0.000000	-0.000082	0.000391	0.000065	0.000000	0.000000
257	0.000000	0.000042	0.000391	0.000065	0.000000	0.000000
258	0.000000	-0.000207	0.000391	0.000065	0.000000	0.000000
260	0.000000	-0.000001	0.000001	0.000000	0.000000	0.000000
261	0.000000	-0.000019	0.000025	0.000016	0.000000	0.000000
262	0.000000	-0.000038	0.000097	0.000032	0.000000	0.000000
263	0.000000	-0.000056	0.000223	0.000048	0.000000	0.000000
264	0.000578	-0.001092	0.000463	0.000147	0.000008	-0.000305
265	0.000578	-0.001991	0.000438	0.000204	0.000008	-0.000245
266	0.000578	-0.002616	0.000413	0.000236	0.000008	-0.000140
267	0.000578	-0.002862	0.000386	0.000245	0.000008	-0.000010
268	0.000578	-0.002684	0.000360	0.000229	0.000009	0.000124
269	0.000578	-0.002094	0.000332	0.000189	0.000009	0.000245
270	0.000578	-0.001167	0.000305	0.000125	0.000009	0.000332
271	0.000578	-0.000036	0.000277	0.000037	0.000009	0.000365
272	0.000562	0.000035	0.000277	0.000037	0.000009	0.000365
273	0.000595	-0.000104	0.000277	0.000037	0.000009	0.000365
274	0.000000	-0.000034	0.000224	0.000036	0.000000	0.000000
275	0.000000	0.000035	0.000224	0.000036	0.000000	0.000000
276	0.000000	-0.000104	0.000224	0.000036	0.000000	0.000000
278	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
279	0.000000	-0.000008	0.000016	0.000009	0.000000	0.000000
280	0.000000	-0.000015	0.000059	0.000018	0.000000	0.000000
281	0.000000	-0.000022	0.000127	0.000026	0.000000	0.000000

DESPLAZAMIENTOS DE LOS APOYOS

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
7	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
43	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
61	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
79	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
97	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
115	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
133	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
151	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
169	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
187	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
205	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
223	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
241	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
259	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
277	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

estr ADUCTO SOBRE EL RIO J. [illegible]

hipo 2 TRAMOS PARES CARGADOS (1 VIA CARGADA 8 t/m)

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	0.00	-19.51	-5.60	-21.31	50.10	0.00
1	12	0.00	19.51	5.60	21.31	-33.63	-57.29
2	12	0.00	-19.51	-5.60	-21.31	33.63	57.29
2	13	0.00	19.51	5.60	21.31	-17.17	-114.59
3	13	0.00	-19.51	-5.60	-21.31	17.17	114.59
3	14	0.00	19.51	5.60	21.31	-0.71	-171.89
4	14	0.00	-19.51	-5.60	-21.31	0.71	171.89
4	15	0.00	19.51	5.60	21.31	15.75	-229.18
5	15	0.00	-19.51	-5.60	-21.31	-15.75	229.18
5	16	0.00	19.51	5.60	21.31	32.21	-286.48
6	16	0.00	-19.51	-5.60	-21.31	-32.21	286.48
6	17	0.00	19.51	5.60	21.31	48.67	-343.78
7	17	0.00	-19.51	-5.60	-21.31	-48.67	343.78
7	18	0.00	19.51	5.60	21.31	65.13	-401.07
8	18	0.00	-19.51	-5.60	-21.31	-65.13	401.07
8	19	0.00	19.51	5.60	21.31	81.59	-458.37
9	19	0.00	129.59	1.20	-323.39	-81.58	458.36
9	30	0.00	-98.59	-1.20	244.34	76.95	-16.27
10	30	0.00	98.59	1.20	-244.34	-76.95	16.27
10	31	0.00	-67.59	-1.20	165.29	72.32	305.69
11	31	0.00	67.59	1.20	-165.29	-72.32	-305.69
11	32	0.00	-36.59	-1.20	86.24	67.69	507.53
12	32	0.00	36.59	1.20	-86.24	-67.69	-507.53
12	33	0.00	-5.59	-1.20	7.19	63.05	589.25
13	33	0.00	5.59	1.20	-7.19	-63.05	-589.25
13	34	0.00	25.41	-1.20	-71.86	58.42	550.84
14	34	0.00	-25.41	1.20	71.86	-58.42	-550.84
14	35	0.00	56.41	-1.20	-150.91	53.79	392.30
15	35	0.00	-56.41	1.20	150.91	-53.79	-392.30
15	36	0.00	87.41	-1.20	-229.96	49.15	113.64
16	36	0.00	-87.41	1.20	229.96	-49.15	-113.64
16	37	0.00	118.41	-1.20	-309.01	44.52	-285.15
17	37	0.00	-1.42	0.25	-2.41	-44.52	285.16
17	48	0.00	1.42	-0.25	2.41	43.54	-290.65
18	48	0.00	-1.42	0.25	-2.41	-43.54	290.65
18	49	0.00	1.42	-0.25	2.41	42.57	-296.14
19	49	0.00	-1.42	0.25	-2.41	-42.57	296.14
19	50	0.00	1.42	-0.25	2.41	41.59	-301.62
20	50	0.00	-1.42	0.25	-2.41	-41.59	301.62
20	51	0.00	1.42	-0.25	2.41	40.61	-307.11
21	51	0.00	-1.42	0.25	-2.41	-40.61	307.11
21	52	0.00	1.42	-0.25	2.41	39.64	-312.60
22	52	0.00	-1.42	0.25	-2.41	-39.64	312.60
22	53	0.00	1.42	-0.25	2.41	38.66	-318.08
23	53	0.00	-1.42	0.25	-2.41	-38.66	318.08
23	54	0.00	1.42	-0.25	2.41	37.68	-323.57
24	54	0.00	-1.42	0.25	-2.41	-37.68	323.57
24	55	0.00	1.42	-0.25	2.41	36.71	-329.06
25	55	0.00	124.35	0.66	-316.81	-36.71	329.04
25	66	0.00	-93.35	-0.66	237.76	34.16	92.76
26	66	0.00	93.35	0.66	-237.76	-34.16	-92.76
26	67	0.00	-62.35	-0.66	158.71	31.62	394.45
27	67	0.00	62.35	0.66	-158.71	-31.62	-394.45
27	68	0.00	-31.35	-0.66	79.66	29.07	576.01
28	68	0.00	31.35	0.66	-79.66	-29.07	-576.01
28	69	0.00	-0.35	-0.66	0.61	26.52	637.44
29	69	0.00	0.35	0.66	-0.61	-26.52	-637.44
29	70	0.00	30.65	-0.66	-78.44	23.98	578.75
30	70	0.00	-30.65	0.66	78.44	-23.98	-578.75
30	71	0.00	61.65	-0.66	-157.49	21.43	399.94
31	71	0.00	-61.65	0.66	157.49	-21.43	-399.94
31	72	0.00	92.65	-0.66	-236.54	18.89	100.99
32	72	0.00	-92.65	0.66	236.54	-18.89	-100.99
32	73	0.00	123.65	-0.66	-315.59	16.34	-318.07
33	73	0.00	-0.09	0.44	0.44	-16.34	318.09
33	84	0.00	0.09	-0.44	-0.44	14.63	-318.44
34	84	0.00	-0.09	0.44	0.44	-14.63	318.44
34	85	0.00	0.09	-0.44	-0.44	12.92	-318.79
35	85	0.00	-0.09	0.44	0.44	-12.92	318.79
35	86	0.00	0.09	-0.44	-0.44	11.20	-319.14
36	86	0.00	-0.09	0.44	0.44	-11.20	319.14
36	87	0.00	0.09	-0.44	-0.44	9.49	-319.49
37	87	0.00	-0.09	0.44	0.44	-9.49	319.49
37	88	0.00	0.09	-0.44	-0.44	7.77	-319.84
38	88	0.00	-0.09	0.44	0.44	-7.77	319.84
38	89	0.00	0.09	-0.44	-0.44	6.06	-320.18
39	89	0.00	-0.09	0.44	0.44	-6.06	320.18
39	90	0.00	0.09	-0.44	-0.44	4.35	-320.53
40	90	0.00	-0.09	0.44	0.44	-4.35	320.53
40	91	0.00	0.09	-0.44	-0.44	2.63	-320.88
41	91	0.00	124.02	0.26	-315.58	-2.63	320.87
41	102	0.00	-93.02	-0.26	236.53	1.62	99.65
42	102	0.00	93.02	0.26	-236.53	-1.62	-99.65
42	103	0.00	-62.02	-0.26	157.48	0.60	400.04
43	103	0.00	62.02	0.26	-157.48	-0.60	-400.04
43	104	0.00	-31.02	-0.26	78.43	-0.41	580.31
44	104	0.00	31.02	0.26	-78.43	0.41	-580.31
44	105	0.00	-0.02	-0.26	-0.62	-1.43	640.46
45	105	0.00	0.02	0.26	0.62	1.43	-640.46
45	106	0.00	30.98	-0.26	-79.67	-2.44	580.48
46	106	0.00	-30.98	0.26	79.67	2.44	-580.47
46	107	0.00	61.98	-0.26	-158.72	-3.46	400.37
47	107	0.00	-61.98	0.26	158.72	3.46	-400.37
47	108	0.00	92.98	-0.26	-237.77	-4.48	100.14

48	108	0.00	-92.98	0.26	237.77	4.48	-100.14
48	109	0.00	123.98	-0.26	-316.82	-5.49	-320.22
49	109	0.00	0.00	-0.08	0.48	5.49	320.24
49	120	0.00	0.00	0.08	-0.48	-5.18	-320.25
50	120	0.00	0.00	-0.08	0.48	5.18	320.25
50	121	0.00	0.00	0.08	-0.48	-4.87	-320.27
51	121	0.00	0.00	-0.08	0.48	4.87	320.27
51	122	0.00	0.00	0.08	-0.48	-4.55	-320.29
52	122	0.00	0.00	-0.08	0.48	4.55	320.29
52	123	0.00	0.00	0.08	-0.48	-4.24	-320.31
53	123	0.00	0.00	-0.08	0.48	4.24	320.31
53	124	0.00	0.00	0.08	-0.48	-3.93	-320.33
54	124	0.00	0.00	-0.08	0.48	3.93	320.33
54	125	0.00	0.00	0.08	-0.48	-3.61	-320.34
55	125	0.00	0.00	-0.08	0.48	3.61	320.34
55	126	0.00	0.00	0.08	-0.48	-3.30	-320.36
56	126	0.00	0.00	-0.08	0.48	3.30	320.36
56	127	0.00	0.00	0.08	-0.48	-2.99	-320.38
57	127	0.00	124.00	-0.18	-315.85	2.99	320.37
57	138	0.00	-93.00	0.18	236.80	-2.30	100.08
58	138	0.00	93.00	-0.18	-236.80	2.30	-100.08
58	139	0.00	-62.00	0.18	157.75	-1.60	400.39
59	139	0.00	62.00	-0.18	-157.75	1.60	-400.39
59	140	0.00	-31.00	0.18	78.70	-0.91	580.59
60	140	0.00	31.00	-0.18	-78.70	0.91	-580.59
60	141	0.00	0.00	0.18	-0.35	-0.22	640.65
61	141	0.00	0.00	-0.18	0.35	0.22	-640.65
61	142	0.00	31.00	0.18	-79.40	0.48	580.59
62	142	0.00	-31.00	-0.18	79.40	-0.48	-580.59
62	143	0.00	62.00	0.18	-158.45	1.17	400.41
63	143	0.00	-62.00	-0.18	158.45	-1.17	-400.41
63	144	0.00	93.00	0.18	-237.50	1.86	100.10
64	144	0.00	-93.00	-0.18	237.50	-1.86	-100.10
64	145	0.00	124.00	0.18	-316.55	2.55	-320.33
65	145	0.00	0.01	0.00	0.41	-2.55	320.35
65	156	0.00	-0.01	0.00	-0.41	2.56	-320.33
66	156	0.00	0.01	0.00	0.41	-2.56	320.33
66	157	0.00	-0.01	0.00	-0.41	2.56	-320.31
67	157	0.00	0.01	0.00	0.41	-2.56	320.31
67	158	0.00	-0.01	0.00	-0.41	2.57	-320.29
68	158	0.00	0.01	0.00	0.41	-2.57	320.29
68	159	0.00	-0.01	0.00	-0.41	2.57	-320.26
69	159	0.00	0.01	0.00	0.41	-2.57	320.26
69	160	0.00	-0.01	0.00	-0.41	2.58	-320.24
70	160	0.00	0.01	0.00	0.41	-2.58	320.24
70	161	0.00	-0.01	0.00	-0.41	2.58	-320.22
71	161	0.00	0.01	0.00	0.41	-2.58	320.22
71	162	0.00	-0.01	0.00	-0.41	2.58	-320.20
72	162	0.00	0.01	0.00	0.41	-2.58	320.20
72	163	0.00	-0.01	0.00	-0.41	2.59	-320.18
73	163	0.00	123.98	0.20	-315.75	-2.59	320.16
73	174	0.00	-92.98	-0.20	236.70	1.80	100.18
74	174	0.00	92.98	0.20	-236.70	-1.80	-100.18
74	175	0.00	-61.98	-0.20	157.65	1.01	400.40
75	175	0.00	61.98	0.20	-157.65	-1.01	-400.40
75	176	0.00	-30.98	-0.20	78.60	0.23	580.50
76	176	0.00	30.98	0.20	-78.60	-0.23	-580.50
76	177	0.00	0.02	-0.20	-0.45	-0.56	640.47
77	177	0.00	-0.02	0.20	0.45	0.56	-640.47
77	178	0.00	31.02	-0.20	-79.50	-1.35	580.32
78	178	0.00	-31.02	0.20	79.50	1.35	-580.32
78	179	0.00	62.02	-0.20	-158.55	-2.14	400.04
79	179	0.00	-62.02	0.20	158.55	2.14	-400.04
79	180	0.00	93.02	-0.20	-237.60	-2.92	99.63
80	180	0.00	-93.02	0.20	237.60	2.92	-99.64
80	181	0.00	124.02	-0.20	-316.65	-3.71	-320.89
81	181	0.00	0.09	0.12	0.26	3.71	320.91
81	192	0.00	-0.09	-0.12	-0.26	-4.18	-320.57
82	192	0.00	0.09	0.12	0.26	4.18	320.57
82	193	0.00	-0.09	-0.12	-0.26	-4.64	-320.23
83	193	0.00	0.09	0.12	0.26	4.64	320.23
83	194	0.00	-0.09	-0.12	-0.26	-5.11	-319.89
84	194	0.00	0.09	0.12	0.26	5.11	319.89
84	195	0.00	-0.09	-0.12	-0.26	-5.58	-319.56
85	195	0.00	0.09	0.12	0.26	5.58	319.56
85	196	0.00	-0.09	-0.12	-0.26	-6.04	-319.22
86	196	0.00	0.09	0.12	0.26	6.04	319.22
86	197	0.00	-0.09	-0.12	-0.26	-6.51	-318.88
87	197	0.00	0.09	0.12	0.26	6.51	318.88
87	198	0.00	-0.09	-0.12	-0.26	-6.98	-318.54
88	198	0.00	0.09	0.12	0.26	6.98	318.54
88	199	0.00	-0.09	-0.12	-0.26	-7.44	-318.20
89	199	0.00	123.66	-0.35	-316.29	7.44	318.19
89	210	0.00	-92.66	0.35	237.24	-6.10	100.93
90	210	0.00	92.66	-0.35	-237.24	6.10	-100.93
90	211	0.00	-61.66	0.35	158.19	-4.76	399.91
91	211	0.00	61.66	-0.35	-158.19	4.76	-399.91
91	212	0.00	-30.66	0.35	79.14	-3.42	578.78
92	212	0.00	30.66	-0.35	-79.14	3.42	-578.78
92	213	0.00	0.34	0.35	0.09	-2.08	637.51
93	213	0.00	-0.34	-0.35	-0.09	2.08	-637.51
93	214	0.00	31.34	0.35	-78.96	-0.74	576.13
94	214	0.00	-31.34	-0.35	78.96	0.74	-576.13
94	215	0.00	62.34	0.35	-158.01	0.59	394.61
95	215	0.00	-62.34	-0.35	158.01	-0.59	-394.61
95	216	0.00	93.34	0.35	-237.06	1.93	92.98
96	216	0.00	-93.34	-0.35	237.06	-1.93	-92.98
96	217	0.00	124.34	0.35	-316.11	3.27	-328.79
97	217	0.00	1.34	-1.54	0.64	-3.27	328.80
97	228	0.00	-1.34	1.54	-0.64	9.26	-323.60
98	228	0.00	1.34	-1.54	0.64	-9.26	323.60
98	229	0.00	-1.34	1.54	-0.64	15.24	-318.39
99	229	0.00	1.34	-1.54	0.64	-15.24	318.39
99	230	0.00	-1.34	1.54	-0.64	21.22	-313.19
100	230	0.00	1.34	-1.54	0.64	-21.22	313.19
100	231	0.00	-1.34	1.54	-0.64	27.21	-307.98
101	231	0.00	1.34	-1.54	0.64	-27.21	307.98
101	232	0.00	-1.34	1.54	-0.64	33.19	-302.77
102	232	0.00	1.34	-1.54	0.64	-33.19	302.77
102	233	0.00	-1.34	1.54	-0.64	39.17	-297.57
103	233	0.00	1.34	-1.54	0.64	-39.17	297.57
103	234	0.00	-1.34	1.54	-0.64	45.15	-292.36

104	234	0.00	1.34	-1.54	0.64	-45.15	292.36
104	235	0.00	-1.34	1.54	-0.64	51.14	-287.16
105	235	0.00	118.73	-2.16	-311.06	-51.14	287.14
105	246	0.00	-87.73	2.16	232.01	59.51	112.89
106	246	0.00	87.73	-2.16	-232.01	-59.51	-112.89
106	247	0.00	-56.73	2.16	152.96	67.88	392.80
107	247	0.00	56.73	-2.16	-152.96	-67.88	-392.80
107	248	0.00	-25.73	2.16	73.91	76.25	552.58
108	248	0.00	25.73	-2.16	-73.91	-76.25	-552.58
108	249	0.00	5.27	2.16	-5.14	84.62	592.24
109	249	0.00	-5.27	-2.16	5.14	-84.62	-592.24
109	250	0.00	36.27	2.16	-84.19	92.98	511.77
110	250	0.00	-36.27	-2.16	84.19	-92.98	-511.77
110	251	0.00	67.27	2.16	-163.24	101.35	311.18
111	251	0.00	-67.27	-2.16	163.24	-101.35	-311.18
111	252	0.00	98.27	2.16	-242.29	109.72	-9.54
112	252	0.00	-98.27	-2.16	242.29	-109.72	9.54
112	253	0.00	129.27	2.16	-321.34	118.09	-450.38
113	253	0.00	18.50	4.85	20.14	-118.10	450.39
113	264	0.00	-18.50	-4.85	-20.14	103.33	-394.09
114	264	0.00	18.50	4.85	20.14	-103.33	394.09
114	265	0.00	-18.50	-4.85	-20.14	88.57	-337.79
115	265	0.00	18.50	4.85	20.14	-88.57	337.79
115	266	0.00	-18.50	-4.85	-20.14	73.81	-281.50
116	266	0.00	18.50	4.85	20.14	-73.81	281.50
116	267	0.00	-18.50	-4.85	-20.14	59.05	-225.20
117	267	0.00	18.50	4.85	20.14	-59.05	225.20
117	268	0.00	-18.50	-4.85	-20.14	44.28	-168.90
118	268	0.00	18.50	4.85	20.14	-44.28	168.90
118	269	0.00	-18.50	-4.85	-20.14	29.52	-112.60
119	269	0.00	18.50	4.85	20.14	-29.52	112.60
119	270	0.00	-18.50	-4.85	-20.14	14.76	-56.30
120	270	0.00	18.50	4.85	20.14	-14.76	56.30
120	271	0.00	-18.50	-4.85	-20.14	-0.01	0.00
121	2	0.00	-17.92	13.18	-22.85	0.00	0.00
121	1	0.00	17.92	-13.18	22.85	-25.05	-34.04
122	1	5.60	1.59	13.18	-22.84	-25.05	12.73
122	3	-5.60	-1.59	-13.18	22.84	0.00	-9.71
123	5	0.00	17.92	-13.18	0.00	0.00	0.00
123	4	0.00	-17.92	13.18	0.00	25.04	34.04
124	4	-5.60	-1.59	-13.18	0.00	25.04	-3.02
124	6	5.60	1.59	13.18	0.00	0.00	0.00
125	20	0.00	-2.34	0.00	-0.01	0.00	0.01
125	19	0.00	2.34	0.00	0.01	0.00	-4.44
126	19	-6.80	-151.43	0.00	0.01	0.00	-297.63
126	21	6.80	151.43	0.00	-0.01	0.00	9.92
127	23	0.00	2.34	0.00	0.00	0.00	0.00
127	22	0.00	-2.34	0.00	0.00	0.00	4.44
128	22	6.80	151.43	0.00	0.00	0.00	287.72
128	24	-6.80	-151.43	0.00	0.00	0.00	0.00
129	38	0.00	-23.81	0.00	0.01	0.00	0.01
129	37	0.00	23.81	0.00	-0.01	0.00	-45.25
130	37	0.94	-140.81	0.00	-0.01	0.00	-266.17
130	39	-0.94	140.81	0.00	0.01	0.00	-1.37
131	41	0.00	23.81	0.00	0.00	0.00	0.00
131	40	0.00	-23.81	0.00	0.00	0.00	45.24
132	40	-0.94	140.81	0.00	0.00	0.00	267.54
132	42	0.94	-140.81	0.00	0.00	0.00	0.00
133	56	0.00	-19.69	0.00	-0.01	0.00	0.01
133	55	0.00	19.69	0.00	0.01	0.00	-37.42
134	55	-0.40	-145.46	0.00	0.01	0.00	-276.98
134	57	0.40	145.46	0.00	-0.01	0.00	0.60
135	59	0.01	19.69	0.00	0.00	0.00	0.00
135	58	-0.01	-19.69	0.00	0.00	0.00	37.41
136	58	0.41	145.46	0.00	0.00	0.00	276.38
136	60	-0.41	-145.46	0.00	0.00	0.00	0.00
137	74	0.00	21.23	0.00	0.01	0.00	0.01
137	73	0.00	21.23	0.00	-0.01	0.00	-40.35
138	73	0.21	-144.79	0.00	-0.01	0.00	-274.80
138	75	-0.21	144.79	0.00	0.01	0.00	-0.30
139	77	-0.01	21.23	0.00	0.00	0.00	0.00
139	76	0.01	-21.23	0.00	0.00	0.00	40.34
140	76	-0.22	144.79	0.00	0.00	0.00	275.10
140	78	0.22	-144.79	0.00	0.00	0.00	0.00
141	92	0.00	-21.17	0.00	-0.01	0.00	0.01
141	91	0.00	21.17	0.00	0.01	0.00	-40.24
142	91	0.18	-145.28	0.00	0.01	0.00	-275.78
142	93	-0.18	145.28	0.00	-0.01	0.00	-0.25
143	95	0.00	21.17	0.00	0.00	0.00	0.00
143	94	0.00	-21.17	0.00	0.00	0.00	40.23
144	94	-0.18	145.28	0.00	0.00	0.00	276.04
144	96	0.18	-145.28	0.00	0.00	0.00	0.00
145	110	-0.01	-21.39	0.00	0.01	0.00	0.01
145	109	0.01	21.39	0.00	-0.01	0.00	-40.65
146	109	0.34	-145.36	0.00	-0.01	0.00	-275.70
146	111	-0.34	145.36	0.00	0.01	0.00	-0.49
147	113	0.00	21.39	0.00	0.00	0.00	0.00
147	112	0.00	-21.39	0.00	0.00	0.00	40.64
148	112	-0.34	145.36	0.00	0.00	0.00	276.19
148	114	0.34	-145.36	0.00	0.00	0.00	0.00
149	128	0.00	-21.27	0.00	-0.01	0.00	0.01
149	127	0.00	21.27	0.00	0.01	0.00	-40.43
150	127	0.10	-145.28	0.00	0.01	0.00	-275.90
150	129	-0.10	145.28	0.00	-0.01	0.00	-0.13
151	131	0.00	21.27	0.00	0.00	0.00	0.00
151	130	0.00	-21.27	0.00	0.00	0.00	40.42
152	130	-0.10	145.28	0.00	0.00	0.00	276.03
152	132	0.10	-145.28	0.00	0.00	0.00	0.00
153	146	0.00	-21.12	0.00	0.01	0.00	0.01
153	145	0.00	21.12	0.00	-0.01	0.00	-40.14
154	145	-0.18	-145.13	0.00	-0.01	0.00	-276.01
154	147	0.18	145.13	0.00	0.01	0.00	0.27
155	149	0.00	21.12	0.00	0.00	0.00	0.00
155	148	0.00	-21.12	0.00	0.00	0.00	40.13
156	148	0.18	145.13	0.00	0.00	0.00	275.74
156	150	-0.18	-145.13	0.00	0.00	0.00	0.00
157	164	0.00	-21.13	0.00	-0.01	0.00	0.01
157	163	0.00	21.13	0.00	0.01	0.00	-40.15
158	163	-0.21	-145.10	0.00	0.01	0.00	-276.00
158	165	0.21	145.10	0.00	-0.01	0.00	0.31
159	167	0.00	21.13	0.00	0.00	0.00	0.00
159	166	0.00	-21.13	0.00	0.00	0.00	40.15

160	166	0.20	145.10	0.00	0.00	0.00	275.69
160	168	-0.20	-145.10	0.00	0.00	0.00	0.00
161	182	0.00	-21.23	0.00	0.01	0.00	0.01
161	181	0.00	21.23	0.00	-0.01	0.00	-40.35
162	181	0.08	-145.34	0.00	-0.01	0.00	-276.04
162	183	-0.08	145.34	0.00	0.01	0.00	-0.11
163	185	0.00	21.23	0.00	0.00	0.00	0.00
163	184	0.00	-21.23	0.00	0.00	0.00	40.34
164	184	-0.08	145.34	0.00	0.00	0.00	276.15
164	186	0.08	-145.34	0.00	0.00	0.00	0.00
165	200	0.00	-21.69	0.00	-0.01	0.00	0.01
165	199	0.00	21.69	0.00	0.01	0.00	-41.23
166	199	0.47	-145.26	0.00	0.01	0.00	-275.33
166	201	-0.47	145.26	0.00	-0.01	0.00	-0.67
167	203	0.00	21.69	0.00	0.00	0.00	0.00
167	202	0.00	-21.69	0.00	0.00	0.00	41.22
168	202	-0.47	145.26	0.00	0.00	0.00	276.00
168	204	0.47	-145.26	0.00	0.00	0.00	0.00
169	218	0.00	-20.63	0.00	0.01	0.00	0.01
169	217	0.00	20.63	0.00	-0.01	0.00	-39.20
170	217	1.20	-146.31	0.00	-0.01	0.00	-276.26
170	219	-1.20	146.31	0.00	0.01	0.00	-1.74
171	221	0.00	20.63	0.00	0.00	0.00	0.00
171	220	0.00	-20.63	0.00	0.00	0.00	39.20
172	220	-1.20	146.31	0.00	0.00	0.00	278.00
172	222	1.20	-146.31	0.00	0.00	0.00	0.00
173	236	0.00	-23.56	0.00	-0.01	0.00	0.01
173	235	0.00	23.56	0.00	0.01	0.00	-44.78
174	235	0.62	-140.95	0.00	0.01	0.00	-266.92
174	237	-0.62	140.95	0.00	-0.01	0.00	-0.89
175	239	0.00	23.56	0.00	0.00	0.00	0.00
175	238	0.00	-23.56	0.00	0.00	0.00	44.77
176	238	-0.62	140.96	0.00	0.00	0.00	267.82
176	240	0.62	-140.96	0.00	0.00	0.00	0.00
177	254	0.00	-2.69	0.00	0.01	0.00	0.01
177	253	0.00	2.69	0.00	-0.01	0.00	-5.11
178	253	-7.01	-150.45	0.00	-0.01	0.00	-296.08
178	255	7.01	150.45	0.00	0.01	0.00	10.23
179	257	0.00	2.69	0.00	0.00	0.00	0.00
179	256	0.00	-2.69	0.00	0.00	0.00	5.11
180	256	7.01	150.45	0.00	0.00	0.00	285.86
180	258	-7.01	-150.45	0.00	0.00	0.00	0.00
181	272	0.00	-16.41	0.00	0.00	0.00	0.00
181	271	0.00	16.41	0.00	0.00	0.00	-31.18
182	271	4.85	2.09	0.00	0.00	0.00	11.04
182	273	-4.85	-2.09	0.00	0.00	0.00	-7.07
183	275	0.00	16.41	0.00	0.00	0.00	0.00
183	274	0.00	-16.41	0.00	0.00	0.00	31.18
184	274	-4.85	-2.09	0.00	0.00	0.00	-3.97
184	276	4.85	2.09	0.00	0.00	0.00	0.00
185	6	-1.59	-13.18	-5.60	0.00	0.00	0.00
185	3	1.59	13.18	5.60	0.00	9.71	-22.84
186	5	-17.92	13.18	0.00	0.00	0.00	0.00
186	2	17.92	-13.18	0.00	0.00	0.00	22.84
187	24	151.43	0.00	6.80	0.00	0.00	0.00
187	21	-151.43	0.00	-6.80	0.00	-9.92	0.01

188	23	-2.34	0.00	0.00	0.00	0.00	0.00
188	20	2.34	0.00	0.00	0.00	-0.01	0.01
189	42	140.81	0.00	-0.94	0.00	0.00	0.00
189	39	-140.81	0.00	0.94	0.00	1.37	-0.01
190	41	-23.81	0.00	0.00	0.00	0.00	0.00
190	38	23.81	0.00	0.00	0.00	-0.01	-0.01
191	60	145.46	0.00	0.41	0.00	0.00	0.00
191	57	-145.46	0.00	-0.41	0.00	-0.60	0.01
192	59	-19.69	0.00	0.00	0.00	0.00	0.00
192	56	19.69	0.00	0.00	0.00	-0.01	0.01
193	78	144.79	0.00	-0.22	0.00	0.00	0.00
193	75	-144.79	0.00	0.22	0.00	0.31	-0.01
194	77	-21.23	0.00	0.00	0.00	0.00	0.00
194	74	21.23	0.00	0.00	0.00	-0.01	-0.01
195	96	145.28	0.00	-0.18	0.00	0.00	0.00
195	93	-145.28	0.00	0.18	0.00	0.26	0.01
196	95	-21.17	0.00	0.00	0.00	0.00	0.00
196	92	21.17	0.00	0.00	0.00	-0.01	0.01
197	114	145.36	0.00	-0.34	0.00	0.00	0.00
197	111	-145.36	0.00	0.34	0.00	0.49	-0.01
198	113	-21.39	0.00	0.00	0.00	0.00	0.00
198	110	21.39	0.00	0.00	0.00	-0.01	-0.01
199	132	145.28	0.00	-0.10	0.00	0.00	0.00
199	129	-145.28	0.00	0.10	0.00	0.14	0.01
200	131	-21.27	0.00	0.00	0.00	0.00	0.00
200	128	21.27	0.00	0.00	0.00	-0.01	0.01
201	150	145.13	0.00	0.18	0.00	0.00	0.00
201	147	-145.13	0.00	-0.18	0.00	-0.27	-0.01
202	149	-21.12	0.00	0.00	0.00	0.00	0.00
202	146	21.12	0.00	0.00	0.00	-0.01	-0.01
203	168	145.10	0.00	0.21	0.00	0.00	0.00
203	165	-145.10	0.00	-0.21	0.00	-0.31	0.01
204	167	-21.13	0.00	0.00	0.00	0.00	0.00
204	164	21.13	0.00	0.00	0.00	-0.01	0.01
205	186	145.35	0.00	-0.08	0.00	0.00	0.00
205	183	-145.35	0.00	0.08	0.00	0.11	-0.01
206	185	-21.23	0.00	0.00	0.00	0.00	0.00
206	182	21.23	0.00	0.00	0.00	-0.01	-0.01
207	204	145.27	0.00	-0.47	0.00	0.00	0.00
207	201	-145.27	0.00	0.47	0.00	0.67	0.01
208	203	-21.69	0.00	0.00	0.00	0.00	0.00
208	200	21.69	0.00	0.00	0.00	-0.01	0.01
209	222	146.32	0.00	-1.20	0.00	0.00	0.00
209	219	-146.32	0.00	1.20	0.00	1.74	-0.01
210	221	-20.63	0.00	0.00	0.00	0.00	0.00
210	218	20.63	0.00	0.00	0.00	-0.01	-0.01
211	240	140.96	0.00	-0.62	0.00	0.00	0.00
211	237	-140.96	0.00	0.62	0.00	0.89	0.01
212	239	-23.56	0.00	0.00	0.00	0.00	0.00
212	236	23.56	0.00	0.00	0.00	-0.01	0.01
213	258	150.45	0.00	7.01	0.00	0.00	0.00
213	255	-150.45	0.00	-7.01	0.00	-10.23	-0.01
214	257	-2.69	0.00	0.00	0.00	0.00	0.00
214	254	2.69	0.00	0.00	0.00	-0.01	-0.01
215	276	-2.09	0.00	-4.85	0.00	0.00	0.00
215	273	2.09	0.00	4.85	0.00	7.07	0.00

216	275	-16.41	0.00	0.00	0.00	0.00	0.00
216	272	16.41	0.00	0.00	0.00	0.00	0.00
217	7	-19.51	0.00	-5.60	50.08	105.04	0.00
217	8	19.51	0.00	5.60	-50.08	-93.83	0.00
218	8	-19.51	0.00	-5.60	50.08	93.83	0.00
218	9	19.51	0.00	5.60	-50.08	-46.72	0.00
219	9	19.51	0.00	-5.60	-50.08	-46.72	0.00
219	10	-19.51	0.00	5.60	50.08	62.43	0.00
220	10	-19.51.	0.00	-5.60	50.08	62.43	0.00
220	11	19.51	0.00	5.60	-50.08	-46.72	0.00
221	11	-19.51	0.00	-5.60	50.08	46.72	0.00
221	4	19.51	0.00	5.60	-50.08	-31.02	0.00
222	25	149.09	0.00	6.80	0.00	201.91	0.00
222	26	-149.09	0.00	-6.80	0.00	-217.89	0.00
223	26	149.09	0.00	6.80	0.00	217.89	0.00
223	27	-149.09	0.00	-6.80	0.00	-236.46	0.00
224	27	149.09	0.00	6.80	0.00	236.46	0.00
224	28	-149.09	0.00	-6.80	0.00	-255.02	0.00
225	28	149.09	0.00	6.80	0.00	255.02	0.00
225	29	-149.09	0.00	-6.80	0.00	-271.76	0.00
226	29	149.09	0.00	6.80	0.00	271.76	0.00
226	22	-149.09	0.00	-6.80	0.00	-292.15	0.00
227	43	117.00	0.00	-0.94	0.00	327.02	0.00
227	44	-117.00	0.00	0.94	0.00	-324.80	0.00
228	44	117.00	0.00	-0.94	0.00	324.80	0.00
228	45	-117.00	0.00	0.94	0.00	-321.80	0.00
229	45	117.00	0.00	-0.94	0.00	321.80	0.00
229	46	-117.00	0.00	0.94	0.00	-318.79	0.00
230	46	117.00	0.00	-0.94	0.00	318.79	0.00
230	47	-117.00	0.00	0.94	0.00	-315.61	0.00
231	47	117.00	0.00	-0.94	0.00	315.61	0.00
231	40	-117.00	0.00	0.94	0.00	-312.78	0.00
232	61	125.77	0.00	0.40	0.00	306.98	0.00
232	62	-125.77	0.00	-0.40	0.00	-307.93	0.00
233	62	125.77	0.00	0.40	0.00	307.93	0.00
233	63	-125.77	0.00	-0.40	0.00	-309.40	0.00
234	63	125.77	0.00	0.40	0.00	309.40	0.00
234	64	-125.77	0.00	-0.40	0.00	-310.86	0.00
235	64	125.77	0.00	0.40	0.00	310.86	0.00
235	65	-125.77	0.00	-0.40	0.00	-312.58	0.00
236	65	125.77	0.00	0.40	0.00	312.58	0.00
236	58	-125.77	0.00	-0.40	0.00	-313.79	0.00
237	79	123.56	0.00	-0.21	0.00	319.07	0.00
237	80	-123.56	0.00	0.21	0.00	-318.56	0.00
238	80	123.56	0.00	-0.21	0.00	318.56	0.00
238	81	-123.56	0.00	0.21	0.00	-317.78	0.00
239	81	123.56	0.00	-0.21	0.00	317.78	0.00
239	82	-123.56	0.00	0.21	0.00	-317.00	0.00
240	82	123.56	0.00	-0.21	0.00	317.00	0.00
240	83	-123.56	0.00	0.21	0.00	-316.09	0.00
241	83	123.56	0.00	-0.21	0.00	316.09	0.00
241	76	-123.56	0.00	0.21	0.00	-315.44	0.00
242	97	124.11	0.00	-0.18	0.00	319.25	0.00
242	98	-124.11	0.00	0.18	0.00	-318.83	0.00
243	98	124.11	0.00	-0.18	0.00	318.83	0.00
243	99	-124.11	0.00	0.18	0.00	-318.19	0.00
244	99	124.11	0.00	-0.18	0.00	318.19	0.00
244	100	-124.11	0.00	0.18	0.00	-317.55	0.00
245	100	124.11	0.00	-0.18	0.00	317.55	0.00
245	101	-124.11	0.00	0.18	0.00	-316.80	0.00
246	101	124.11	0.00	-0.18	0.00	316.80	0.00
246	94	-124.11	0.00	0.18	0.00	-316.26	0.00
247	115	123.97	0.00	-0.34	0.00	322.38	0.00
247	116	-123.97	0.00	0.34	0.00	-321.57	0.00
248	116	123.97	0.00	-0.34	0.00	321.57	0.00
248	117	-123.97	0.00	0.34	0.00	-320.39	0.00
249	117	123.97	0.00	-0.34	0.00	320.39	0.00
249	118	-123.97	0.00	0.34	0.00	-319.20	0.00
250	118	123.97	0.00	-0.34	0.00	319.20	0.00
250	119	-123.97	0.00	0.34	0.00	-317.86	0.00
251	119	123.97	0.00	-0.34	0.00	317.86	0.00
251	112	-123.97	0.00	0.34	0.00	-316.83	0.00
252	133	124.01	0.00	-0.10	0.00	318.02	0.00
252	134	-124.01	0.00	0.10	0.00	-317.79	0.00
253	134	124.01	0.00	-0.10	0.00	317.79	0.00
253	135	-124.01	0.00	0.10	0.00	-317.45	0.00
254	135	124.01	0.00	-0.10	0.00	317.45	0.00
254	136	-124.01	0.00	0.10	0.00	-317.12	0.00
255	136	124.01	0.00	-0.10	0.00	317.12	0.00
255	137	-124.01	0.00	0.10	0.00	-316.75	0.00
256	137	124.01	0.00	-0.10	0.00	316.75	0.00
256	130	-124.01	0.00	0.10	0.00	-316.45	0.00
257	151	124.00	0.00	0.18	0.00	312.87	0.00
257	152	-124.00	0.00	-0.18	0.00	-313.47	0.00
258	152	124.00	0.00	0.18	0.00	313.47	0.00
258	153	-124.00	0.00	-0.18	0.00	-314.07	0.00
259	153	124.00	0.00	0.18	0.00	314.07	0.00
259	154	-124.00	0.00	-0.18	0.00	-314.67	0.00
260	154	124.00	0.00	0.18	0.00	314.67	0.00
260	155	-124.00	0.00	-0.18	0.00	-315.34	0.00
261	155	124.00	0.00	0.18	0.00	315.34	0.00
261	148	-124.00	0.00	-0.18	0.00	-315.87	0.00
262	169	123.97	0.00	0.20	0.00	312.44	0.00
262	170	-123.97	0.00	-0.20	0.00	-313.12	0.00
263	170	123.97	0.00	0.20	0.00	313.12	0.00
263	171	-123.97	0.00	-0.20	0.00	-313.80	0.00
264	171	123.97	0.00	0.20	0.00	313.80	0.00
264	172	-123.97	0.00	-0.20	0.00	-314.48	0.00
265	172	123.97	0.00	0.20	0.00	314.48	0.00
265	173	-123.97	0.00	-0.20	0.00	-315.22	0.00
266	173	123.97	0.00	0.20	0.00	315.22	0.00
266	166	-123.97	0.00	-0.20	0.00	-315.84	0.00
267	187	124.11	0.00	-0.08	0.00	317.76	0.00
267	188	-124.11	0.00	0.08	0.00	-317.57	0.00
268	188	124.11	0.00	-0.08	0.00	317.57	0.00
268	189	-124.11	0.00	0.08	0.00	-317.30	0.00
269	189	124.11	0.00	-0.08	0.00	317.30	0.00
269	190	-124.11	0.00	0.08	0.00	-317.03	0.00
270	190	124.11	0.00	-0.08	0.00	317.03	0.00
270	191	-124.11	0.00	0.08	0.00	-316.74	0.00
271	191	124.11	0.00	-0.08	0.00	316.74	0.00
271	184	-124.11	0.00	0.08	0.00	-316.50	0.00

272	205	123.57	0.00	-0.47	0.00	324.23	0.00
272	206	-123.57	0.00	0.47	0.00	-323.13	0.00
273	206	123.57	0.00	-0.47	0.00	323.13	0.00
273	207	-123.57	0.00	0.47	0.00	-321.65	0.00
274	207	123.57	0.00	-0.47	0.00	321.65	0.00
274	208	-123.57	0.00	0.47	0.00	-320.18	0.00
275	208	123.57	0.00	-0.47	0.00	320.18	0.00
275	209	-123.57	0.00	0.47	0.00	-318.62	0.00
276	209	123.57	0.00	-0.47	0.00	318.62	0.00
276	202	-123.57	0.00	0.47	0.00	-317.22	0.00
277	223	125.69	0.00	-1.20	0.00	335.05	0.00
277	224	-125.69	0.00	1.20	0.00	-332.24	0.00
278	224	125.69	0.00	-1.20	0.00	332.24	0.00
278	225	-125.69	0.00	1.20	0.00	-328.48	0.00
279	225	125.69	0.00	-1.20	0.00	328.48	0.00
279	226	-125.69	0.00	1.20	0.00	-324.71	0.00
280	226	125.69	0.00	-1.20	0.00	324.71	0.00
280	227	-125.69	0.00	1.20	0.00	-320.79	0.00
281	227	125.69	0.00	-1.20	0.00	320.79	0.00
281	220	-125.69	0.00	1.20	0.00	-317.19	0.00
282	241	117.39	0.00	-0.62	0.00	321.75	0.00
282	242	-117.39	0.00	0.62	0.00	-320.30	0.00
283	242	117.39	0.00	-0.62	0.00	320.30	0.00
283	243	-117.39	0.00	0.62	0.00	-318.37	0.00
284	243	117.39	0.00	-0.62	0.00	318.37	0.00
284	244	-117.39	0.00	0.62	0.00	-316.44	0.00
285	244	117.39	0.00	-0.62	0.00	316.44	0.00
285	245	-117.39	0.00	0.62	0.00	-314.43	0.00
286	245	117.39	0.00	-0.62	0.00	314.43	0.00
286	238	-117.39	0.00	0.62	0.00	-312.59	0.00
287	259	147.76	0.00	7.01	0.00	187.95	0.00
287	260	-147.76	0.00	-7.01	0.00	-204.42	0.00
288	260	147.76	0.00	7.01	0.00	204.42	0.00
288	261	-147.76	0.00	-7.01	0.00	-226.05	0.00
289	261	147.76	0.00	7.01	0.00	226.05	0.00
289	262	-147.76	0.00	-7.01	0.00	-247.69	0.00
290	262	147.76	0.00	7.01	0.00	247.69	0.00
290	263	-147.76	0.00	-7.01	0.00	-269.94	0.00
291	263	147.76	0.00	7.01	0.00	269.94	0.00
291	256	-147.76	0.00	-7.01	0.00	-290.97	0.00
292	277	-18.50	0.00	-4.85	0.00	98.40	0.00
292	278	18.50	0.00	4.85	0.00	-87.00	0.00
293	278	-18.50	0.00	-4.85	0.00	87.00	0.00
293	279	18.50	0.00	4.85	0.00	-72.05	0.00
294	279	-18.50	0.00	-4.85	0.00	72.05	0.00
294	280	18.50	0.00	4.85	0.00	-57.11	0.00
295	280	-18.50	0.00	-4.85	0.00	57.11	0.00
295	281	18.50	0.00	4.85	0.00	-42.16	0.00
296	281	-18.50	0.00	-4.85	0.00	42.16	0.00
296	274	18.50	0.00	4.85	0.00	-27.21	0.00

CARGAS APLICADAS EN LOS NUDOS LIBRES

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00

57	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.01	0.00	0.00	0.00
60	0.00	0.00	-0.01	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	-0.01	0.00	0.00	0.00
78	0.00	0.00	0.01	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	-0.01	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00
99	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00
101	0.00	0.00	0.00	0.00	0.00	0.00
102	0.00	0.00	0.00	0.00	0.00	0.00
103	0.00	0.00	0.00	0.00	0.00	0.00
104	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00
106	0.00	0.00	0.00	0.00	0.00	0.00
107	0.00	0.00	0.00	0.00	0.00	0.00
108	0.00	0.00	0.00	0.00	0.00	0.00
109	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	-0.01	0.00	0.00	0.00
111	0.00	0.00	0.01	0.00	0.00	0.00
112	0.00	0.00	0.00	0.00	0.00	0.00
113	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00
116	0.00	0.00	0.00	0.00	0.00	0.00

117	0.00	0.00	0.00	0.00	0.00	0.00
118	0.00	0.00	0.00	0.00	0.00	0.00
119	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00
121	0.00	0.00	0.00	0.00	0.00	0.00
122	0.00	0.00	0.00	0.00	0.00	0.00
123	0.00	0.00	0.00	0.00	0.00	0.00
124	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.00	0.00	0.00	0.00
128	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00
134	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00
136	0.00	0.00	0.00	0.00	0.00	0.00
137	0.00	0.00	0.00	0.00	0.00	0.00
138	0.00	0.00	0.00	0.00	0.00	0.00
139	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00
142	0.00	0.00	0.00	0.00	0.00	0.00
143	0.00	0.00	0.00	0.00	0.00	0.00
144	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00
146	0.00	0.00	0.00	0.00	0.00	0.00
147	0.00	0.00	0.00	0.00	0.00	0.00
148	0.00	0.00	0.00	0.00	0.00	0.00
149	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00
152	0.00	0.00	0.00	0.00	0.00	0.00
153	0.00	0.00	0.00	0.00	0.00	0.00
154	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00
156	0.00	0.00	0.00	0.00	0.00	0.00
157	0.00	0.00	0.00	0.00	0.00	0.00
158	0.00	0.00	0.00	0.00	0.00	0.00
159	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00
161	0.00	0.00	0.00	0.00	0.00	0.00
162	0.00	0.00	0.00	0.00	0.00	0.00
163	0.00	0.00	0.00	0.00	0.00	0.00
164	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00
166	0.00	0.00	0.00	0.00	0.00	0.00
167	0.00	0.00	0.00	0.00	0.00	0.00
168	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00
171	0.00	0.00	0.00	0.00	0.00	0.00
172	0.00	0.00	0.00	0.00	0.00	0.00
173	0.00	0.00	0.00	0.00	0.00	0.00
174	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00

176	0.00	0.00	0.00	0.00	0.00	0.00
177	0.00	0.00	0.00	0.00	0.00	0.00
178	0.00	0.00	0.00	0.00	0.00	0.00
179	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00
181	0.00	0.00	0.00	0.00	0.00	0.00
182	0.00	0.00	0.00	0.00	0.00	0.00
183	0.00	0.00	0.00	0.00	0.00	0.00
184	0.00	0.00	0.00	0.00	0.00	0.00
185	0.00	0.00	0.00	0.00	0.00	0.00
186	0.00	0.00	0.00	0.00	0.00	0.00
188	0.00	0.00	0.00	0.00	0.00	0.00
189	0.00	0.00	0.00	0.00	0.00	0.00
190	0.00	0.00	0.00	0.00	0.00	0.00
191	0.00	0.00	0.00	0.00	0.00	0.00
192	0.00	0.00	0.00	0.00	0.00	0.00
193	0.00	0.00	0.00	0.00	0.00	0.00
194	0.00	0.00	0.00	0.00	0.00	0.00
195	0.00	0.00	0.00	0.00	0.00	0.00
196	0.00	0.00	0.00	0.00	0.00	0.00
197	0.00	0.00	0.00	0.00	0.00	0.00
198	0.00	0.00	0.00	0.00	0.00	0.00
199	0.00	0.00	0.00	0.00	0.00	0.00
200	0.00	0.00	0.00	0.00	0.00	0.00
201	0.00	0.00	0.00	0.00	0.00	0.00
202	0.00	0.00	0.00	0.00	0.00	0.00
203	0.00	0.00	0.00	0.00	0.00	0.00
204	0.00	0.00	0.00	0.00	0.00	0.00
206	0.00	0.00	0.00	0.00	0.00	0.00
207	0.00	0.00	0.00	0.00	0.00	0.00
208	0.00	0.00	0.00	0.00	0.00	0.00
209	0.00	0.00	0.00	0.00	0.00	0.00
210	0.00	0.00	0.00	0.00	0.00	0.00
211	0.00	0.00	0.00	0.00	0.00	0.00
212	0.00	0.00	0.00	0.00	0.00	0.00
213	0.00	0.00	0.00	0.00	0.00	0.00
214	0.00	0.00	0.00	0.00	0.00	0.00
215	0.00	0.00	0.00	0.00	0.00	0.00
216	0.00	0.00	0.00	0.00	0.00	0.00
217	0.00	0.00	0.00	0.00	0.00	0.00
218	0.00	0.00	0.00	0.00	0.00	0.00
219	0.00	0.00	0.00	0.00	0.00	0.00
220	0.00	0.00	0.00	0.00	0.00	0.00
221	0.00	0.00	0.00	0.00	0.00	0.00
222	0.00	0.00	0.00	0.00	0.00	0.00
224	0.00	0.00	0.00	0.00	0.00	0.00
225	0.00	0.00	0.00	0.00	0.00	0.00
226	0.00	0.00	0.00	0.00	0.00	0.00
227	0.00	0.00	0.00	0.00	0.00	0.00
228	0.00	0.00	0.00	0.00	0.00	0.00
229	0.00	0.00	0.00	0.00	0.00	0.00
230	0.00	0.00	0.00	0.00	0.00	0.00
231	0.00	0.00	0.00	0.00	0.00	0.00
232	0.00	0.00	0.00	0.00	0.00	0.00
233	0.00	0.00	0.00	0.00	0.00	0.00
234	0.00	0.00	0.00	0.00	0.00	0.00
235	0.00	0.00	0.00	0.00	0.00	0.00
236	0.00	0.00	0.00	0.00	0.00	0.00
237	0.00	0.00	0.00	0.00	0.00	0.00
238	0.00	0.00	0.00	0.00	0.00	0.00
239	0.00	0.00	0.00	0.00	0.00	0.00
240	0.00	0.00	0.00	0.00	0.00	0.00
242	0.00	0.00	0.00	0.00	0.00	0.00
243	0.00	0.00	0.00	0.00	0.00	0.00
244	0.00	0.00	0.00	0.00	0.00	0.00
245	0.00	0.00	0.00	0.00	0.00	0.00
246	0.00	0.00	0.00	0.00	0.00	0.00
247	0.00	0.00	0.00	0.00	0.00	0.00
248	0.00	0.00	0.00	0.00	0.00	0.00
249	0.00	0.00	0.00	0.00	0.00	0.00
250	0.00	0.00	0.00	0.00	0.00	0.00
251	0.00	0.00	0.00	0.00	0.00	0.00
252	0.00	0.00	0.00	0.00	0.00	0.00
253	0.00	0.00	0.00	0.00	0.00	0.00
254	0.00	0.00	0.00	0.00	0.00	0.00
255	0.00	0.00	0.00	0.00	0.00	0.00
256	0.00	0.00	0.00	0.00	0.00	0.00
257	0.00	0.00	0.00	0.00	0.00	0.00
258	0.00	0.00	0.00	0.00	0.00	0.00
260	0.00	0.00	0.00	0.00	0.00	0.00
261	0.00	0.00	0.00	0.00	0.00	0.00
262	0.00	0.00	0.00	0.00	0.00	0.00
263	0.00	0.00	0.00	0.00	0.00	0.00
264	0.00	0.00	0.00	0.00	0.00	0.00
265	0.00	0.00	0.00	0.00	0.00	0.00
266	0.00	0.00	0.00	0.00	0.00	0.00
267	0.00	0.00	0.00	0.00	0.00	0.00
268	0.00	0.00	0.00	0.00	0.00	0.00
269	0.00	0.00	0.00	0.00	0.00	0.00
270	0.00	0.00	0.00	0.00	0.00	0.00
271	0.00	0.00	0.00	0.00	0.00	0.00
272	0.00	0.00	0.00	0.00	0.00	0.00
273	0.00	0.00	0.00	0.00	0.00	0.00
274	0.00	0.00	0.00	0.00	0.00	0.00
275	0.00	0.00	0.00	0.00	0.00	0.00
276	0.00	0.00	0.00	0.00	0.00	0.00
278	0.00	0.00	0.00	0.00	0.00	0.00
279	0.00	0.00	0.00	0.00	0.00	0.00
280	0.00	0.00	0.00	0.00	0.00	0.00
281	0.00	0.00	0.00	0.00	0.00	0.00

REACCIONES EN LOS APOYOS

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
7	0.00	-19.51	-5.60	-105.04	50.08	0.00
25	0.00	149.09	6.80	-201.91	0.00	0.00
43	0.00	117.00	-0.94	-327.02	0.00	0.00

61	0.00	125.77	0.40	-306.98	0.00	0.00
79	0.00	123.56	-0.21	-319.07	0.00	0.00
97	0.00	124.11	-0.18	-319.25	0.00	0.00
115	0.00	123.97	-0.34	-322.38	0.00	0.00
133	0.00	124.01	-0.10	-318.02	0.00	0.00
151	0.00	124.00	0.18	-312.87	0.00	0.00
169	0.00	123.97	0.20	-312.44	0.00	0.00
187	0.00	124.11	-0.08	-317.76	0.00	0.00
205	0.00	123.57	-0.47	-324.23	0.00	0.00
223	0.00	125.69	-1.20	-335.05	0.00	0.00
241	0.00	117.39	-0.62	-321.75	0.00	0.00
259	0.00	147.76	7.01	-187.95	0.00	0.00
277	0.00	-18.50	-4.85	-98.40	0.00	0.00

DESPLAZAMIENTOS DE LOS NUDOS LIBRES

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
1	-0.000253	0.000003	0.000005	0.000000	-0.000016	0.000146
2	-0.000224	0.000003	0.000005	0.000000	-0.000016	0.000146
3	-0.000283	0.000002	0.000005	0.000001	-0.000016	0.000146
4	0.000000	0.000002	0.000004	0.000000	-0.000015	0.000000
5	0.000029	0.000003	0.000004	0.000000	-0.000015	0.000000
6	-0.000029	0.000002	0.000004	0.000000	-0.000015	0.000000
8	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9	0.000000	0.000001	0.000002	0.000000	-0.000008	0.000000
10	0.000000	0.000001	0.000002	0.000000	-0.000010	0.000000
11	0.000000	0.000002	0.000003	0.000000	-0.000013	0.000000
12	-0.000253	0.000438	0.000054	0.000008	-0.000016	0.000139
13	-0.000253	0.000830	0.000105	0.000016	-0.000016	0.000117
14	-0.000253	0.001137	0.000156	0.000024	-0.000016	0.000080
15	-0.000253	0.001315	0.000207	0.000032	-0.000016	0.000029
16	-0.000253	0.001322	0.000258	0.000040	-0.000016	-0.000036
17	-0.000253	0.001114	0.000307	0.000048	-0.000016	-0.000117
18	-0.000253	0.000649	0.000356	0.000056	-0.000015	-0.000211
19	-0.000253	-0.000116	0.000402	0.000064	-0.000014	-0.000321
20	-0.000226	0.000007	0.000402	0.000064	-0.000014	-0.000321
21	-0.000280	-0.000235	0.000402	0.000064	-0.000014	-0.000321
22	0.000000	-0.000112	0.000309	0.000063	0.000000	0.000000
23	0.000000	0.000007	0.000309	0.000063	0.000000	0.000000
24	0.000000	-0.000234	0.000309	0.000063	0.000000	0.000000
26	0.000000	-0.000002	0.000000	0.000000	0.000000	0.000000
27	0.000000	-0.000026	0.000017	0.000014	0.000000	0.000000
28	0.000000	-0.000051	0.000071	0.000029	0.000000	0.000000
29	0.000000	-0.000073	0.000156	0.000043	0.000000	0.000000
30	-0.000253	-0.001658	0.000454	0.000205	-0.000013	-0.000397
31	-0.000253	-0.003207	0.000502	0.000306	-0.000012	-0.000345
32	-0.000253	-0.004343	0.000547	0.000368	-0.000011	-0.000205
33	-0.000253	-0.004803	0.000587	0.000391	-0.000010	-0.000018
34	-0.000253	-0.004481	0.000625	0.000375	-0.000009	0.000177
35	-0.000253	-0.003427	0.000659	0.000320	-0.000009	0.000339
36	-0.000253	-0.001847	0.000690	0.000226	-0.000008	0.000427
37	-0.000253	-0.000104	0.000718	0.000093	-0.000007	0.000402
38	-0.000239	0.000072	0.000718	0.000093	-0.000007	0.000402
39	-0.000267	-0.000277	0.000718	0.000092	-0.000007	0.000402
40	0.000000	-0.000101	0.000584	0.000091	0.000000	0.000000
41	0.000000	0.000072	0.000584	0.000091	0.000000	0.000000
42	0.000000	-0.000277	0.000584	0.000092	0.000000	0.000000
44	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
45	0.000000	-0.000024	0.000040	0.000023	0.000000	0.000000
46	0.000000	-0.000047	0.000150	0.000046	0.000000	0.000000
47	0.000000	-0.000071	0.000343	0.000069	0.000000	0.000000
48	-0.000253	0.001268	0.000745	0.000094	-0.000007	0.000305
49	-0.000253	0.002261	0.000770	0.000095	-0.000006	0.000207
50	-0.000253	0.002869	0.000792	0.000096	-0.000005	0.000106
51	-0.000253	0.003084	0.000812	0.000098	-0.000005	0.000004
52	-0.000253	0.002899	0.000829	0.000099	-0.000004	-0.000100
53	-0.000253	0.002308	0.000845	0.000100	-0.000004	-0.000206
54	-0.000253	0.001302	0.000858	0.000101	-0.000003	-0.000314
55	-0.000253	-0.000125	0.000870	0.000102	-0.000003	-0.000424
56	-0.000248	0.000069	0.000870	0.000102	-0.000003	-0.000424
57	-0.000258	-0.000316	0.000870	0.000102	-0.000003	-0.000424
58	0.000000	-0.000122	0.000722	0.000100	0.000000	0.000000
59	0.000000	0.000069	0.000722	0.000101	0.000000	0.000000
60	0.000000	-0.000316	0.000722	0.000101	0.000000	0.000000
62	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
63	0.000000	-0.000029	0.000047	0.000025	0.000000	0.000000
64	0.000000	-0.000057	0.000182	0.000050	0.000000	0.000000
65	0.000000	-0.000089	0.000453	0.000079	0.000000	0.000000
66	-0.000253	-0.001981	0.000879	0.000239	-0.000002	-0.000460
67	-0.000253	-0.003701	0.000886	0.000338	-0.000002	-0.000375
68	-0.000253	-0.004892	0.000892	0.000396	-0.000001	-0.000208
69	-0.000253	-0.005319	0.000896	0.000416	-0.000001	-0.000001
70	-0.000253	-0.004901	0.000898	0.000397	-0.000001	0.000207
71	-0.000253	-0.003714	0.000900	0.000339	0.000000	0.000374
72	-0.000253	-0.001992	0.000900	0.000241	0.000000	0.000462
73	-0.000253	-0.000123	0.000899	0.000105	0.000000	0.000429
74	-0.000254	0.000076	0.000899	0.000105	0.000000	0.000429
75	-0.000253	-0.000319	0.000899	0.000104	0.000000	0.000429
76	0.000000	-0.000120	0.000747	0.000103	0.000000	0.000000
77	0.000000	0.000076	0.000747	0.000103	0.000000	0.000000
78	0.000000	-0.000318	0.000747	0.000104	0.000000	0.000000
80	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
81	0.000000	-0.000029	0.000049	0.000026	0.000000	0.000000
82	0.000000	-0.000056	0.000190	0.000051	0.000000	0.000000
83	0.000000	-0.000088	0.000472	0.000081	0.000000	0.000000
84	-0.000253	0.001331	0.000897	0.000105	0.000000	0.000322
85	-0.000253	0.002371	0.000895	0.000104	0.000001	0.000215
86	-0.000253	0.002996	0.000892	0.000104	0.000001	0.000108
87	-0.000253	0.003205	0.000888	0.000104	0.000001	0.000000
88	-0.000253	0.002998	0.000884	0.000104	0.000001	-0.000107
89	-0.000253	0.002375	0.000879	0.000103	0.000001	-0.000215
90	-0.000253	0.001336	0.000874	0.000103	0.000001	-0.000322
91	-0.000253	-0.000121	0.000869	0.000103	0.000001	-0.000430
92	-0.000256	0.000074	0.000869	0.000103	0.000001	-0.000430
93	-0.000251	-0.000314	0.000869	0.000102	0.000001	-0.000430
94	0.000000	-0.000119	0.000720	0.000101	0.000000	0.000000
95	0.000000	0.000074	0.000720	0.000101	0.000000	0.000000

96	0.000000	-0.000314	0.000720	0.000102	0.000000	0.000000
98	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
99	0.000000	-0.000028	0.000048	0.000026	0.000000	0.000000
100	0.000000	-0.000055	0.000183	0.000050	0.000000	0.000000
101	0.000000	-0.000086	0.000450	0.000079	0.000000	0.000000
102	-0.000253	-0.001997	0.000864	0.000240	0.000001	-0.000464
103	-0.000253	-0.003727	0.000859	0.000337	0.000001	-0.000376
104	-0.000253	-0.004922	0.000853	0.000395	0.000001	-0.000208
105	-0.000253	-0.005346	0.000848	0.000415	0.000001	0.000000
106	-0.000253	-0.004922	0.000843	0.000395	0.000001	0.000208
107	-0.000253	-0.003726	0.000838	0.000336	0.000001	0.000377
108	-0.000253	-0.001995	0.000833	0.000238	0.000001	0.000464
109	-0.000253	-0.000118	0.000828	0.000101	0.000001	0.000430
110	-0.000255	0.000073	0.000828	0.000100	0.000001	0.000430
111	-0.000251	-0.000306	0.000828	0.000100	0.000001	0.000430
112	0.000000	-0.000115	0.000683	0.000099	0.000000	0.000000
113	0.000000	0.000073	0.000683	0.000099	0.000000	0.000000
114	0.000000	-0.000306	0.000683	0.000099	0.000000	0.000000
116	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
117	0.000000	-0.000027	0.000045	0.000025	0.000000	0.000000
118	0.000000	-0.000053	0.000174	0.000049	0.000000	0.000000
119	0.000000	-0.000083	0.000420	0.000076	0.000000	0.000000
120	-0.000253	0.001341	0.000824	0.000100	0.000001	0.000323
121	-0.000253	0.002384	0.000820	0.000100	0.000001	0.000215
122	-0.000253	0.003010	0.000817	0.000100	0.000001	0.000108
123	-0.000253	0.003218	0.000813	0.000100	0.000001	0.000000
124	-0.000253	0.003010	0.000810	0.000099	0.000001	-0.000108
125	-0.000253	0.002385	0.000807	0.000099	0.000001	-0.000215
126	-0.000253	0.001343	0.000804	0.000099	0.000001	-0.000323
127	-0.000253	-0.000117	0.000802	0.000099	0.000001	-0.000430
128	-0.000254	0.000070	0.000802	0.000099	0.000001	-0.000430
129	-0.000252	-0.000301	0.000802	0.000098	0.000001	-0.000430
130	0.000000	-0.000114	0.000659	0.000097	0.000000	0.000000
131	0.000000	0.000070	0.000659	0.000097	0.000000	0.000000
132	0.000000	-0.000301	0.000659	0.000098	0.000000	0.000000
134	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
135	0.000000	-0.000027	0.000044	0.000024	0.000000	0.000000
136	0.000000	-0.000053	0.000167	0.000048	0.000000	0.000000
137	0.000000	-0.000082	0.000402	0.000075	0.000000	0.000000
138	-0.000253	-0.001994	0.000800	0.000235	0.000001	-0.000464
139	-0.000253	-0.003725	0.000797	0.000333	0.000001	-0.000377
140	-0.000253	-0.004921	0.000795	0.000391	0.000001	-0.000208
141	-0.000253	-0.005345	0.000793	0.000411	0.000001	0.000000
142	-0.000253	-0.004920	0.000791	0.000391	0.000001	0.000209
143	-0.000253	-0.003725	0.000789	0.000332	0.000001	0.000377
144	-0.000253	-0.001993	0.000787	0.000234	0.000001	0.000464
145	-0.000253	-0.000116	0.000785	0.000097	0.000001	0.000430
146	-0.000254	0.000068	0.000785	0.000097	0.000001	0.000430
147	-0.000252	-0.000298	0.000785	0.000097	0.000001	0.000430
148	0.000000	-0.000114	0.000644	0.000095	0.000000	0.000000
149	0.000000	0.000068	0.000644	0.000095	0.000000	0.000000
150	0.000000	-0.000298	0.000644	0.000096	0.000000	0.000000
152	0.000000	-0.000002	0.000002	0.000001	0.000000	0.000000
153	0.000000	-0.000027	0.000044	0.000024	0.000000	0.000000
154	0.000000	-0.000053	0.000164	0.000047	0.000000	0.000000
155	0.000000	-0.000081	0.000391	0.000073	0.000000	0.000000
156	-0.000253	0.001343	0.000782	0.000097	0.000001	0.000323
157	-0.000253	0.002386	0.000780	0.000097	0.000001	0.000215
158	-0.000253	0.003011	0.000777	0.000097	0.000001	0.000108
159	-0.000253	0.003220	0.000774	0.000096	0.000001	0.000000
160	-0.000253	0.003012	0.000771	0.000096	0.000001	-0.000108
161	-0.000253	0.002386	0.000768	0.000096	0.000001	-0.000215
162	-0.000253	0.001344	0.000764	0.000096	0.000001	-0.000323
163	-0.000253	-0.000115	0.000761	0.000096	0.000001	-0.000430
164	-0.000255	0.000067	0.000761	0.000096	0.000001	-0.000430
165	-0.000251	-0.000293	0.000761	0.000095	0.000001	-0.000430
166	0.000000	-0.000112	0.000623	0.000094	0.000000	0.000000
167	0.000000	0.000067	0.000623	0.000094	0.000000	0.000000
168	0.000000	-0.000293	0.000623	0.000095	0.000000	0.000000
170	0.000000	-0.000002	0.000002	0.000001	0.000000	0.000000
171	0.000000	-0.000027	0.000042	0.000024	0.000000	0.000000
172	0.000000	-0.000052	0.000159	0.000047	0.000000	0.000000
173	0.000000	-0.000079	0.000375	0.000072	0.000000	0.000000
174	-0.000253	-0.001991	0.000757	0.000232	0.000001	-0.000464
175	-0.000253	-0.003722	0.000753	0.000330	0.000001	-0.000376
176	-0.000253	-0.004916	0.000750	0.000388	0.000001	-0.000208
177	-0.000253	-0.005340	0.000746	0.000408	0.000001	0.000000
178	-0.000253	-0.004915	0.000742	0.000388	0.000001	0.000209
179	-0.000253	-0.003719	0.000738	0.000329	0.000001	0.000377
180	-0.000253	-0.001988	0.000734	0.000231	0.000001	0.000464
181	-0.000253	-0.000112	0.000731	0.000094	0.000001	0.000430
182	-0.000255	0.000066	0.000731	0.000094	0.000001	0.000430
183	-0.000251	-0.000287	0.000731	0.000093	0.000001	0.000430
184	0.000000	-0.000109	0.000595	0.000092	0.000000	0.000000
185	0.000000	0.000066	0.000595	0.000092	0.000000	0.000000
186	0.000000	-0.000286	0.000595	0.000093	0.000000	0.000000
188	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
189	0.000000	-0.000026	0.000040	0.000023	0.000000	0.000000
190	0.000000	-0.000050	0.000151	0.000046	0.000000	0.000000
191	0.000000	-0.000076	0.000352	0.000070	0.000000	0.000000
192	-0.000253	0.001346	0.000727	0.000094	0.000001	0.000322
193	-0.000253	0.002387	0.000724	0.000094	0.000001	0.000215
194	-0.000253	0.003010	0.000722	0.000093	0.000001	0.000107
195	-0.000253	0.003218	0.000719	0.000093	0.000001	0.000000
196	-0.000253	0.003009	0.000717	0.000093	0.000001	-0.000107
197	-0.000253	0.002384	0.000715	0.000093	0.000000	-0.000215
198	-0.000253	0.001345	0.000713	0.000093	0.000000	-0.000322
199	-0.000253	-0.000109	0.000712	0.000093	0.000000	-0.000429
200	-0.000254	0.000067	0.000712	0.000093	0.000000	-0.000429
201	-0.000253	-0.000283	0.000712	0.000092	0.000000	-0.000429
202	0.000000	-0.000106	0.000578	0.000091	0.000000	0.000000
203	0.000000	0.000067	0.000578	0.000091	0.000000	0.000000
204	0.000000	-0.000282	0.000578	0.000092	0.000000	0.000000
206	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
207	0.000000	-0.000025	0.000039	0.000023	0.000000	0.000000
208	0.000000	-0.000049	0.000147	0.000045	0.000000	0.000000
209	0.000000	-0.000074	0.000338	0.000069	0.000000	0.000000
210	-0.000253	-0.001978	0.000712	0.000230	0.000000	-0.000462
211	-0.000253	-0.003700	0.000712	0.000327	0.000000	-0.000374
212	-0.000253	-0.004887	0.000712	0.000386	0.000000	-0.000207
213	-0.000253	-0.005305	0.000712	0.000406	0.000000	0.000001
214	-0.000253	-0.004879	0.000713	0.000386	0.000000	0.000208

215	-0.000253	-0.003687	0.000713	0.000328	0.000000	0.000375
216	-0.000253	-0.001966	0.000714	0.000230	0.000000	0.000460
217	-0.000253	-0.000110	0.000714	0.000093	0.000000	0.000424
218	-0.000253	0.000067	0.000714	0.000093	0.000000	0.000424
219	-0.000253	-0.000284	0.000714	0.000092	0.000000	0.000424
220	0.000000	-0.000107	0.000579	0.000091	0.000000	0.000000
221	0.000000	0.000067	0.000579	0.000091	0.000000	0.000000
222	0.000000	-0.000283	0.000579	0.000092	0.000000	0.000000
224	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
225	0.000000	-0.000025	0.000039	0.000023	0.000000	0.000000
226	0.000000	-0.000049	0.000149	0.000046	0.000000	0.000000
227	0.000000	-0.000074	0.000338	0.000069	0.000000	0.000000
228	-0.000253	0.001318	0.000715	0.000093	0.000000	0.000314
229	-0.000253	0.002325	0.000715	0.000093	0.000000	0.000206
230	-0.000253	0.002917	0.000715	0.000092	0.000001	0.000100
231	-0.000253	0.003101	0.000713	0.000092	0.000001	-0.000004
232	-0.000253	0.002885	0.000710	0.000092	0.000001	-0.000107
233	-0.000253	0.002274	0.000706	0.000091	0.000002	-0.000208
234	-0.000253	0.001276	0.000699	0.000091	0.000002	-0.000307
235	-0.000253	-0.000102	0.000689	0.000091	0.000003	-0.000404
236	-0.000259	0.000069	0.000689	0.000091	0.000003	-0.000404
237	-0.000247	-0.000272	0.000689	0.000090	0.000003	-0.000404
238	0.000000	-0.000100	0.000558	0.000089	0.000000	0.000000
239	0.000000	0.000069	0.000558	0.000089	0.000000	0.000000
240	0.000000	-0.000271	0.000558	0.000089	0.000000	0.000000
242	0.000000	-0.000001	0.000001	0.000001	0.000000	0.000000
243	0.000000	-0.000024	0.000038	0.000023	0.000000	0.000000
244	0.000000	-0.000046	0.000143	0.000044	0.000000	0.000000
245	0.000000	-0.000069	0.000324	0.000067	0.000000	0.000000
246	-0.000253	-0.001855	0.000678	0.000225	0.000004	-0.000430
247	-0.000253	-0.003445	0.000663	0.000320	0.000005	-0.000342
248	-0.000253	-0.004510	0.000644	0.000376	0.000006	-0.000179
249	-0.000253	-0.004839	0.000622	0.000393	0.000007	0.000016
250	-0.000253	-0.004383	0.000594	0.000371	0.000008	0.000205
251	-0.000253	-0.003245	0.000562	0.000310	0.000009	0.000347
252	-0.000253	-0.001688	0.000524	0.000210	0.000011	0.000401
253	-0.000253	-0.000127	0.000481	0.000070	0.000012	0.000327
254	-0.000277	0.000006	0.000481	0.000070	0.000012	0.000327
255	-0.000229	-0.000258	0.000481	0.000069	0.000012	0.000327
256	0.000000	-0.000124	0.000380	0.000069	0.000000	0.000000
257	0.000000	0.000006	0.000380	0.000069	0.000000	0.000000
258	0.000000	-0.000257	0.000379	0.000069	0.000000	0.000000
260	0.000000	-0.000002	0.000000	0.000000	0.000000	0.000000
261	0.000000	-0.000029	0.000020	0.000015	0.000000	0.000000
262	0.000000	-0.000057	0.000087	0.000031	0.000000	0.000000
263	0.000000	-0.000086	0.000209	0.000049	0.000000	0.000000
264	-0.000253	0.000681	0.000438	0.000062	0.000014	0.000215
265	-0.000253	0.001172	0.000392	0.000055	0.000015	0.000119
266	-0.000253	0.001393	0.000343	0.000047	0.000016	0.000037
267	-0.000253	0.001387	0.000292	0.000039	0.000016	-0.000030
268	-0.000253	0.001200	0.000239	0.000031	0.000017	-0.000082
269	-0.000253	0.000878	0.000184	0.000023	0.000017	-0.000119
270	-0.000253	0.000465	0.000128	0.000016	0.000018	-0.000141
271	-0.000253	0.000007	0.000072	0.000008	0.000018	-0.000149
272	-0.000287	0.000022	0.000072	0.000008	0.000018	-0.000149
273	-0.000220	-0.000007	0.000072	0.000008	0.000018	-0.000149
274	0.000000	0.000007	0.000061	0.000008	0.000000	0.000000
275	0.000000	0.000022	0.000061	0.000008	0.000000	0.000000
276	0.000000	-0.000008	0.000061	0.000008	0.000000	0.000000
278	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
279	0.000000	0.000002	0.000006	0.000003	0.000000	0.000000
280	0.000000	0.000003	0.000019	0.000005	0.000000	0.000000
281	0.000000	0.000004	0.000037	0.000006	0.000000	0.000000

DESPLAZAMIENTOS DE LOS APOYOS

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
7	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
43	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
61	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
79	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
97	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
115	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
133	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
151	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
169	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
187	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
205	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
223	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
241	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
259	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
277	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

estr

hipo 3 TRAMOS PARES CARGADOS (2 VIAS CARGADAS 16 t/m)

ESFUERZOS EN BARRAS

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	0.00	176.68	0.00	0.00	0.00	0.01
1	12	0.00	-129.68	0.00	0.00	0.01	449.95
2	12	0.00	129.68	0.00	0.00	-0.01	-449.95
2	13	0.00	-82.68	0.00	0.00	0.01	761.85
3	13	0.00	82.68	0.00	0.00	-0.01	-761.86
3	14	0.00	-35.68	0.00	0.00	0.02	935.70
4	14	0.00	35.68	0.00	0.00	-0.02	-935.69
4	15	0.00	11.32	0.00	0.00	0.03	971.47
5	15	0.00	-11.32	0.00	0.00	-0.03	-971.47
5	16	0.00	58.32	0.00	0.00	0.04	869.19
6	16	0.00	-58.32	0.00	0.00	-0.04	-869.19
6	17	0.00	105.32	0.00	0.00	0.05	628.84
7	17	0.00	-105.32	0.00	0.00	-0.05	-628.84
7	18	0.00	152.32	0.00	0.00	0.06	250.43
8	18	0.00	-152.32	0.00	0.00	-0.06	-250.43
8	19	0.00	199.32	0.00	0.00	0.06	-266.04
9	19	0.00	-15.17	0.00	0.00	-0.06	266.06
9	30	0.00	15.17	0.00	0.00	0.05	-324.86
10	30	0.00	-15.17	0.00	0.00	-0.05	324.86
10	31	0.00	15.17	0.00	0.00	0.04	-383.65
11	31	0.00	-15.17	0.00	0.00	-0.04	383.66
11	32	0.00	15.17	0.00	0.00	0.02	-442.45
12	32	0.00	-15.17	0.00	0.00	-0.02	442.45
12	33	0.00	15.17	0.00	0.00	0.01	-501.25
13	33	0.00	-15.17	0.00	0.00	-0.01	501.25
13	34	0.00	15.17	0.00	0.00	0.00	-560.05
14	34	0.00	-15.17	0.00	0.00	0.00	560.05
14	35	0.00	15.17	0.00	0.00	-0.02	-618.84
15	35	0.00	-15.17	0.00	0.00	0.02	618.84
15	36	0.00	15.17	0.00	0.00	-0.03	-677.64
16	36	0.00	-15.17	0.00	0.00	0.03	677.64
16	37	0.00	15.17	0.00	0.00	-0.04	-736.44
17	37	0.00	251.89	0.00	0.00	0.04	736.41
17	48	0.00	-189.89	0.00	0.00	-0.04	119.53
18	48	0.00	189.89	0.00	0.00	0.04	-119.53
18	49	0.00	-127.89	0.00	0.00	-0.03	735.23
19	49	0.00	127.89	0.00	0.00	0.03	-735.23
19	50	0.00	-65.89	0.00	0.00	-0.03	1110.68
20	50	0.00	65.89	0.00	0.00	0.03	-1110.68
20	51	0.00	-3.89	0.00	0.00	-0.03	1245.87
21	51	0.00	3.89	0.00	0.00	0.03	-1245.87
21	52	0.00	58.11	0.00	0.00	-0.02	1140.82
22	52	0.00	-58.11	0.00	0.00	0.02	-1140.82
22	53	0.00	120.11	0.00	0.00	-0.02	795.52
23	53	0.00	-120.11	0.00	0.00	0.02	-795.51
23	54	0.00	182.11	0.00	0.00	-0.01	209.96
24	54	0.00	-182.11	0.00	0.00	0.01	-209.96
24	55	0.00	244.11	0.00	0.00	-0.01	-615.85
25	55	0.00	-1.00	0.00	0.00	0.01	615.87
25	66	0.00	1.00	0.00	0.00	-0.01	-619.75
26	66	0.00	-1.00	0.00	0.00	0.01	619.75
26	67	0.00	1.00	0.00	0.00	0.00	-623.63
27	67	0.00	-1.00	0.00	0.00	0.00	623.63
27	68	0.00	1.00	0.00	0.00	0.00	-627.51
28	68	0.00	-1.00	0.00	0.00	0.00	627.51
28	69	0.00	1.00	0.00	0.00	0.00	-631.39
29	69	0.00	-1.00	0.00	0.00	0.00	631.39
29	70	0.00	1.00	0.00	0.00	0.00	-635.27
30	70	0.00	-1.00	0.00	0.00	0.00	635.27
30	71	0.00	1.00	0.00	0.00	0.00	-639.14
31	71	0.00	-1.00	0.00	0.00	0.00	639.14
31	72	0.00	1.00	0.00	0.00	0.00	-643.02
32	72	0.00	-1.00	0.00	0.00	0.00	643.02
32	73	0.00	1.00	0.00	0.00	0.00	-646.90
33	73	0.00	248.25	0.00	0.00	0.00	646.87
33	84	0.00	-186.25	0.00	0.00	0.00	194.99
34	84	0.00	186.25	0.00	0.00	0.00	-194.99
34	85	0.00	-124.25	0.00	0.00	0.00	796.60
35	85	0.00	124.25	0.00	0.00	0.00	-796.60
35	86	0.00	-62.25	0.00	0.00	0.00	1157.95
36	86	0.00	62.25	0.00	0.00	0.00	-1157.95
36	87	0.00	-0.25	0.00	0.00	0.00	1279.06
37	87	0.00	0.25	0.00	0.00	0.00	-1279.06
37	88	0.00	61.75	0.00	0.00	0.00	1159.92
38	88	0.00	-61.75	0.00	0.00	0.00	-1159.92
38	89	0.00	123.75	0.00	0.00	0.00	800.52
39	89	0.00	-123.75	0.00	0.00	0.00	-800.52
39	90	0.00	185.75	0.00	0.00	0.00	200.88
40	90	0.00	-185.75	0.00	0.00	0.00	-200.88
40	91	0.00	247.75	0.00	0.00	0.00	-639.02
41	91	0.00	-0.07	0.00	0.00	0.00	639.05
41	102	0.00	0.07	0.00	0.00	0.00	-639.31
42	102	0.00	-0.07	0.00	0.00	0.00	639.31
42	103	0.00	0.07	0.00	0.00	0.00	-639.57
43	103	0.00	-0.07	0.00	0.00	0.00	639.57
43	104	0.00	0.07	0.00	0.00	0.00	-639.84
44	104	0.00	-0.07	0.00	0.00	0.00	639.84
44	105	0.00	0.07	0.00	0.00	0.00	-640.10
45	105	0.00	-0.07	0.00	0.00	0.00	640.10
45	106	0.00	0.07	0.00	0.00	0.00	-640.36
46	106	0.00	-0.07	0.00	0.00	0.00	640.36
46	107	0.00	0.07	0.00	0.00	0.00	-640.63
47	107	0.00	-0.07	0.00	0.00	0.00	640.63
47	108	0.00	0.07	0.00	0.00	0.00	-640.89

48	108	0.00	-0.07	0.00	0.00	0.00	640.89
48	109	0.00	0.07	0.00	0.00	0.00	-641.15
49	109	0.00	248.02	0.00	0.00	0.00	641.12
49	120	0.00	-186.02	0.00	0.00	0.00	199.82
50	120	0.00	186.02	0.00	0.00	0.00	-199.82
50	121	0.00	-124.02	0.00	0.00	0.00	800.51
51	121	0.00	124.02	0.00	0.00	0.00	-800.51
51	122	0.00	-62.02	0.00	0.00	0.00	1160.95
52	122	0.00	62.02	0.00	0.00	0.00	-1160.95
52	123	0.00	-0.02	0.00	0.00	0.00	1281.14
53	123	0.00	0.02	0.00	0.00	0.00	-1281.14
53	124	0.00	61.98	0.00	0.00	0.00	1161.08
54	124	0.00	-61.98	0.00	0.00	0.00	-1161.08
54	125	0.00	123.98	0.00	0.00	0.00	800.77
55	125	0.00	-123.98	0.00	0.00	0.00	-800.77
55	126	0.00	185.98	0.00	0.00	0.00	200.21
56	126	0.00	-185.98	0.00	0.00	0.00	-200.21
56	127	0.00	247.98	0.00	0.00	0.00	-640.60
57	127	0.00	0.00	0.00	0.00	0.00	640.63
57	138	0.00	0.00	0.00	0.00	0.00	-640.62
58	138	0.00	0.00	0.00	0.00	0.00	640.62
58	139	0.00	0.00	0.00	0.00	0.00	-640.62
59	139	0.00	0.00	0.00	0.00	0.00	640.62
59	140	0.00	0.00	0.00	0.00	0.00	-640.61
60	140	0.00	0.00	0.00	0.00	0.00	640.61
60	141	0.00	0.00	0.00	0.00	0.00	-640.61
61	141	0.00	0.00	0.00	0.00	0.00	640.61
61	142	0.00	0.00	0.00	0.00	0.00	-640.60
62	142	0.00	0.00	0.00	0.00	0.00	640.60
62	143	0.00	0.00	0.00	0.00	0.00	-640.59
63	143	0.00	0.00	0.00	0.00	0.00	640.59
63	144	0.00	0.00	0.00	0.00	0.00	-640.59
64	144	0.00	0.00	0.00	0.00	0.00	640.59
64	145	0.00	0.00	0.00	0.00	0.00	-640.58
65	145	0.00	247.99	0.00	0.00	0.00	640.55
65	156	0.00	-185.99	0.00	0.00	0.00	200.27
66	156	0.00	185.99	0.00	0.00	0.00	-200.27
66	157	0.00	-123.99	0.00	0.00	0.00	800.85
67	157	0.00	123.99	0.00	0.00	0.00	-800.85
67	158	0.00	-61.99	0.00	0.00	0.00	1161.18
68	158	0.00	61.99	0.00	0.00	0.00	-1161.18
68	159	0.00	0.01	0.00	0.00	0.00	1281.26
69	159	0.00	-0.01	0.00	0.00	0.00	-1281.26
69	160	0.00	62.01	0.00	0.00	0.00	1161.08
70	160	0.00	-62.01	0.00	0.00	0.00	-1161.08
70	161	0.00	124.01	0.00	0.00	0.00	800.66
71	161	0.00	-124.01	0.00	0.00	0.00	-800.66
71	162	0.00	186.01	0.00	0.00	0.00	199.98
72	162	0.00	-186.01	0.00	0.00	0.00	-199.98
72	163	0.00	248.01	0.00	0.00	0.00	-640.94
73	163	0.00	0.05	0.00	0.00	0.00	640.97
73	174	0.00	-0.05	0.00	0.00	0.00	-640.77
74	174	0.00	0.05	0.00	0.00	0.00	640.77
74	175	0.00	-0.05	0.00	0.00	0.00	-640.57
75	175	0.00	0.05	0.00	0.00	0.00	640.57
75	176	0.00	-0.05	0.00	0.00	0.00	-640.37
76	176	0.00	0.05	0.00	0.00	0.00	640.37
76	177	0.00	-0.05	0.00	0.00	0.00	-640.17
77	177	0.00	0.05	0.00	0.00	0.00	640.17
77	178	0.00	-0.05	0.00	0.00	0.00	-639.97
78	178	0.00	0.05	0.00	0.00	0.00	639.97
78	179	0.00	-0.05	0.00	0.00	0.00	-639.77
79	179	0.00	0.05	0.00	0.00	0.00	639.77
79	180	0.00	-0.05	0.00	0.00	0.00	-639.57
80	180	0.00	0.05	0.00	0.00	0.00	639.57
80	181	0.00	-0.05	0.00	0.00	0.00	-639.37
81	181	0.00	247.78	0.00	0.00	0.00	639.34
81	192	0.00	-185.78	0.00	0.00	0.00	200.70
82	192	0.00	185.78	0.00	0.00	0.00	-200.70
82	193	0.00	-123.78	0.00	0.00	0.00	800.50
83	193	0.00	123.78	0.00	0.00	0.00	-800.50
83	194	0.00	-61.78	0.00	0.00	0.00	1160.04
84	194	0.00	61.78	0.00	0.00	0.00	-1160.04
84	195	0.00	0.22	0.00	0.00	0.00	1279.33
85	195	0.00	-0.22	0.00	0.00	0.00	-1279.33
85	196	0.00	62.22	0.00	0.00	0.00	1158.37
86	196	0.00	-62.22	0.00	0.00	0.00	-1158.37
86	197	0.00	124.22	0.00	0.00	0.00	797.16
87	197	0.00	-124.22	0.00	0.00	0.00	-797.16
87	198	0.00	186.22	0.00	0.00	0.00	195.70
88	198	0.00	-186.22	0.00	0.00	0.00	-195.70
88	199	0.00	248.22	0.00	0.00	0.00	-646.01
89	199	0.00	0.85	0.00	0.00	0.00	646.04
89	210	0.00	-0.85	0.00	0.00	0.00	-642.76
90	210	0.00	0.85	0.00	0.00	0.00	642.76
90	211	0.00	-0.85	0.00	0.00	0.00	-639.47
91	211	0.00	0.85	0.00	0.00	0.00	639.47
91	212	0.00	-0.85	0.00	0.00	0.00	-636.18
92	212	0.00	0.85	0.00	0.00	0.00	636.18
92	213	0.00	-0.85	0.00	0.00	0.00	-632.89
93	213	0.00	0.85	0.00	0.00	0.00	632.89
93	214	0.00	-0.85	0.00	0.00	0.00	-629.61
94	214	0.00	0.85	0.00	0.00	0.00	629.61
94	215	0.00	-0.85	0.00	0.00	0.00	-626.32
95	215	0.00	0.85	0.00	0.00	0.00	626.32
95	216	0.00	-0.85	0.00	0.00	0.00	-623.03
96	216	0.00	0.85	0.00	0.00	0.00	623.03
96	217	0.00	-0.85	0.00	0.00	0.00	-619.74
97	217	0.00	244.67	0.00	0.00	0.00	619.71
97	228	0.00	-182.67	0.00	0.00	-0.01	208.26
98	228	0.00	182.67	0.00	0.00	0.01	-208.26
98	229	0.00	-120.67	0.00	0.00	-0.01	795.98
99	229	0.00	120.67	0.00	0.00	0.01	-795.98
99	230	0.00	-58.67	0.00	0.00	-0.02	1143.44
100	230	0.00	58.67	0.00	0.00	0.02	-1143.45
100	231	0.00	3.33	0.00	0.00	-0.03	1250.66
101	231	0.00	-3.33	0.00	0.00	0.03	-1250.66
101	232	0.00	65.33	0.00	0.00	-0.03	1117.63
102	232	0.00	-65.33	0.00	0.00	0.03	-1117.63
102	233	0.00	127.33	0.00	0.00	-0.04	744.35
103	233	0.00	-127.33	0.00	0.00	0.04	-744.35
103	234	0.00	189.33	0.00	0.00	-0.04	130.82

104	234	0.00	-189.33	0.00	0.00	0.04	-130.82
104	235	0.00	251.33	0.00	0.00	-0.05	-722.97
105	235	0.00	13.06	0.00	0.00	0.05	722.99
105	246	0.00	-13.06	0.00	0.00	-0.04	-672.37
106	246	0.00	13.06	0.00	0.00	0.04	672.37
106	247	0.00	-13.06	0.00	0.00	-0.03	-621.75
107	247	0.00	13.06	0.00	0.00	0.03	621.75
107	248	0.00	-13.06	0.00	0.00	-0.03	-571.13
108	248	0.00	13.06	0.00	0.00	0.03	571.13
108	249	0.00	-13.06	0.00	0.00	-0.02	-520.51
109	249	0.00	13.06	0.00	0.00	0.02	520.51
109	250	0.00	-13.06	0.00	0.00	-0.01	-469.89
110	250	0.00	13.06	0.00	0.00	0.01	469.89
110	251	0.00	-13.06	0.00	0.00	0.00	-419.27
111	251	0.00	13.06	0.00	0.00	0.00	419.27
111	252	0.00	-13.06	0.00	0.00	0.01	-368.64
112	252	0.00	13.06	0.00	0.00	-0.01	368.64
112	253	0.00	-13.06	0.00	0.00	0.01	-318.02
113	253	0.00	207.86	0.00	0.00	-0.01	318.00
113	264	0.00	-159.16	0.00	0.00	0.01	240.55
114	264	0.00	159.16	0.00	0.00	-0.01	-240.55
114	265	0.00	-110.46	0.00	0.00	0.01	650.89
115	265	0.00	110.46	0.00	0.00	-0.01	-650.89
115	266	0.00	-61.76	0.00	0.00	0.01	912.99
116	266	0.00	61.76	0.00	0.00	-0.01	-912.99
116	267	0.00	-13.06	0.00	0.00	0.01	1026.86
117	267	0.00	13.06	0.00	0.00	-0.01	-1026.86
117	268	0.00	35.64	0.00	0.00	0.01	992.50
118	268	0.00	-35.64	0.00	0.00	-0.01	-992.50
118	269	0.00	84.34	0.00	0.00	0.00	809.90
119	269	0.00	-84.34	0.00	0.00	0.00	-809.90
119	270	0.00	133.04	0.00	0.00	0.00	479.08
120	270	0.00	-133.04	0.00	0.00	0.00	-479.08
120	271	0.00	181.74	0.00	0.00	0.00	0.02
121	2	0.00	88.34	0.00	0.01	0.00	0.00
121	1	0.00	-88.34	0.00	-0.01	-0.01	167.84
122	1	0.00	-88.34	0.00	-0.01	0.00	-167.84
122	3	0.00	88.34	0.00	0.01	0.00	0.00
123	5	0.00	-88.34	0.00	0.00	0.00	0.00
123	4	0.00	88.34	0.00	0.00	0.00	-167.84
124	4	0.00	88.34	0.00	0.00	0.00	167.85
124	6	0.00	-88.34	0.00	0.00	0.00	0.00
125	20	0.00	92.07	0.00	0.01	0.00	0.00
125	19	0.00	-92.07	0.00	-0.01	0.00	174.94
126	19	-0.01	-92.07	0.00	-0.01	0.00	-174.95
126	21	0.01	92.07	0.00	0.01	0.00	0.01
127	23	0.00	-92.07	0.00	0.00	0.00	0.00
127	22	0.00	92.07	0.00	0.00	0.00	-174.94
128	22	0.01	92.07	0.00	0.00	0.00	174.94
128	24	-0.01	-92.07	0.00	0.00	0.00	0.00
129	38	0.00	133.53	-0.01	-0.01	0.00	0.00
129	37	0.00	-133.53	0.01	0.01	-0.01	253.71
130	37	0.00	-133.53	0.00	0.01	0.00	-253.70
130	39	0.00	133.53	0.00	-0.01	0.00	-0.01
131	41	0.00	-133.53	0.00	0.00	0.00	0.00
131	40	0.00	133.53	0.00	0.00	0.00	-253.71
132	40	0.00	133.53	0.00	0.00	0.00	253.71
132	42	0.00	-133.53	0.00	0.00	0.00	0.00
133	56	0.00	121.56	0.01	0.01	0.00	0.00
133	55	0.00	-121.56	-0.01	-0.01	0.00	230.95
134	55	0.00	-121.56	0.00	-0.01	0.00	-230.96
134	57	0.00	121.56	0.00	0.01	0.00	0.00
135	59	0.00	-121.55	0.00	0.00	0.00	0.00
135	58	0.00	121.55	0.00	0.00	0.00	-230.95
136	58	0.00	121.56	0.00	0.00	0.00	230.96
136	60	0.00	-121.56	0.00	0.00	0.00	0.00
137	74	0.00	124.63	0.00	-0.02	0.00	0.00
137	73	0.00	-124.63	0.00	0.02	-0.01	236.79
138	73	0.00	-124.63	0.00	0.01	0.00	-236.79
138	75	0.00	124.63	0.00	-0.01	0.00	0.00
139	77	0.00	-124.63	0.00	0.00	0.00	0.00
139	76	0.00	124.63	0.00	0.00	0.00	-236.79
140	76	0.00	124.63	0.00	0.00	0.00	236.79
140	78	0.00	-124.63	0.00	0.00	0.00	0.00
141	92	0.00	123.84	-0.01	0.02	0.00	0.00
141	91	0.00	-123.84	0.01	-0.02	-0.01	235.29
142	91	0.00	-123.84	0.00	-0.01	0.00	-235.29
142	93	0.00	123.84	0.00	0.01	0.00	0.00
143	95	0.00	-123.84	0.00	0.00	0.00	0.00
143	94	0.00	123.84	0.00	0.00	0.00	-235.30
144	94	0.00	123.84	0.00	0.00	0.00	235.30
144	96	0.00	-123.84	0.00	0.00	0.00	0.00
145	110	0.00	124.04	-0.01	-0.02	0.00	0.00
145	109	0.00	-124.04	0.01	0.02	0.00	235.68
146	109	0.00	-124.04	0.00	0.01	0.00	-235.68
146	111	0.00	124.04	0.00	-0.01	0.00	0.00
147	113	0.00	-124.04	0.00	0.00	0.00	0.00
147	112	0.00	124.04	0.00	0.00	0.00	-235.68
148	112	0.00	124.04	0.00	0.00	0.00	235.68
148	114	0.00	-124.04	0.00	0.00	0.00	0.00
149	128	0.00	123.99	0.00	0.01	0.00	0.00
149	127	0.00	-123.99	0.00	-0.01	0.00	235.59
150	127	0.00	-123.99	0.00	-0.01	0.00	-235.59
150	129	0.00	123.99	0.00	0.01	0.00	0.00
151	131	0.00	-123.99	0.00	0.00	0.00	0.00
151	130	0.00	123.99	0.00	0.00	0.00	-235.59
152	130	0.00	123.99	0.00	0.00	0.00	235.59
152	132	0.00	-123.99	0.00	0.00	0.00	0.00
153	146	0.00	123.99	0.00	-0.01	0.00	0.00
153	145	0.00	-123.99	0.00	0.01	0.00	235.59
154	145	0.00	-123.99	0.00	0.02	0.00	-235.59
154	147	0.00	123.99	0.00	-0.02	0.00	0.00
155	149	0.00	-123.99	0.00	0.00	0.00	0.00
155	148	0.00	123.99	0.00	0.00	0.00	-235.59
156	148	0.00	123.99	0.00	0.00	0.00	235.59
156	150	0.00	-123.99	0.00	0.00	0.00	0.00
157	164	0.00	124.03	0.00	0.01	0.01	0.00
157	163	0.00	-124.03	0.00	-0.01	0.01	235.66
158	163	0.00	-124.03	0.00	-0.01	0.00	-235.66
158	165	0.00	124.03	0.00	0.01	0.00	0.00
159	167	0.00	-124.03	0.00	0.00	0.00	0.00
159	166	0.00	124.03	0.00	0.00	0.00	-235.66

160	166	0.00	124.03	0.00	0.00	0.00	235.66
160	168	0.00	-124.03	0.00	0.00	0.00	0.00
161	182	0.00	123.87	0.00	-0.01	0.00	0.00
161	181	0.00	-123.87	0.00	0.01	0.00	235.35
162	181	0.00	-123.87	0.00	0.02	0.00	-235.35
162	183	0.00	123.87	0.00	-0.02	0.00	0.00
163	185	0.00	-123.87	0.00	0.00	0.00	0.00
163	184	0.00	123.87	0.00	0.00	0.00	-235.35
164	184	0.00	123.87	0.00	0.00	0.00	235.35
164	186	0.00	-123.87	0.00	0.00	0.00	0.00
165	200	0.00	124.53	-0.01	0.01	0.00	0.00
165	199	0.00	-124.53	0.01	-0.01	0.00	236.61
166	199	0.00	-124.53	0.00	-0.02	0.00	-236.61
166	201	0.00	124.53	0.00	0.02	0.00	0.00
167	203	0.00	-124.53	0.00	0.00	0.00	0.00
167	202	0.00	124.53	0.00	0.00	0.00	-236.61
168	202	0.00	124.53	0.00	0.00	0.00	236.61
168	204	0.00	-124.53	0.00	0.00	0.00	0.00
169	218	0.00	121.91	0.00	-0.02	0.00	0.00
169	217	0.00	-121.91	0.00	0.02	-0.01	231.63
170	217	0.00	-121.91	0.00	0.01	0.00	-231.63
170	219	0.00	121.91	0.00	-0.01	0.00	0.00
171	221	0.00	-121.91	0.00	0.00	0.00	0.00
171	220	0.00	121.91	0.00	0.00	0.00	-231.63
172	220	0.00	121.91	0.00	0.00	0.00	231.63
172	222	0.00	-121.91	0.00	0.00	0.00	0.00
173	236	0.00	132.20	0.00	0.01	0.00	0.00
173	235	0.00	-132.20	0.00	-0.01	0.00	251.17
174	235	0.00	-132.20	0.00	-0.01	0.00	-251.17
174	237	0.00	132.20	0.00	0.01	0.00	-0.01
175	239	0.00	-132.20	0.00	0.00	0.00	0.00
175	238	0.00	132.20	0.00	0.00	0.00	-251.17
176	238	0.00	132.20	0.00	0.00	0.00	251.17
176	240	0.00	-132.20	0.00	0.00	0.00	0.00
177	254	0.00	97.40	0.00	-0.01	0.00	0.00
177	253	0.00	-97.40	0.00	0.01	0.00	185.06
178	253	0.00	-97.40	0.00	0.01	0.00	-185.06
178	255	0.00	97.40	0.00	-0.01	0.00	0.00
179	257	0.00	-97.40	0.00	0.00	0.00	0.00
179	256	0.00	97.40	0.00	0.00	0.00	-185.06
180	256	0.00	97.40	0.00	0.00	0.00	185.06
180	258	0.00	-97.40	0.00	0.00	0.00	0.00
181	272	0.00	90.87	0.00	0.01	0.00	0.00
181	271	0.00	-90.87	0.00	-0.01	0.00	172.65
182	271	0.00	-90.87	0.00	-0.01	0.00	-172.65
182	273	0.00	90.87	0.00	0.01	0.00	0.00
183	275	0.00	-90.87	0.00	0.00	0.00	0.00
183	274	0.00	90.87	0.00	0.00	0.00	-172.65
184	274	0.00	90.87	0.00	0.00	0.00	172.65
184	276	0.00	-90.87	0.00	0.00	0.00	0.00
185	6	88.34	0.00	0.00	0.00	0.00	0.00
185	3	-88.34	0.00	0.00	0.00	0.00	-0.01
186	5	88.34	0.00	0.00	0.00	0.00	0.00
186	2	-88.34	0.00	0.00	0.00	0.00	-0.01
187	24	92.07	0.00	0.01	0.00	0.00	0.00
187	21	-92.07	0.00	-0.01	0.00	-0.01	-0.01
188	23	92.07	0.00	0.00	0.00	0.00	0.00
188	20	-92.07	0.00	0.00	0.00	0.00	-0.01
189	42	133.53	0.00	0.00	0.00	0.00	0.00
189	39	-133.53	0.00	0.00	0.00	0.01	0.01
190	41	133.53	0.00	0.00	0.00	0.00	0.00
190	38	-133.53	0.00	0.00	0.00	0.00	0.01
191	60	121.55	0.00	0.00	0.00	0.00	0.00
191	57	-121.55	0.00	0.00	0.00	0.00	-0.01
192	59	121.55	0.00	0.00	0.00	0.00	0.00
192	56	-121.55	0.00	0.00	0.00	0.00	-0.01
193	78	124.63	0.00	0.00	0.00	0.00	0.00
193	75	-124.63	0.00	0.00	0.00	0.00	0.01
194	77	124.63	0.00	0.00	0.00	0.00	0.00
194	74	-124.63	0.00	0.00	0.00	0.00	0.01
195	96	123.84	0.00	0.00	0.00	0.00	0.00
195	93	-123.84	0.00	0.00	0.00	0.00	-0.01
196	95	123.84	0.00	0.00	0.00	0.00	0.00
196	92	-123.84	0.00	0.00	0.00	0.00	-0.01
197	114	124.04	0.00	0.00	0.00	0.00	0.00
197	111	-124.04	0.00	0.00	0.00	0.00	0.01
198	113	124.04	0.00	0.00	0.00	0.00	0.00
198	110	-124.04	0.00	0.00	0.00	0.00	0.01
199	132	123.99	0.00	0.00	0.00	0.00	0.00
199	129	-123.99	0.00	0.00	0.00	0.00	-0.01
200	131	123.99	0.00	0.00	0.00	0.00	0.00
200	128	-123.99	0.00	0.00	0.00	0.00	-0.01
201	150	123.99	0.00	0.00	0.00	0.00	0.00
201	147	-123.99	0.00	0.00	0.00	0.00	0.01
202	149	123.99	0.00	0.00	0.00	0.00	0.00
202	146	-123.99	0.00	0.00	0.00	0.00	0.01
203	168	124.03	0.00	0.00	0.00	0.00	0.00
203	165	-124.03	0.00	0.00	0.00	0.00	-0.01
204	167	124.03	0.00	0.00	0.00	0.00	0.00
204	164	-124.03	0.00	0.00	0.00	0.00	-0.01
205	186	123.87	0.00	0.00	0.00	0.00	0.00
205	183	-123.87	0.00	0.00	0.00	0.00	0.01
206	185	123.86	0.00	0.00	0.00	0.00	0.00
206	182	-123.86	0.00	0.00	0.00	0.00	0.01
207	204	124.53	0.00	0.00	0.00	0.00	0.00
207	201	-124.53	0.00	0.00	0.00	0.00	-0.01
208	203	124.53	0.00	0.00	0.00	0.00	0.00
208	200	-124.53	0.00	0.00	0.00	0.00	-0.01
209	222	121.91	0.00	0.00	0.00	0.00	0.00
209	219	-121.91	0.00	0.00	0.00	0.00	0.01
210	221	121.91	0.00	0.00	0.00	0.00	0.00
210	218	-121.91	0.00	0.00	0.00	0.00	0.01
211	240	132.20	0.00	0.00	0.00	0.00	0.00
211	237	-132.20	0.00	0.00	0.00	0.01	-0.01
212	239	132.20	0.00	0.00	0.00	0.00	0.00
212	236	-132.20	0.00	0.00	0.00	0.00	-0.01
213	258	97.40	0.00	0.00	0.00	0.00	0.00
213	255	-97.40	0.00	0.00	0.00	0.00	0.01
214	257	97.40	0.00	0.00	0.00	0.00	0.00
214	254	-97.40	0.00	0.00	0.00	0.00	0.01
215	276	90.87	0.00	0.00	0.00	0.00	0.00
215	273	-90.87	0.00	0.00	0.00	0.00	-0.01

216	275	90.87	0.00	0.00	0.00	0.00	0.00
216	272	-90.87	0.00	0.00	0.00	0.00	-0.01
217	7	176.68	0.00	0.00	0.00	0.04	0.00
217	8	-176.68	0.00	0.00	0.00	-0.03	0.00
218	8	176.68	0.00	0.00	0.00	0.03	0.00
218	9	-176.68	0.00	0.00	0.00	-0.01	0.00
219	9	-176.68	0.00	0.00	0.00	-0.01	0.00
219	10	176.68	0.00	0.00	0.00	0.02	0.00
220	10	176.68	0.00	0.00	0.00	0.02	0.00
220	11	-176.68	0.00	0.00	0.00	-0.01	0.00
221	11	176.68	0.00	0.00	0.00	0.01	0.00
221	4	-176.68	0.00	0.00	0.00	0.00	0.00
222	25	184.15	0.00	0.01	0.00	-0.08	0.00
222	26	-184.15	0.00	-0.01	0.00	0.07	0.00
223	26	184.15	0.00	0.01	0.00	-0.07	0.00
223	27	-184.15	0.00	-0.01	0.00	0.05	0.00
224	27	184.15	0.00	0.01	0.00	-0.05	0.00
224	28	-184.15	0.00	-0.01	0.00	0.04	0.00
225	28	184.15	0.00	0.01	0.00	-0.04	0.00
225	29	-184.15	0.00	-0.01	0.00	0.02	0.00
226	29	184.15	0.00	0.01	0.00	-0.02	0.00
226	22	-184.15	0.00	-0.01	0.00	0.00	0.00
227	43	267.06	0.00	0.00	0.00	0.07	0.00
227	44	-267.06	0.00	0.00	0.00	-0.06	0.00
228	44	267.06	0.00	0.00	0.00	0.06	0.00
228	45	-267.06	0.00	0.00	0.00	-0.04	0.00
229	45	267.06	0.00	0.00	0.00	0.04	0.00
229	46	-267.06	0.00	0.00	0.00	-0.03	0.00
230	46	267.06	0.00	0.00	0.00	0.03	0.00
230	47	-267.06	0.00	0.00	0.00	-0.01	0.00
231	47	267.06	0.00	0.00	0.00	0.01	0.00
231	40	-267.06	0.00	0.00	0.00	0.00	0.00
232	61	243.11	0.00	0.00	0.00	-0.02	0.00
232	62	-243.11	0.00	0.00	0.00	0.01	0.00
233	62	243.11	0.00	0.00	0.00	-0.01	0.00
233	63	-243.11	0.00	0.00	0.00	0.01	0.00
234	63	243.11	0.00	0.00	0.00	-0.01	0.00
234	64	-243.11	0.00	0.00	0.00	0.01	0.00
235	64	243.11	0.00	0.00	0.00	-0.01	0.00
235	65	-243.11	0.00	0.00	0.00	0.00	0.00
236	65	243.11	0.00	0.00	0.00	0.00	0.00
236	58	-243.11	0.00	0.00	0.00	0.00	0.00
237	79	249.25	0.00	0.00	0.00	0.00	0.00
237	80	-249.25	0.00	0.00	0.00	0.00	0.00
238	80	249.25	0.00	0.00	0.00	0.00	0.00
238	81	-249.25	0.00	0.00	0.00	0.00	0.00
239	81	249.25	0.00	0.00	0.00	0.00	0.00
239	82	-249.25	0.00	0.00	0.00	0.00	0.00
240	82	249.25	0.00	0.00	0.00	0.00	0.00
240	83	-249.25	0.00	0.00	0.00	0.00	0.00
241	83	249.25	0.00	0.00	0.00	0.00	0.00
241	76	-249.25	0.00	0.00	0.00	0.00	0.00
242	97	247.68	0.00	0.00	0.00	0.00	0.00
242	98	-247.68	0.00	0.00	0.00	0.00	0.00
243	98	247.68	0.00	0.00	0.00	0.00	0.00
243	99	-247.68	0.00	0.00	0.00	0.00	0.00
244	99	247.68	0.00	0.00	0.00	0.00	0.00
244	100	-247.68	0.00	0.00	0.00	0.00	0.00
245	100	247.68	0.00	0.00	0.00	0.00	0.00
245	101	-247.68	0.00	0.00	0.00	0.00	0.00
246	101	247.68	0.00	0.00	0.00	0.00	0.00
246	94	-247.68	0.00	0.00	0.00	0.00	0.00
247	115	248.08	0.00	0.00	0.00	0.00	0.00
247	116	-248.08	0.00	0.00	0.00	0.00	0.00
248	116	248.08	0.00	0.00	0.00	0.00	0.00
248	117	-248.08	0.00	0.00	0.00	0.00	0.00
249	117	248.08	0.00	0.00	0.00	0.00	0.00
249	118	-248.08	0.00	0.00	0.00	0.00	0.00
250	118	248.08	0.00	0.00	0.00	0.00	0.00
250	119	-248.08	0.00	0.00	0.00	0.00	0.00
251	119	248.08	0.00	0.00	0.00	0.00	0.00
251	112	-248.08	0.00	0.00	0.00	0.00	0.00
252	133	247.98	0.00	0.00	0.00	0.00	0.00
252	134	-247.98	0.00	0.00	0.00	0.00	0.00
253	134	247.98	0.00	0.00	0.00	0.00	0.00
253	135	-247.98	0.00	0.00	0.00	0.00	0.00
254	135	247.98	0.00	0.00	0.00	0.00	0.00
254	136	-247.98	0.00	0.00	0.00	0.00	0.00
255	136	247.98	0.00	0.00	0.00	0.00	0.00
255	137	-247.98	0.00	0.00	0.00	0.00	0.00
256	137	247.98	0.00	0.00	0.00	0.00	0.00
256	130	-247.98	0.00	0.00	0.00	0.00	0.00
257	151	247.99	0.00	0.00	0.00	0.00	0.00
257	152	-247.99	0.00	0.00	0.00	0.00	0.00
258	152	247.99	0.00	0.00	0.00	0.00	0.00
258	153	-247.99	0.00	0.00	0.00	0.00	0.00
259	153	247.99	0.00	0.00	0.00	0.00	0.00
259	154	-247.99	0.00	0.00	0.00	0.00	0.00
260	154	247.99	0.00	0.00	0.00	0.00	0.00
260	155	-247.99	0.00	0.00	0.00	0.00	0.00
261	155	247.99	0.00	0.00	0.00	0.00	0.00
261	148	-247.99	0.00	0.00	0.00	0.00	0.00
262	169	248.06	0.00	0.00	0.00	0.00	0.00
262	170	-248.06	0.00	0.00	0.00	0.00	0.00
263	170	248.06	0.00	0.00	0.00	0.00	0.00
263	171	-248.06	0.00	0.00	0.00	0.00	0.00
264	171	248.06	0.00	0.00	0.00	0.00	0.00
264	172	-248.06	0.00	0.00	0.00	0.00	0.00
265	172	248.06	0.00	0.00	0.00	0.00	0.00
265	173	-248.06	0.00	0.00	0.00	0.00	0.00
266	173	248.06	0.00	0.00	0.00	0.00	0.00
266	166	-248.06	0.00	0.00	0.00	0.00	0.00
267	187	247.73	0.00	0.00	0.00	0.00	0.00
267	188	-247.73	0.00	0.00	0.00	0.00	0.00
268	188	247.73	0.00	0.00	0.00	0.00	0.00
268	189	-247.73	0.00	0.00	0.00	0.00	0.00
269	189	247.73	0.00	0.00	0.00	0.00	0.00
269	190	-247.73	0.00	0.00	0.00	0.00	0.00
270	190	247.73	0.00	0.00	0.00	0.00	0.00
270	191	-247.73	0.00	0.00	0.00	0.00	0.00
271	191	247.73	0.00	0.00	0.00	0.00	0.00
271	184	-247.73	0.00	0.00	0.00	0.00	0.00

272	205	249.06	0.00	0.00	0.00	0.00	0.00
272	206	-249.06	0.00	0.00	0.00	0.00	0.00
273	206	249.06	0.00	0.00	0.00	0.00	0.00
273	207	-249.06	0.00	0.00	0.00	0.00	0.00
274	207	249.06	0.00	0.00	0.00	0.00	0.00
274	208	-249.06	0.00	0.00	0.00	0.00	0.00
275	208	249.06	0.00	0.00	0.00	0.00	0.00
275	209	-249.06	0.00	0.00	0.00	0.00	0.00
276	209	249.06	0.00	0.00	0.00	0.00	0.00
276	202	-249.06	0.00	0.00	0.00	0.00	0.00
277	223	243.82	0.00	0.00	0.00	-0.02	0.00
277	224	-243.82	0.00	0.00	0.00	0.02	0.00
278	224	243.82	0.00	0.00	0.00	-0.02	0.00
278	225	-243.82	0.00	0.00	0.00	0.01	0.00
279	225	243.82	0.00	0.00	0.00	-0.01	0.00
279	226	-243.82	0.00	0.00	0.00	0.01	0.00
280	226	243.82	0.00	0.00	0.00	-0.01	0.00
280	227	-243.82	0.00	0.00	0.00	0.00	0.00
281	227	243.82	0.00	0.00	0.00	0.00	0.00
281	220	-243.82	0.00	0.00	0.00	0.00	0.00
282	241	264.39	0.00	0.00	0.00	0.05	0.00
282	242	-264.39	0.00	0.00	0.00	-0.04	0.00
283	242	264.39	0.00	0.00	0.00	0.04	0.00
283	243	-264.39	0.00	0.00	0.00	-0.03	0.00
284	243	264.39	0.00	0.00	0.00	0.03	0.00
284	244	-264.39	0.00	0.00	0.00	-0.02	0.00
285	244	264.39	0.00	0.00	0.00	0.02	0.00
285	245	-264.39	0.00	0.00	0.00	-0.01	0.00
286	245	264.39	0.00	0.00	0.00	0.01	0.00
286	238	-264.39	0.00	0.00	0.00	0.00	0.00
287	259	194.80	0.00	0.00	0.00	-0.04	0.00
287	260	-194.80	0.00	0.00	0.00	0.03	0.00
288	260	194.80	0.00	0.00	0.00	-0.03	0.00
288	261	-194.80	0.00	0.00	0.00	0.02	0.00
289	261	194.80	0.00	0.00	0.00	-0.02	0.00
289	262	-194.80	0.00	0.00	0.00	0.02	0.00
290	262	194.80	0.00	0.00	0.00	-0.02	0.00
290	263	-194.80	0.00	0.00	0.00	0.01	0.00
291	263	194.80	0.00	0.00	0.00	-0.01	0.00
291	256	-194.80	0.00	0.00	0.00	0.00	0.00
292	277	181.74	0.00	0.00	0.00	0.01	0.00
292	278	-181.74	0.00	0.00	0.00	-0.01	0.00
293	278	181.74	0.00	0.00	0.00	0.01	0.00
293	279	-181.74	0.00	0.00	0.00	0.00	0.00
294	279	181.74	0.00	0.00	0.00	0.00	0.00
294	280	-181.74	0.00	0.00	0.00	0.00	0.00
295	280	181.74	0.00	0.00	0.00	0.00	0.00
295	281	-181.74	0.00	0.00	0.00	0.00	0.00
296	281	181.74	0.00	0.00	0.00	0.00	0.00
296	274	-181.74	0.00	0.00	0.00	0.00	0.00

CARGAS APLICADAS EN LOS NUDOS LIBRES

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.01	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	-0.01	0.00
38	0.01	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00
56	-0.01	0.00	0.00	0.00	0.00	0.00

57	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	-0.01	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	-0.01	0.00
92	0.01	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00
99	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00
101	0.00	0.00	0.00	0.00	0.00	0.00
102	0.00	0.00	0.00	0.00	0.00	0.00
103	0.00	0.00	0.00	0.00	0.00	0.00
104	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00
106	0.00	0.00	0.00	0.00	0.00	0.00
107	0.00	0.00	0.00	0.00	0.00	0.00
108	0.00	0.00	0.00	0.00	0.00	0.00
109	0.00	0.00	0.00	0.00	0.00	0.00
110	0.01	0.00	0.00	0.00	0.00	0.00
111	0.00	0.00	0.00	0.00	0.00	0.00
112	0.00	0.00	0.00	0.00	0.00	0.00
113	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00
116	0.00	0.00	0.00	0.00	0.00	0.00

117	0.00	0.00	0.00	0.00	0.00	0.00
118	0.00	0.00	0.00	0.00	0.00	0.00
119	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00
121	0.00	0.00	0.00	0.00	0.00	0.00
122	0.00	0.00	0.00	0.00	0.00	0.00
123	0.00	0.00	0.00	0.00	0.00	0.00
124	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.00	0.00	0.00	0.00
128	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00
134	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00
136	0.00	0.00	0.00	0.00	0.00	0.00
137	0.00	0.00	0.00	0.00	0.00	0.00
138	0.00	0.00	0.00	0.00	0.00	0.00
139	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00
142	0.00	0.00	0.00	0.00	0.00	0.00
143	0.00	0.00	0.00	0.00	0.00	0.00
144	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00
146	0.00	0.00	0.00	0.00	0.00	0.00
147	0.00	0.00	0.00	0.00	0.00	0.00
148	0.00	0.00	0.00	0.00	0.00	0.00
149	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00
152	0.00	0.00	0.00	0.00	0.00	0.00
153	0.00	0.00	0.00	0.00	0.00	0.00
154	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00
156	0.00	0.00	0.00	0.00	0.00	0.00
157	0.00	0.00	0.00	0.00	0.00	0.00
158	0.00	0.00	0.00	0.00	0.00	0.00
159	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00
161	0.00	0.00	0.00	0.00	0.00	0.00
162	0.00	0.00	0.00	0.00	0.00	0.00
163	0.00	0.00	0.00	0.00	0.01	0.00
164	0.00	0.00	0.00	0.00	0.01	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00
166	0.00	0.00	0.00	0.00	0.00	0.00
167	0.00	0.00	0.00	0.00	0.00	0.00
168	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00
171	0.00	0.00	0.00	0.00	0.00	0.00
172	0.00	0.00	0.00	0.00	0.00	0.00
173	0.00	0.00	0.00	0.00	0.00	0.00
174	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00

176	0.00	0.00	0.00	0.00	0.00	0.00
177	0.00	0.00	0.00	0.00	0.00	0.00
178	0.00	0.00	0.00	0.00	0.00	0.00
179	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00
181	0.00	0.00	0.00	0.00	0.00	0.00
182	0.00	0.00	0.00	0.00	0.00	0.00
183	0.00	0.00	0.00	0.00	0.00	0.00
184	0.00	0.00	0.00	0.00	0.00	0.00
185	0.00	0.00	0.00	0.00	0.00	0.00
186	0.00	0.00	0.00	0.00	0.00	0.00
188	0.00	0.00	0.00	0.00	0.00	0.00
189	0.00	0.00	0.00	0.00	0.00	0.00
190	0.00	0.00	0.00	0.00	0.00	0.00
191	0.00	0.00	0.00	0.00	0.00	0.00
192	0.00	0.00	0.00	0.00	0.00	0.00
193	0.00	0.00	0.00	0.00	0.00	0.00
194	0.00	0.00	0.00	0.00	0.00	0.00
195	0.00	0.00	0.00	0.00	0.00	0.00
196	0.00	0.00	0.00	0.00	0.00	0.00
197	0.00	0.00	0.00	0.00	0.00	0.00
198	0.00	0.00	0.00	0.00	0.00	0.00
199	0.00	0.00	0.00	0.00	0.00	0.00
200	0.01	0.00	0.00	0.00	0.00	0.00
201	0.00	0.00	0.00	0.00	0.00	0.00
202	0.00	0.00	0.00	0.00	0.00	0.00
203	0.00	0.00	0.00	0.00	0.00	0.00
204	0.00	0.00	0.00	0.00	0.00	0.00
206	0.00	0.00	0.00	0.00	0.00	0.00
207	0.00	0.00	0.00	0.00	0.00	0.00
208	0.00	0.00	0.00	0.00	0.00	0.00
209	0.00	0.00	0.00	0.00	0.00	0.00
210	0.00	0.00	0.00	0.00	0.00	0.00
211	0.00	0.00	0.00	0.00	0.00	0.00
212	0.00	0.00	0.00	0.00	0.00	0.00
213	0.00	0.00	0.00	0.00	0.00	0.00
214	0.00	0.00	0.00	0.00	0.00	0.00
215	0.00	0.00	0.00	0.00	0.00	0.00
216	0.00	0.00	0.00	0.00	0.00	0.00
217	0.00	0.00	0.00	0.00	-0.01	0.00
218	0.00	0.00	0.00	0.00	0.00	0.00
219	0.00	0.00	0.00	0.00	0.00	0.00
220	0.00	0.00	0.00	0.00	0.00	0.00
221	0.00	0.00	0.00	0.00	0.00	0.00
222	0.00	0.00	0.00	0.00	0.00	0.00
224	0.00	0.00	0.00	0.00	0.00	0.00
225	0.00	0.00	0.00	0.00	0.00	0.00
226	0.00	0.00	0.00	0.00	0.00	0.00
227	0.00	0.00	0.00	0.00	0.00	0.00
228	0.00	0.00	0.00	0.00	0.00	0.00
229	0.00	0.00	0.00	0.00	0.00	0.00
230	0.00	0.00	0.00	0.00	0.00	0.00
231	0.00	0.00	0.00	0.00	0.00	0.00
232	0.00	0.00	0.00	0.00	0.00	0.00
233	0.00	0.00	0.00	0.00	0.00	0.00
234	0.00	0.00	0.00	0.00	0.00	0.00
235	0.00	0.00	0.00	0.00	0.00	0.00
236	0.00	0.00	0.00	0.00	0.00	0.00
237	0.00	0.00	0.00	0.00	0.00	0.00
238	0.00	0.00	0.00	0.00	0.00	0.00
239	0.00	0.00	0.00	0.00	0.00	0.00
240	0.00	0.00	0.00	0.00	0.00	0.00
242	0.00	0.00	0.00	0.00	0.00	0.00
243	0.00	0.00	0.00	0.00	0.00	0.00
244	0.00	0.00	0.00	0.00	0.00	0.00
245	0.00	0.00	0.00	0.00	0.00	0.00
246	0.00	0.00	0.00	0.00	0.00	0.00
247	0.00	0.00	0.00	0.00	0.00	0.00
248	0.00	0.00	0.00	0.00	0.00	0.00
249	0.00	0.00	0.00	0.00	0.00	0.00
250	0.00	0.00	0.00	0.00	0.00	0.00
251	0.00	0.00	0.00	0.00	0.00	0.00
252	0.00	0.00	0.00	0.00	0.00	0.00
253	0.00	0.00	0.00	0.00	0.00	0.00
254	0.00	0.00	0.00	0.00	0.00	0.00
255	0.00	0.00	0.00	0.00	0.00	0.00
256	0.00	0.00	0.00	0.00	0.00	0.00
257	0.00	0.00	0.00	0.00	0.00	0.00
258	0.00	0.00	0.00	0.00	0.00	0.00
260	0.00	0.00	0.00	0.00	0.00	0.00
261	0.00	0.00	0.00	0.00	0.00	0.00
262	0.00	0.00	0.00	0.00	0.00	0.00
263	0.00	0.00	0.00	0.00	0.00	0.00
264	0.00	0.00	0.00	0.00	0.00	0.00
265	0.00	0.00	0.00	0.00	0.00	0.00
266	0.00	0.00	0.00	0.00	0.00	0.00
267	0.00	0.00	0.00	0.00	0.00	0.00
268	0.00	0.00	0.00	0.00	0.00	0.00
269	0.00	0.00	0.00	0.00	0.00	0.00
270	0.00	0.00	0.00	0.00	0.00	0.00
271	0.00	0.00	0.00	0.00	0.00	0.00
272	0.00	0.00	0.00	0.00	0.00	0.00
273	0.00	0.00	0.00	0.00	0.00	0.00
274	0.00	0.00	0.00	0.00	0.00	0.00
275	0.00	0.00	0.00	0.00	0.00	0.00
276	0.00	0.00	0.00	0.00	0.00	0.00
278	0.00	0.00	0.00	0.00	0.00	0.00
279	0.00	0.00	0.00	0.00	0.00	0.00
280	0.00	0.00	0.00	0.00	0.00	0.00
281	0.00	0.00	0.00	0.00	0.00	0.00

REACCIONES EN LOS APOYOS

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
7	0.00	176.68	0.00	-0.04	0.00	0.00
25	0.00	184.15	0.01	0.08	0.00	0.00
43	0.00	267.06	0.00	-0.07	0.00	0.00

61	0.00	243.11	0.00	0.02	0.00	0.00
79	0.00	249.25	0.00	0.00	0.00	0.00
97	0.00	247.68	0.00	0.00	0.00	0.00
115	0.00	248.08	0.00	0.00	0.00	0.00
133	0.00	247.98	0.00	0.00	0.00	0.00
151	0.00	247.99	0.00	0.00	0.00	0.00
169	0.00	248.06	0.00	0.00	0.00	0.00
187	0.00	247.73	0.00	0.00	0.00	0.00
205	0.00	249.06	0.00	0.00	0.00	0.00
223	0.00	243.82	0.00	0.02	0.00	0.00
241	0.00	264.39	0.00	-0.05	0.00	0.00
259	0.00	194.80	0.00	0.04	0.00	0.00
277	0.00	181.74	0.00	-0.01	0.00	0.00

DESPLAZAMIENTOS DE LOS NUDOS LIBRES

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
1	0.001157	-0.000023	-0.000001	0.000000	0.000000	-0.000667
2	0.001157	-0.000021	-0.000001	0.000000	0.000000	-0.000667
3	0.001157	-0.000021	-0.000001	0.000000	0.000000	-0.000667
4	0.000000	-0.000019	0.000000	0.000000	0.000000	0.000000
5	0.000000	-0.000020	0.000000	0.000000	0.000000	0.000000
6	0.000000	-0.000020	0.000000	0.000000	0.000000	0.000000
8	0.000000	-0.000001	0.000000	0.000000	0.000000	0.000000
9	0.000000	-0.000010	0.000000	0.000000	0.000000	0.000000
10	0.000000	-0.000013	0.000000	0.000000	0.000000	0.000000
11	0.000000	-0.000016	0.000000	0.000000	0.000000	0.000000
12	0.001157	-0.002028	-0.000001	0.000000	0.000000	-0.000607
13	0.001157	-0.003674	-0.000001	0.000000	0.000000	-0.000450
14	0.001157	-0.004725	-0.000001	0.000000	0.000000	-0.000231
15	0.001157	-0.005053	-0.000001	0.000000	0.000000	0.000015
16	0.001157	-0.004631	-0.000001	0.000000	0.000000	0.000252
17	0.001157	-0.003535	-0.000001	0.000000	0.000000	0.000446
18	0.001157	-0.001944	-0.000001	0.000000	0.000000	0.000561
19	0.001157	-0.000143	-0.000001	0.000000	0.000000	0.000562
20	0.001157	-0.000141	-0.000001	0.000000	0.000000	0.000562
21	0.001157	-0.000141	-0.000001	0.000000	0.000000	0.000562
22	0.000000	-0.000139	0.000000	0.000000	0.000000	0.000000
23	0.000000	-0.000141	0.000000	0.000000	0.000000	0.000000
24	0.000000	-0.000141	0.000000	0.000000	0.000000	0.000000
26	0.000000	-0.000002	0.000000	0.000000	0.000000	0.000000
27	0.000000	-0.000033	0.000000	0.000000	0.000000	0.000000
28	0.000000	-0.000063	0.000000	0.000000	0.000000	0.000000
29	0.000000	-0.000091	0.000000	0.000000	0.000000	0.000000
30	0.001157	0.001861	-0.000001	0.000000	0.000000	0.000462
31	0.001157	0.003443	-0.000001	0.000000	0.000000	0.000343
32	0.001157	0.004524	-0.000001	0.000000	0.000000	0.000205
33	0.001157	0.005030	-0.000001	0.000000	0.000000	0.000046
34	0.001157	0.004884	-0.000001	0.000000	0.000000	-0.000132
35	0.001157	0.004008	-0.000001	0.000000	0.000000	-0.000330
36	0.001157	0.002327	-0.000001	0.000000	0.000000	-0.000548
37	0.001157	-0.000237	-0.000001	0.000000	0.000000	-0.000785
38	0.001157	-0.000234	-0.000001	0.000001	0.000000	-0.000785
39	0.001157	-0.000234	-0.000001	-0.000001	0.000000	-0.000785
40	0.000000	-0.000231	0.000000	0.000000	0.000000	0.000000
41	0.000000	-0.000233	0.000000	-0.000001	0.000000	0.000000
42	0.000000	-0.000233	0.000000	0.000001	0.000000	0.000000
44	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
45	0.000000	-0.000055	0.000000	0.000000	0.000000	0.000000
46	0.000000	-0.000106	0.000000	0.000000	0.000000	0.000000
47	0.000000	-0.000161	0.000000	0.000000	0.000000	0.000000
48	0.001157	-0.003761	-0.000001	0.000000	0.000000	-0.000882
49	0.001157	-0.007100	-0.000001	0.000000	0.000000	-0.000732
50	0.001157	-0.009451	-0.000001	0.000000	0.000000	-0.000415
51	0.001157	-0.010327	-0.000001	0.000000	0.000000	-0.000013
52	0.001157	-0.009551	-0.000001	0.000000	0.000000	0.000395
53	0.001157	-0.007259	-0.000001	0.000000	0.000000	0.000727
54	0.001157	-0.003902	-0.000001	0.000000	0.000000	0.000902
55	0.001157	-0.000241	-0.000001	0.000000	0.000000	0.000841
56	0.001157	-0.000238	-0.000001	0.000001	0.000000	0.000841
57	0.001157	-0.000238	-0.000001	-0.000001	0.000000	0.000841
58	0.000000	-0.000236	0.000000	0.000000	0.000000	0.000000
59	0.000000	-0.000238	0.000000	-0.000001	0.000000	0.000000
60	0.000000	-0.000238	0.000000	0.000001	0.000000	0.000000
62	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
63	0.000000	-0.000056	0.000000	0.000000	0.000000	0.000000
64	0.000000	-0.000110	0.000000	0.000000	0.000000	0.000000
65	0.000000	-0.000172	0.000000	0.000000	0.000000	0.000000
66	0.001157	0.002617	-0.000001	0.000000	0.000000	0.000633
67	0.001157	0.004669	-0.000001	0.000000	0.000000	0.000425
68	0.001157	0.005908	-0.000001	0.000000	0.000000	0.000214
69	0.001157	0.006331	-0.000001	0.000000	0.000000	0.000003
70	0.001157	0.005932	-0.000001	0.000000	0.000000	-0.000210
71	0.001157	0.004706	-0.000001	0.000000	0.000000	-0.000424
72	0.001157	0.002647	-0.000001	0.000000	0.000000	-0.000639
73	0.001157	-0.000248	-0.000001	0.000000	0.000000	-0.000856
74	0.001157	-0.000245	-0.000001	0.000001	0.000000	-0.000856
75	0.001157	-0.000245	-0.000001	-0.000001	0.000000	-0.000856
76	0.000000	-0.000242	0.000000	0.000000	0.000000	0.000000
77	0.000000	-0.000245	0.000000	-0.000001	0.000000	0.000000
78	0.000000	-0.000245	0.000000	0.000001	0.000000	0.000000
80	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
81	0.000000	-0.000058	0.000000	0.000000	0.000000	0.000000
82	0.000000	-0.000113	0.000000	0.000000	0.000000	0.000000
83	0.000000	-0.000177	0.000000	0.000000	0.000000	0.000000
84	0.001157	-0.003987	-0.000001	0.000000	0.000000	-0.000925
85	0.001157	-0.007441	-0.000001	0.000000	0.000000	-0.000752
86	0.001157	-0.009829	-0.000001	0.000000	0.000000	-0.000417
87	0.001157	-0.010679	-0.000001	0.000000	0.000000	-0.000001
88	0.001157	-0.009834	-0.000001	0.000000	0.000000	0.000416
89	0.001157	-0.007449	-0.000001	0.000000	0.000000	0.000752
90	0.001157	-0.003991	-0.000001	0.000000	0.000000	0.000927
91	0.001157	-0.000242	-0.000001	0.000000	0.000000	0.000860
92	0.001157	-0.000240	-0.000001	0.000001	0.000000	0.000860
93	0.001157	-0.000240	-0.000001	-0.000001	0.000000	0.000860
94	0.000000	-0.000237	0.000000	0.000000	0.000000	0.000000
95	0.000000	-0.000239	0.000000	-0.000001	0.000000	0.000000

96	0.000000	-0.000239	0.000000	0.000001	0.000000	0.000000
98	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
99	0.000000	-0.000056	0.000000	0.000000	0.000000	0.000000
100	0.000000	-0.000110	0.000000	0.000000	0.000000	0.000000
101	0.000000	-0.000172	0.000000	0.000000	0.000000	0.000000
102	0.001157	0.002674	-0.000001	0.000000	0.000000	0.000645
103	0.001157	0.004758	-0.000001	0.000000	0.000000	0.000430
104	0.001157	0.006009	-0.000001	0.000000	0.000000	0.000215
105	0.001157	0.806427	-0.000001	0.000000	0.000000	0.000000
106	0.001157	0.006012	-0.000001	0.000000	0.000000	-0.000215
107	0.001157	0.004763	-0.000001	0.000000	0.000000	-0.000430
108	0.001157	0.002681	-0.000001	0.000000	0.000000	-0.000645
109	0.001157	-0.000236	-0.000001	0.000000	0.000000	-0.000860
110	0.001157	-0.000234	-0.000001	0.000001	0.000000	-0.000860
111	0.001157	-0.000234	-0.000001	-0.000001	0.000000	-0.000860
112	0.000000	-0.000231	0.000000	0.000000	0.000000	0.000000
113	0.000000	-0.000233	0.000000	-0.000001	0.000000	0.000000
114	0.000000	-0.000233	0.000000	0.000001	0.000000	0.000000
116	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
117	0.000000	-0.000055	0.000000	0.000000	0.000000	0.000000
118	0.000000	-0.000107	0.000000	0.000000	0.000000	0.000000
119	0.000000	-0.000166	0.000000	0.000000	0.000000	0.000000
120	0.001157	-0.003989	-0.000001	0.000000	0.000000	-0.000928
121	0.001157	-0.007451	-0.000001	0.000000	0.000000	-0.000753
122	0.001157	-0.009841	-0.000001	0.000000	0.000000	-0.000417
123	0.001157	-0.010690	-0.000001	0.000000	0.000000	0.000000
124	0.001157	-0.009841	-0.000001	0.000000	0.000000	0.000417
125	0.001157	-0.007450	-0.000001	0.000000	0.000000	0.000753
126	0.001157	-0.003987	-0.000001	0.000000	0.000000	0.000928
127	0.001157	-0.000233	-0.000001	0.000000	0.000000	0.000861
128	0.001157	-0.000231	-0.000001	0.000001	0.000000	0.000861
129	0.001157	-0.000231	-0.000001	-0.000001	0.000000	0.000861
130	0.000000	-0.000228	0.000000	0.000000	0.000000	0.000000
131	0.000000	-0.000230	0.000000	-0.000001	0.000000	0.000000
132	0.000000	-0.000230	0.000000	0.000001	0.000000	0.000000
134	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
135	0.000000	-0.000054	0.000000	0.000000	0.000000	0.000000
136	0.000000	-0.000106	0.000000	0.000000	0.000000	0.000000
137	0.000000	-0.000163	0.000000	0.000000	0.000000	0.000000
138	0.001157	0.002686	-0.000001	0.000000	0.000000	0.000646
139	0.001157	0.004770	-0.000001	0.000000	0.000000	0.000430
140	0.001157	0.006021	-0.000001	0.000000	0.000000	0.000215
141	0.001157	0.006438	-0.000001	0.000000	0.000000	0.000000
142	0.001157	0.006022	-0.000001	0.000000	0.000000	-0.000215
143	0.001157	0.004771	-0.000001	0.000000	0.000000	-0.000430
144	0.001157	0.002686	-0.000001	0.000000	0.000000	-0.000646
145	0.001157	-0.000232	-0.000001	0.000000	0.000000	-0.000861
146	0.001157	-0.000230	-0.000001	0.000001	0.000000	-0.000861
147	0.001157	-0.000230	-0.000001	-0.000001	0.000000	-0.000861
148	0.000000	-0.000227	0.000000	0.000000	0.000000	0.000000
149	0.000000	-0.000229	0.000000	-0.000001	0.000000	0.000000
150	0.000000	-0.000229	0.000000	0.000001	0.000000	0.000000
152	0.000000	-0.000004	0.000000	0.000000	0.000000	0.000000
153	0.000000	-0.000055	0.000000	0.000000	0.000000	0.000000
154	0.000000	-0.000106	0.000000	0.000000	0.000000	0.000000
155	0.000000	-0.000162	0.000000	0.000000	0.000000	0.000000
156	0.001157	-0.003986	-0.000001	0.000000	0.000000	-0.000928
157	0.001157	-0.007449	-0.000001	0.000000	0.000000	-0.000753
158	0.001157	-0.009839	-0.000001	0.000000	0.000000	-0.000417
159	0.001157	-0.010687	-0.000001	0.000000	0.000000	0.000000
160	0.001157	-0.009838	-0.000001	0.000000	0.000000	0.000417
161	0.001157	-0.007447	-0.000001	0.000000	0.000000	0.000753
162	0.001157	-0.003983	-0.000001	0.000000	0.000000	0.000928
163	0.001157	-0.000229	-0.000001	0.000000	0.000000	0.000861
164	0.001157	-0.000227	-0.000001	0.000001	0.000000	0.000861
165	0.001157	-0.000227	-0.000001	-0.000001	0.000000	0.000861
166	0.000000	-0.000224	0.000000	0.000000	0.000000	0.000000
167	0.000000	-0.000226	0.000000	-0.000001	0.000000	0.000000
168	0.000000	-0.000226	0.000000	0.000001	0.000000	0.000000
170	0.000000	-0.000004	0.000000	0.000000	0.000000	0.000000
171	0.000000	-0.000054	0.000000	0.000000	0.000000	0.000000
172	0.000000	-0.000104	0.000000	0.000000	0.000000	0.000000
173	0.000000	-0.000159	0.000000	0.000000	0.000000	0.000000
174	0.001157	0.002689	-0.000001	0.000000	0.000000	0.000646
175	0.001157	0.004774	-0.000001	0.000000	0.000000	0.000430
176	0.001157	0.006024	-0.000001	0.000000	0.000000	0.000215
177	0.001157	0.006441	-0.000001	0.000000	0.000000	0.000000
178	0.001157	0.006024	-0.000001	0.000000	0.000000	-0.000215
179	0.001157	0.004775	-0.000001	0.000000	0.000000	-0.000430
180	0.001157	0.002692	-0.000001	0.000000	0.000000	-0.000645
181	0.001157	-0.000223	-0.000001	0.000000	0.000000	-0.000860
182	0.001157	-0.000220	-0.000001	0.000001	0.000000	-0.000860
183	0.001157	-0.000220	-0.000001	-0.000001	0.000000	-0.000860
184	0.000000	-0.000217	0.000000	0.000000	0.000000	0.000000
185	0.000000	-0.000220	0.000000	-0.000001	0.000000	0.000000
186	0.000000	-0.000220	0.000000	0.000001	0.000000	0.000000
188	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
189	0.000000	-0.000052	0.000000	0.000000	0.000000	0.000000
190	0.000000	-0.000100	0.000000	0.000000	0.000000	0.000000
191	0.000000	-0.000153	0.000000	0.000000	0.000000	0.000000
192	0.001157	-0.003971	-0.000001	0.000000	0.000000	-0.000927
193	0.001157	-0.007428	-0.000001	0.000000	0.000000	-0.000752
194	0.001157	-0.009813	-0.000001	0.000000	0.000000	-0.000416
195	0.001157	-0.010658	-0.000001	0.000000	0.000000	0.000001
196	0.001157	-0.009807	-0.000001	0.000000	0.000000	0.000417
197	0.001157	-0.007418	-0.000001	0.000000	0.000000	0.000752
198	0.001157	-0.003961	-0.000001	0.000000	0.000000	0.000926
199	0.001157	-0.000220	-0.000001	0.000000	0.000000	0.000857
200	0.001157	-0.000217	-0.000001	0.000001	0.000000	0.000857
201	0.001157	-0.000217	-0.000001	-0.000001	0.000000	0.000857
202	0.000000	-0.000214	0.000000	0.000000	0.000000	0.000000
203	0.000000	-0.000217	0.000000	-0.000001	0.000000	0.000000
204	0.000000	-0.000217	0.000000	0.000001	0.000000	0.000000
206	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
207	0.000000	-0.000051	0.000000	0.000000	0.000000	0.000000
208	0.000000	-0.000099	0.000000	0.000000	0.000000	0.000000
209	0.000000	-0.000149	0.000000	0.000000	0.000000	0.000000
210	0.001157	0.002680	-0.000001	0.000000	0.000000	0.000640
211	0.001157	0.004742	-0.000001	0.000000	0.000000	0.000425
212	0.001157	0.005972	-0.000001	0.000000	0.000000	0.000211
213	0.001157	0.006375	-0.000001	0.000000	0.000000	-0.000003
214	0.001157	0.005953	-0.000001	0.000000	0.000000	-0.000215

215	0.001157	0.004711	-0.000001	0.000000	0.000000	-0.000426
216	0.001157	0.002655	-0.000001	0.000000	0.000000	-0.000635
217	0.001157	-0.000213	-0.000001	0.000000	0.000000	-0.000844
218	0.001157	-0.000211	-0.000001	0.000001	0.000000	-0.000844
219	0.001157	-0.000211	-0.000001	-0.000001	0.000000	-0.000844
220	0.000000	-0.000208	0.000000	0.000000	0.000000	0.000000
221	0.000000	-0.000210	0.000000	-0.000001	0.000000	0.000000
222	0.000000	-0.000210	0.000000	0.000001	0.000000	0.000000
224	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
225	0.000000	-0.000049	0.000000	0.000000	0.000000	0.000000
226	0.000000	-0.000096	0.000000	0.000000	0.000000	0.000000
227	0.000000	-0.000144	0.000000	0.000000	0.000000	0.000000
228	0.001157	-0.003889	-0.000001	0.000000	0.000000	-0.000907
229	0.001157	-0.007263	-0.000001	0.000000	0.000000	-0.000731
230	0.001157	-0.009571	-0.000001	0.000000	0.000000	-0.000399
231	0.001157	-0.010360	-0.000001	0.000000	0.000000	0.000010
232	0.001157	-0.009491	-0.000001	0.000000	0.000000	0.000415
233	0.001157	-0.007137	-0.000001	0.000000	0.000000	0.000734
234	0.001157	-0.003784	-0.000001	0.000000	0.000000	0.000888
235	0.001157	-0.000231	-0.000001	0.000000	0.000000	0.000795
236	0.001157	-0.000228	-0.000001	0.000001	0.000000	0.000795
237	0.001157	-0.000228	-0.000001	-0.000001	0.000000	0.000795
238	0.000000	-0.000225	0.000000	0.000000	0.000000	0.000000
239	0.000000	-0.000228	0.000000	-0.000001	0.000000	0.000000
240	0.000000	-0.000228	0.000000	0.000001	0.000000	0.000000
242	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
243	0.000000	-0.000053	0.000000	0.000000	0.000000	0.000000
244	0.000000	-0.000104	0.000000	0.000000	0.000000	0.000000
245	0.000000	-0.000156	0.000000	0.000000	0.000000	0.000000
246	0.001157	0.002379	-0.000001	0.000000	0.000000	0.000561
247	0.001157	0.004114	-0.000001	0.000000	0.000000	0.000343
248	0.001157	0.005039	-0.000001	0.000000	0.000000	0.000143
249	0.001157	0.005221	-0.000001	0.000000	0.000000	-0.000040
250	0.001157	0.004726	-0.000001	0.000000	0.000000	-0.000207
251	0.001157	0.003618	-0.000001	0.000000	0.000000	-0.000356
252	0.001157	0.001965	-0.000001	0.000000	0.000000	-0.000488
253	0.001157	-0.000168	-0.000001	0.000000	0.000000	-0.000604
254	0.001157	-0.000166	-0.000001	0.000001	0.000000	-0.000604
255	0.001157	-0.000166	-0.000001	-0.000001	0.000000	-0.000604
256	0.000000	-0.000164	0.000000	0.000000	0.000000	0.000000
257	0.000000	-0.000166	0.000000	-0.000001	0.000000	0.000000
258	0.000000	-0.000166	0.000000	0.000001	0.000000	0.000000
260	0.000000	-0.000002	0.000000	0.000000	0.000000	0.000000
261	0.000000	-0.000039	0.000000	0.000000	0.000000	0.000000
262	0.000000	-0.000075	0.000000	0.000000	0.000000	0.000000
263	0.000000	-0.000113	0.000000	0.000000	0.000000	0.000000
264	0.001157	-0.002184	-0.000001	0.000000	0.000000	-0.000611
265	0.001157	-0.003982	-0.000001	0.000000	0.000000	-0.000490
266	0.001157	-0.005232	-0.000001	0.000000	0.000000	-0.000280
267	0.001157	-0.005725	-0.000001	0.000000	0.000000	-0.000021
268	0.001157	-0.005368	-0.000001	0.000000	0.000000	0.000249
269	0.001157	-0.004189	-0.000001	0.000000	0.000000	0.000490
270	0.001157	-0.002335	-0.000001	0.000000	0.000000	0.000663
271	0.001157	-0.000071	-0.000001	0.000000	0.000000	0.000730
272	0.001157	-0.000069	-0.000001	0.000000	0.000000	0.000730
273	0.001157	-0.000069	-0.000001	0.000000	0.000000	0.000730
274	0.000000	-0.000067	0.000000	0.000000	0.000000	0.000000
275	0.000000	-0.000069	0.000000	0.000000	0.000000	0.000000
276	0.000000	-0.000069	0.000000	0.000000	0.000000	0.000000
278	0.000000	-0.000002	0.000000	0.000000	0.000000	0.000000
279	0.000000	-0.000016	0.000000	0.000000	0.000000	0.000000
280	0.000000	-0.000030	0.000000	0.000000	0.000000	0.000000
281	0.000000	-0.000043	0.000000	0.000000	0.000000	0.000000

DESPLAZAMIENTOS DE LOS APOYOS

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
7	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
43	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
61	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
79	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
97	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
115	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
133	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
151	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
169	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
187	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
205	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
223	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
241	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
259	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
277	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

estr

hipo 4 TRAMOS PARES CARGADOS (2 VIAS CARGADAS 16 t/m)

E S F U E R Z O S E N B A R R A S

BARRA	NUDO	AXIL	CORT. Y	CORT. Z	TORSOR	MOM. Y	MOM. Z
1	1	0.00	-39.01	0.02	-0.01	-0.11	-0.01
1	12	0.00	-39.01	-0.02	0.01	0.06	-114.59
2	12	0.00	-39.01	0.02	-0.01	-0.06	114.59
2	13	0.00	39.01	-0.02	0.01	0.00	-229.18
3	13	0.00	-39.01	0.02	-0.01	0.00	229.18
3	14	0.00	39.01	-0.02	0.01	-0.06	-343.78
4	14	0.00	-39.01	0.02	-0.01	0.06	343.78
4	15	0.00	39.01	-0.02	0.01	-0.12	-458.37
5	15	0.00	-39.01	0.02	-0.01	0.12	458.37
5	16	0.00	39.01	-0.02	0.01	-0.17	-572.96
6	16	0.00	-39.01	0.02	-0.01	0.17	572.96
6	17	0.00	39.01	-0.02	0.01	-0.23	-687.56
7	17	0.00	-39.01	0.02	-0.01	0.23	687.56
7	18	0.00	39.01	-0.02	0.01	-0.29	-802.15
8	18	0.00	-39.01	0.02	-0.01	0.29	802.15
8	19	0.00	39.01	-0.02	0.01	-0.35	-916.74
9	19	0.00	259.18	-0.01	0.01	0.35	916.72
9	30	0.00	-197.18	0.01	-0.01	-0.31	-32.54
10	30	0.00	197.18	-0.01	0.01	0.31	32.54
10	31	0.00	-135.18	0.01	-0.01	-0.28	611.39
11	31	0.00	135.18	-0.01	0.01	0.28	-611.39
11	32	0.00	-73.18	0.01	-0.01	-0.24	1015.07
12	32	0.00	73.18	-0.01	0.01	0.24	-1015.07
12	33	0.00	-11.18	0.01	-0.01	-0.21	1178.49
13	33	0.00	11.18	-0.01	0.01	0.21	-1178.49
13	34	0.00	50.82	0.01	-0.01	-0.17	1101.67
14	34	0.00	-50.82	-0.01	0.01	0.17	-1101.67
14	35	0.00	112.82	0.01	-0.01	-0.14	784.60
15	35	0.00	-112.82	-0.01	0.01	0.14	-784.60
15	36	0.00	174.82	0.01	-0.01	-0.10	227.28
16	36	0.00	-174.82	-0.01	0.01	0.10	-227.28
16	37	0.00	236.82	0.01	-0.01	-0.07	-570.29
17	37	0.00	-2.83	0.00	0.00	0.07	570.32
17	48	0.00	2.83	0.00	0.00	-0.06	-581.29
18	48	0.00	-2.83	0.00	0.00	0.06	581.29
18	49	0.00	2.83	0.00	0.00	-0.05	-592.27
19	49	0.00	-2.83	0.00	0.00	0.05	592.27
19	50	0.00	2.83	0.00	0.00	-0.04	-603.24
20	50	0.00	-2.83	0.00	0.00	0.04	603.24
20	51	0.00	2.83	0.00	0.00	-0.04	-614.22
21	51	0.00	-2.83	0.00	0.00	0.04	614.22
21	52	0.00	2.83	0.00	0.00	-0.03	-625.20
22	52	0.00	-2.83	0.00	0.00	0.03	625.19
22	53	0.00	2.83	0.00	0.00	-0.02	-636.17
23	53	0.00	-2.83	0.00	0.00	0.02	636.17
23	54	0.00	2.83	0.00	0.00	-0.01	-647.14
24	54	0.00	-2.83	0.00	0.00	0.01	647.14
24	55	0.00	2.83	0.00	0.00	0.00	-658.12
25	55	0.00	248.71	0.00	0.00	0.00	658.09
25	66	0.00	-186.71	0.00	0.00	0.00	185.53
26	66	0.00	186.71	0.00	0.00	0.00	-185.53
26	67	0.00	-124.71	0.00	0.00	0.00	788.90
27	67	0.00	124.71	0.00	0.00	0.00	-788.90
27	68	0.00	-62.71	0.00	0.00	0.00	1152.02
28	68	0.00	62.71	0.00	0.00	0.00	-1152.02
28	69	0.00	-0.71	0.00	0.00	0.00	1274.89
29	69	0.00	0.71	0.00	0.00	0.00	-1274.89
29	70	0.00	61.29	0.00	0.00	0.00	1157.50
30	70	0.00	-61.29	0.00	0.00	0.00	-1157.50
30	71	0.00	123.29	0.00	0.00	0.01	799.87
31	71	0.00	-123.29	0.00	0.00	-0.01	-799.87
31	72	0.00	185.29	0.00	0.00	0.01	201.99
32	72	0.00	-185.29	0.00	0.00	-0.01	-201.99
32	73	0.00	247.29	0.00	0.00	0.01	-636.15
33	73	0.00	-0.18	0.00	0.00	-0.01	636.17
33	84	0.00	0.18	0.00	0.00	0.01	-636.87
34	84	0.00	-0.18	0.00	0.00	-0.01	636.87
34	85	0.00	0.18	0.00	0.00	0.01	-637.57
35	85	0.00	-0.18	0.00	0.00	-0.01	637.57
35	86	0.00	0.18	0.00	0.00	0.01	-638.27
36	86	0.00	-0.18	0.00	0.00	-0.01	638.27
36	87	0.00	0.18	0.00	0.00	0.01	-638.97
37	87	0.00	-0.18	0.00	0.00	-0.01	638.97
37	88	0.00	0.18	0.00	0.00	0.01	-639.67
38	88	0.00	-0.18	0.00	0.00	-0.01	639.67
38	89	0.00	0.18	0.00	0.00	0.01	-640.37
39	89	0.00	-0.18	0.00	0.00	-0.01	640.37
39	90	0.00	0.18	0.00	0.00	0.01	-641.07
40	90	0.00	-0.18	0.00	0.00	-0.01	641.07
40	91	0.00	0.18	0.00	0.00	0.00	-641.77
41	91	0.00	248.04	0.00	0.00	0.00	641.74
41	102	0.00	-186.04	0.00	0.00	0.00	199.30
42	102	0.00	186.04	0.00	0.00	0.00	-199.30
42	103	0.00	-124.04	0.00	0.00	0.00	800.09
43	103	0.00	124.04	0.00	0.00	0.00	-800.09
43	104	0.00	-62.04	0.00	0.00	0.00	1160.62
44	104	0.00	62.04	0.00	0.00	0.00	-1160.63
44	105	0.00	-0.04	0.00	0.00	0.00	1280.91
45	105	0.00	0.04	0.00	0.00	0.00	-1280.91
45	106	0.00	61.96	0.00	0.00	0.00	1160.95
46	106	0.00	-61.96	0.00	0.00	0.00	-1160.95
46	107	0.00	123.96	0.00	0.00	0.00	800.74
47	107	0.00	-123.96	0.00	0.00	0.00	-800.74
47	108	0.00	185.96	0.00	0.00	0.00	200.27

48	108	0.00	-185.96	0.00	0.00	0.00	-200.27
48	109	0.00	247.96	0.00	0.00	0.00	-640.44
49	109	0.00	-0.01	0.00	0.00	0.00	640.47
49	120	0.00	0.01	0.00	0.00	0.00	-640.51
50	120	0.00	-0.01	0.00	0.00	0.00	640.51
50	121	0.00	0.01	0.00	0.00	0.00	-640.54
51	121	0.00	-0.01	0.00	0.00	0.00	640.54
51	122	0.00	0.01	0.00	0.00	0.00	-640.58
52	122	0.00	-0.01	0.00	0.00	0.00	640.58
52	123	0.00	0.01	0.00	0.00	0.00	-640.62
53	123	0.00	-0.01	0.00	0.00	0.00	640.62
53	124	0.00	0.01	0.00	0.00	0.00	-640.65
54	124	0.00	-0.01	0.00	0.00	0.00	640.65
54	125	0.00	0.01	0.00	0.00	0.00	-640.69
55	125	0.00	-0.01	0.00	0.00	0.00	640.69
55	126	0.00	0.01	0.00	0.00	0.00	-640.73
56	126	0.00	-0.01	0.00	0.00	0.00	640.73
56	127	0.00	0.01	0.00	0.00	0.00	-640.76
57	127	0.00	248.00	0.00	0.00	0.00	640.73
57	138	0.00	-186.00	0.00	0.00	0.00	200.15
58	138	0.00	186.00	0.00	0.00	0.00	-200.15
58	139	0.00	-124.00	0.00	0.00	0.00	800.79
59	139	0.00	124.00	0.00	0.00	0.00	-800.79
59	140	0.00	-62.00	0.00	0.00	0.00	1161.17
60	140	0.00	62.00	0.00	0.00	0.00	-1161.17
60	141	0.00	0.00	0.00	0.00	0.00	1281.30
61	141	0.00	0.00	0.00	0.00	0.00	-1281.30
61	142	0.00	62.00	0.00	0.00	0.00	1161.19
62	142	0.00	-62.00	0.00	0.00	0.00	-1161.19
62	143	0.00	124.00	0.00	0.00	0.00	800.82
63	143	0.00	-124.00	0.00	0.00	0.00	-800.82
63	144	0.00	186.00	0.00	0.00	0.00	200.20
64	144	0.00	-186.00	0.00	0.00	0.00	-200.20
64	145	0.00	248.00	0.00	0.00	0.00	-640.67
65	145	0.00	0.01	0.00	0.00	0.00	640.70
65	156	0.00	-0.01	0.00	0.00	0.00	-640.65
66	156	0.00	0.01	0.00	0.00	0.00	640.65
66	157	0.00	-0.01	0.00	0.00	0.00	-640.61
67	157	0.00	0.01	0.00	0.00	0.00	640.61
67	158	0.00	-0.01	0.00	0.00	0.00	-640.57
68	158	0.00	0.01	0.00	0.00	0.00	640.57
68	159	0.00	-0.01	0.00	0.00	0.00	-640.53
69	159	0.00	0.01	0.00	0.00	0.00	640.53
69	160	0.00	-0.01	0.00	0.00	0.00	-640.48
70	160	0.00	0.01	0.00	0.00	0.00	640.49
70	161	0.00	-0.01	0.00	0.00	0.00	-640.44
71	161	0.00	0.01	0.00	0.00	0.00	640.44
71	162	0.00	-0.01	0.00	0.00	0.00	-640.40
72	162	0.00	0.01	0.00	0.00	0.00	640.40
72	163	0.00	-0.01	0.00	0.00	0.00	-640.36
73	163	0.00	247.95	0.00	0.00	0.00	640.33
73	174	0.00	-185.95	0.00	0.00	0.00	200.37
74	174	0.00	185.95	0.00	0.00	0.00	-200.37
74	175	0.00	-123.95	0.00	0.00	0.00	800.81
75	175	0.00	123.95	0.00	0.00	0.00	-800.81
75	176	0.00	-61.95	0.00	0.00	0.00	1161.00
76	176	0.00	61.95	0.00	0.00	0.00	-1161.00
76	177	0.00	0.05	0.00	0.00	0.00	1280.95
77	177	0.00	-0.05	0.00	0.00	0.00	-1280.95
77	178	0.00	62.05	0.00	0.00	0.00	1160.64
78	178	0.00	-62.05	0.00	0.00	0.00	-1160.64
78	179	0.00	124.05	0.00	0.00	0.00	800.08
79	179	0.00	-124.05	0.00	0.00	0.00	-800.08
79	180	0.00	186.05	0.00	0.00	0.00	199.27
80	180	0.00	-186.05	0.00	0.00	0.00	-199.27
80	181	0.00	248.05	0.00	0.00	0.00	-641.79
81	181	0.00	0.17	0.00	0.00	0.00	641.82
81	192	0.00	-0.17	0.00	0.00	0.00	-641.14
82	192	0.00	0.17	0.00	0.00	0.00	641.14
82	193	0.00	-0.17	0.00	0.00	0.00	-640.46
83	193	0.00	0.17	0.00	0.00	0.00	640.46
83	194	0.00	-0.17	0.00	0.00	0.01	-639.79
84	194	0.00	0.17	0.00	0.00	-0.01	639.79
84	195	0.00	-0.17	0.00	0.00	0.01	-639.11
85	195	0.00	0.17	0.00	0.00	-0.01	639.11
85	196	0.00	-0.17	0.00	0.00	0.01	-638.44
86	196	0.00	0.17	0.00	0.00	-0.01	638.43
86	197	0.00	-0.17	0.00	0.00	0.01	-637.76
87	197	0.00	0.17	0.00	0.00	-0.01	637.76
87	198	0.00	-0.17	0.00	0.00	0.01	-637.08
88	198	0.00	0.17	0.00	0.00	-0.01	637.08
88	199	0.00	-0.17	0.00	0.00	0.01	-636.40
89	199	0.00	247.32	0.00	0.00	-0.01	636.38
89	210	0.00	-185.32	0.00	0.00	0.01	201.85
90	210	0.00	185.32	0.00	0.00	-0.01	-201.85
90	211	0.00	-123.32	0.00	0.00	0.01	799.83
91	211	0.00	123.32	0.00	0.00	-0.01	-799.83
91	212	0.00	-61.32	0.00	0.00	0.00	1157.55
92	212	0.00	61.32	0.00	0.00	0.00	-1157.55
92	213	0.00	0.68	0.00	0.00	0.00	1275.03
93	213	0.00	-0.68	0.00	0.00	0.00	-1275.03
93	214	0.00	62.68	0.00	0.00	0.00	1152.25
94	214	0.00	-62.68	0.00	0.00	0.00	-1152.25
94	215	0.00	124.68	0.00	0.00	0.00	789.23
95	215	0.00	-124.68	0.00	0.00	0.00	-789.23
95	216	0.00	186.68	0.00	0.00	0.00	185.95
96	216	0.00	-186.68	0.00	0.00	0.00	-185.95
96	217	0.00	248.68	0.00	0.00	0.00	-657.57
97	217	0.00	2.69	0.00	0.00	0.00	657.60
97	228	0.00	-2.69	0.00	0.00	-0.01	-647.19
98	228	0.00	2.69	0.00	0.00	0.01	647.19
98	229	0.00	-2.69	0.00	0.00	-0.02	-636.78
99	229	0.00	2.69	0.00	0.00	0.02	636.78
99	230	0.00	-2.69	0.00	0.00	-0.02	-626.37
100	230	0.00	2.69	0.00	0.00	0.02	626.37
100	231	0.00	-2.69	0.00	0.00	-0.03	-615.96
101	231	0.00	2.69	0.00	0.00	0.03	615.96
101	232	0.00	-2.69	0.00	0.00	-0.04	-605.55
102	232	0.00	2.69	0.00	0.00	0.04	605.55
102	233	0.00	-2.69	0.00	0.00	-0.04	-595.14
103	233	0.00	2.69	0.00	0.00	0.04	595.14
103	234	0.00	-2.69	0.00	0.00	-0.05	-584.72

104	234	0.00	2.69	0.00	0.00	0.05	584.72
104	235	0.00	-2.69	0.00	0.00	-0.06	-574.31
105	235	0.00	237.47	0.01	-0.01	0.06	574.29
105	246	0.00	-175.47	-0.01	0.01	-0.08	225.78
106	246	0.00	175.47	0.01	-0.01	0.08	-225.78
106	247	0.00	-113.47	-0.01	0.01	-0.11	785.60
107	247	0.00	113.47	0.01	-0.01	0.11	-785.60
107	248	0.00	-51.47	-0.01	0.01	-0.14	1105.16
108	248	0.00	51.47	0.01	-0.01	0.14	-1105.16
108	249	0.00	10.53	-0.01	0.01	-0.17	1184.48
109	249	0.00	-10.53	0.01	-0.01	0.17	-1184.48
109	250	0.00	72.53	-0.01	0.01	-0.20	1023.54
110	250	0.00	-72.53	0.01	-0.01	0.20	-1023.54
110	251	0.00	134.53	-0.01	0.01	-0.23	622.36
111	251	0.00	-134.53	0.01	-0.01	0.23	-622.36
111	252	0.00	196.53	-0.01	0.01	-0.26	-19.08
112	252	0.00	-196.53	0.01	-0.01	0.26	19.08
112	253	0.00	258.53	-0.01	0.01	-0.29	-900.76
113	253	0.00	36.99	-0.01	0.01	0.29	900.78
113	264	0.00	-36.99	0.01	-0.01	-0.25	-788.19
114	264	0.00	36.99	-0.01	0.01	0.25	788.19
114	265	0.00	-36.99	0.01	-0.01	-0.22	-675.59
115	265	0.00	36.99	-0.01	0.01	0.22	675.59
115	266	0.00	-36.99	0.01	-0.01	-0.18	-562.99
116	266	0.00	36.99	-0.01	0.01	0.18	562.99
116	267	0.00	-36.99	0.01	-0.01	-0.14	-450.40
117	267	0.00	36.99	-0.01	0.01	0.14	450.40
117	268	0.00	-36.99	0.01	-0.01	-0.11	-337.80
118	268	0.00	36.99	-0.01	0.01	0.11	337.80
118	269	0.00	-36.99	0.01	-0.01	-0.07	-225.20
119	269	0.00	36.99	-0.01	0.01	0.07	225.20
119	270	0.00	-36.99	0.01	-0.01	-0.04	-112.61
120	270	0.00	36.99	-0.01	0.01	0.04	112.61
120	271	0.00	-36.99	0.01	-0.01	0.00	-0.01
121	2	0.00	-19.50	-0.03	0.05	0.00	0.00
121	1	0.00	19.50	0.03	-0.05	0.06	-37.05
122	1	-0.02	19.51	-0.03	0.06	0.05	37.04
122	3	0.02	-19.51	0.03	-0.06	0.00	0.03
123	5	0.00	19.50	0.03	0.00	0.00	0.00
123	4	0.00	-19.50	-0.03	0.00	-0.06	37.05
124	4	0.02	-19.51	0.03	0.00	-0.06	-37.07
124	6	-0.02	19.51	-0.03	0.00	0.00	0.00
125	20	0.00	149.09	0.00	-0.01	0.00	0.00
125	19	0.00	-149.09	0.00	0.01	0.00	283.27
126	19	0.03	-149.10	0.00	0.01	0.00	-283.24
126	21	-0.03	149.10	0.00	-0.01	0.00	-0.04
127	23	0.00	-149.09	0.00	0.00	0.00	0.00
127	22	0.00	149.09	0.00	0.00	0.00	-283.27
128	22	-0.03	149.10	0.00	0.00	0.00	283.28
128	24	0.03	-149.10	0.00	0.00	0.00	0.00
129	38	0.00	116.99	0.00	0.01	0.00	0.00
129	37	0.00	-116.99	0.00	-0.01	0.00	222.29
130	37	-0.01	-117.00	0.00	-0.01	0.00	-222.30
130	39	0.01	117.00	0.00	0.01	0.00	0.01
131	41	0.00	-117.00	0.00	0.00	0.00	0.00
131	40	0.00	117.00	0.00	0.00	0.00	-222.29
132	40	0.01	117.00	0.00	0.00	0.00	222.30
132	42	-0.01	-117.00	0.00	0.00	0.00	0.00
133	56	0.00	125.77	0.00	-0.01	0.00	0.00
133	55	0.00	-125.77	0.00	0.01	0.00	238.96
134	55	0.00	-125.77	0.00	0.01	0.00	-238.96
134	57	0.00	125.77	0.00	-0.01	0.00	0.00
135	59	0.00	-125.77	0.00	0.00	0.00	0.00
135	58	0.00	125.77	0.00	0.00	0.00	-238.96
136	58	0.00	125.77	0.00	0.00	0.00	238.96
136	60	0.00	-125.77	0.00	0.00	0.00	0.00
137	74	0.00	123.56	0.00	0.02	0.00	0.00
137	73	0.00	-123.56	0.00	-0.02	0.00	234.76
138	73	0.00	-123.56	0.00	-0.01	0.00	-234.76
138	75	0.00	123.56	0.00	0.01	0.00	0.00
139	77	0.00	-123.56	0.00	0.00	0.00	0.00
139	76	0.00	123.56	0.00	0.00	0.00	-234.76
140	76	0.00	123.56	0.00	0.00	0.00	234.76
140	78	0.00	-123.56	0.00	0.00	0.00	0.00
141	92	0.00	124.11	0.00	-0.01	0.00	0.00
141	91	0.00	-124.11	0.00	0.01	0.00	235.81
142	91	0.00	-124.11	0.00	0.02	0.00	-235.81
142	93	0.00	124.11	0.00	-0.02	0.00	0.00
143	95	0.00	-124.11	0.00	0.00	0.00	0.00
143	94	0.00	124.11	0.00	0.00	0.00	-235.81
144	94	0.00	124.11	0.00	0.00	0.00	235.81
144	96	0.00	-124.11	0.00	0.00	0.00	0.00
145	110	0.00	123.97	0.00	0.02	0.00	0.00
145	109	0.00	-123.97	0.00	-0.02	0.00	235.55
146	109	0.00	-123.97	0.00	-0.01	0.00	-235.55
146	111	0.00	123.97	0.00	0.01	0.00	0.00
147	113	0.00	-123.98	0.00	0.00	0.00	0.00
147	112	0.00	123.98	0.00	0.00	0.00	-235.55
148	112	0.00	123.97	0.00	0.00	0.00	235.55
148	114	0.00	-123.97	0.00	0.00	0.00	0.00
149	128	0.00	124.01	0.00	-0.01	0.00	0.00
149	127	0.00	-124.01	0.00	0.01	0.00	235.61
150	127	0.00	-124.01	0.00	0.01	0.00	-235.61
150	129	0.00	124.01	0.00	-0.01	0.00	0.00
151	131	0.00	-124.01	0.00	0.00	0.00	0.00
151	130	0.00	124.01	0.00	0.00	0.00	-235.61
152	130	0.00	124.01	0.00	0.00	0.00	235.61
152	132	0.00	-124.01	0.00	0.00	0.00	0.00
153	146	0.00	124.00	0.00	0.02	0.00	0.00
153	145	0.00	-124.00	0.00	-0.02	0.00	235.61
154	145	0.00	-124.00	0.00	-0.01	0.00	-235.61
154	147	0.00	124.00	0.00	0.01	0.00	0.00
155	149	0.00	-124.00	0.00	0.00	0.00	0.00
155	148	0.00	124.00	0.00	0.00	0.00	-235.61
156	148	0.00	124.00	0.00	0.00	0.00	235.61
156	150	0.00	-124.00	0.00	0.00	0.00	0.00
157	164	0.00	123.97	0.00	-0.01	0.00	0.00
157	163	0.00	-123.97	0.00	0.01	0.00	235.54
158	163	0.00	-123.97	0.00	0.01	0.00	-235.54
158	165	0.00	123.97	0.00	-0.01	0.00	0.00
159	167	0.00	-123.97	0.00	0.00	0.00	0.00
159	166	0.00	123.97	0.00	0.00	0.00	-235.54

160	166	0.00	123.97	0.00	0.00	0.00	235.55
160	168	0.00	-123.97	0.00	0.00	0.00	0.00
161	182	0.00	124.11	0.00	0.01	0.00	0.00
161	181	0.00	-124.11	0.00	-0.01	0.00	235.81
162	181	0.00	-124.11	0.00	-0.02	0.00	-235.81
162	183	0.00	124.11	0.00	0.02	0.00	0.00
163	185	0.00	-124.11	0.00	0.00	0.00	0.00
163	184	0.00	124.11	0.00	0.00	0.00	-235.81
164	184	0.00	124.11	0.00	0.00	0.00	235.81
164	186	0.00	-124.11	0.00	0.00	0.00	0.00
165	200	0.00	123.57	0.00	-0.01	0.00	0.00
165	199	0.00	-123.57	0.00	0.01	0.00	234.79
166	199	0.00	-123.57	0.00	0.01	0.00	-234.78
166	201	0.00	123.57	0.00	-0.01	0.00	0.00
167	203	0.00	-123.57	0.00	0.00	0.00	0.00
167	202	0.00	123.57	0.00	0.00	0.00	-234.79
168	202	0.00	123.57	0.00	0.00	0.00	234.78
168	204	0.00	-123.57	0.00	0.00	0.00	0.00
169	218	0.00	125.69	0.00	0.01	0.00	0.00
169	217	0.00	-125.69	0.00	-0.01	0.00	238.80
170	217	0.00	-125.68	0.00	-0.01	0.00	-238.80
170	219	0.00	125.68	0.00	0.01	0.00	0.00
171	221	0.00	-125.69	0.00	0.00	0.00	0.00
171	220	0.00	125.69	0.00	0.00	0.00	-238.80
172	220	0.00	125.68	0.00	0.00	0.00	238.80
172	222	0.00	-125.68	0.00	0.00	0.00	0.00
173	236	0.00	117.39	0.00	-0.01	0.00	0.00
173	235	0.00	-117.39	0.00	0.01	0.00	223.04
174	235	-0.01	-117.39	0.00	0.01	0.00	-223.05
174	237	0.01	117.39	0.00	-0.01	0.00	0.01
175	239	0.00	-117.39	0.00	0.00	0.00	0.00
175	238	0.00	117.39	0.00	0.00	0.00	-223.04
176	238	0.01	117.39	0.00	0.00	0.00	223.04
176	240	-0.01	-117.39	0.00	0.00	0.00	0.00
177	254	0.00	147.76	0.00	0.01	0.00	0.00
177	253	0.00	-147.76	0.00	-0.01	0.00	280.75
178	253	0.02	-147.76	0.00	-0.01	0.00	-280.72
178	255	-0.02	147.76	0.00	0.01	0.00	-0.03
179	257	0.00	-147.76	0.00	0.00	0.00	0.00
179	256	0.00	147.76	0.00	0.00	0.00	-280.75
180	256	-0.02	147.76	0.00	0.00	0.00	280.75
180	258	0.02	-147.76	0.00	0.00	0.00	0.00
181	272	0.00	-18.50	0.00	-0.01	0.00	0.00
181	271	0.00	18.50	0.00	0.01	0.00	-35.14
182	271	-0.01	18.50	0.00	0.01	0.00	35.13
182	273	0.01	-18.50	0.00	-0.01	0.00	0.02
183	275	0.00	18.50	0.00	0.00	0.00	0.00
183	274	0.00	-18.50	0.00	0.00	0.00	35.14
184	274	0.01	-18.50	0.00	0.00	0.00	-35.14
184	276	-0.01	18.50	0.00	0.00	0.00	0.00
185	6	-19.51	0.03	0.02	0.00	0.00	0.00
185	3	19.51	-0.03	-0.02	0.00	-0.03	0.05
186	5	-19.50	-0.03	0.00	0.00	0.00	0.00
186	2	19.50	0.03	0.00	0.00	0.00	-0.05
187	24	149.10	0.00	-0.03	0.00	0.00	0.00
187	21	-149.10	0.00	0.03	0.00	0.04	0.01
188	23	149.09	0.00	0.00	0.00	0.00	0.00
188	20	-149.09	0.00	0.00	0.00	0.00	0.01
189	42	117.00	0.00	0.01	0.00	0.00	0.00
189	39	-117.00	0.00	-0.01	0.00	-0.01	-0.01
190	41	117.00	0.00	0.00	0.00	0.00	0.00
190	38	-117.00	0.00	0.00	0.00	0.00	-0.01
191	60	125.77	0.00	0.00	0.00	0.00	0.00
191	57	-125.77	0.00	0.00	0.00	0.00	0.01
192	59	125.77	0.00	0.00	0.00	0.00	0.00
192	56	-125.77	0.00	0.00	0.00	0.00	0.01
193	78	123.56	0.00	0.00	0.00	0.00	0.00
193	75	-123.56	0.00	0.00	0.00	0.00	-0.01
194	77	123.56	0.00	0.00	0.00	0.00	0.00
194	74	-123.56	0.00	0.00	0.00	0.00	-0.01
195	96	124.11	0.00	0.00	0.00	0.00	0.00
195	93	-124.11	0.00	0.00	0.00	0.00	0.01
196	95	124.11	0.00	0.00	0.00	0.00	0.00
196	92	-124.11	0.00	0.00	0.00	0.00	0.01
197	114	123.98	0.00	0.00	0.00	0.00	0.00
197	111	-123.98	0.00	0.00	0.00	0.00	-0.01
198	113	123.97	0.00	0.00	0.00	0.00	0.00
198	110	-123.97	0.00	0.00	0.00	0.00	-0.01
199	132	124.01	0.00	0.00	0.00	0.00	0.00
199	129	-124.01	0.00	0.00	0.00	0.00	0.01
200	131	124.00	0.00	0.00	0.00	0.00	0.00
200	128	-124.00	0.00	0.00	0.00	0.00	0.01
201	150	124.00	0.00	0.00	0.00	0.00	0.00
201	147	-124.00	0.00	0.00	0.00	0.00	-0.01
202	149	124.01	0.00	0.00	0.00	0.00	0.00
202	146	-124.01	0.00	0.00	0.00	0.00	-0.01
203	168	123.97	0.00	0.00	0.00	0.00	0.00
203	165	-123.97	0.00	0.00	0.00	0.00	0.01
204	167	123.97	0.00	0.00	0.00	0.00	0.00
204	164	-123.97	0.00	0.00	0.00	0.00	0.01
205	186	124.11	0.00	0.00	0.00	0.00	0.00
205	183	-124.11	0.00	0.00	0.00	0.00	-0.01
206	185	124.11	0.00	0.00	0.00	0.00	0.00
206	182	-124.11	0.00	0.00	0.00	0.00	-0.01
207	204	123.57	0.00	0.00	0.00	0.00	0.00
207	201	-123.57	0.00	0.00	0.00	0.00	0.01
208	203	123.57	0.00	0.00	0.00	0.00	0.00
208	200	-123.57	0.00	0.00	0.00	0.00	0.01
209	222	125.69	0.00	0.00	0.00	0.00	0.00
209	219	-125.69	0.00	0.00	0.00	0.00	-0.01
210	221	125.69	0.00	0.00	0.00	0.00	0.00
210	218	-125.69	0.00	0.00	0.00	0.00	-0.01
211	240	117.39	0.00	0.01	0.00	0.00	0.00
211	237	-117.39	0.00	-0.01	0.00	-0.01	0.01
212	239	117.39	0.00	0.00	0.00	0.00	0.00
212	236	-117.39	0.00	0.00	0.00	0.00	0.01
213	258	147.76	0.00	-0.02	0.00	0.00	0.00
213	255	-147.76	0.00	0.02	0.00	0.03	-0.01
214	257	147.76	0.00	0.00	0.00	0.00	0.00
214	254	-147.76	0.00	0.00	0.00	0.00	-0.01
215	276	-18.50	0.00	0.01	0.00	0.00	0.00
215	273	18.50	0.00	-0.01	0.00	-0.02	0.00

216	275	-18.50	0.00	0.00	0.00	0.00	0.00
216	272	18.50	0.00	0.00	0.00	0.00	0.00
217	7	-39.01	0.00	0.02	-0.11	-0.28	0.00
217	8	39.01	0.00	-0.02	0.11	0.24	0.00
218	8	-39.01	0.00	0.02	-0.11	-0.24	0.00
218	9	39.01	0.00	-0.02	0.11	0.07	0.00
219	9	39.01	0.00	0.02	0.11	0.07	0.00
219	10	-39.01	0.00	-0.02	-0.11	-0.13	0.00
220	10	-39.01	0.00	0.02	-0.11	-0.13	0.00
220	11	39.01	0.00	-0.02	0.11	0.07	0.00
221	11	-39.01	0.00	0.02	-0.11	-0.07	0.00
221	4	39.01	0.00	-0.02	0.11	0.02	0.00
222	25	298.19	0.00	-0.03	0.00	0.39	0.00
222	26	-298.19	0.00	0.03	0.00	-0.33	0.00
223	26	298.19	0.00	-0.03	0.00	0.33	0.00
223	27	-298.19	0.00	0.03	0.00	-0.25	0.00
224	27	298.19	0.00	-0.03	0.00	0.25	0.00
224	28	-298.19	0.00	0.03	0.00	-0.17	0.00
225	28	298.19	0.00	-0.03	0.00	0.17	0.00
225	29	-298.19	0.00	0.03	0.00	-0.10	0.00
226	29	298.19	0.00	-0.03	0.00	0.10	0.00
226	22	-298.19	0.00	0.03	0.00	-0.01	0.00
227	43	233.99	0.00	0.01	0.00	-0.10	0.00
227	44	-233.99	0.00	-0.01	0.00	0.08	0.00
228	44	233.99	0.00	0.01	0.00	-0.08	0.00
228	45	-233.99	0.00	-0.01	0.00	0.06	0.00
229	45	233.99	0.00	0.01	0.00	-0.06	0.00
229	46	-233.99	0.00	-0.01	0.00	0.04	0.00
230	46	233.99	0.00	0.01	0.00	-0.04	0.00
230	47	-233.99	0.00	-0.01	0.00	0.02	0.00
231	47	233.99	0.00	0.01	0.00	-0.02	0.00
231	40	-233.99	0.00	-0.01	0.00	0.00	0.00
232	61	251.54	0.00	0.00	0.00	-0.03	0.00
232	62	-251.54	0.00	0.00	0.00	0.03	0.00
233	62	251.54	0.00	0.00	0.00	-0.03	0.00
233	63	-251.54	0.00	0.00	0.00	0.02	0.00
234	63	251.54	0.00	0.00	0.00	-0.02	0.00
234	64	-251.54	0.00	0.00	0.00	0.01	0.00
235	64	251.54	0.00	0.00	0.00	-0.01	0.00
235	65	-251.54	0.00	0.00	0.00	0.01	0.00
236	65	251.54	0.00	0.00	0.00	-0.01	0.00
236	58	-251.54	0.00	0.00	0.00	0.00	0.00
237	79	247.11	0.00	0.00	0.00	-0.01	0.00
237	80	-247.11	0.00	0.00	0.00	0.01	0.00
238	80	247.11	0.00	0.00	0.00	-0.01	0.00
238	81	-247.11	0.00	0.00	0.00	0.01	0.00
239	81	247.11	0.00	0.00	0.00	-0.01	0.00
239	82	-247.11	0.00	0.00	0.00	0.01	0.00
240	82	247.11	0.00	0.00	0.00	-0.01	0.00
240	83	-247.11	0.00	0.00	0.00	0.00	0.00
241	83	247.11	0.00	0.00	0.00	0.00	0.00
241	76	-247.11	0.00	0.00	0.00	0.00	0.00
242	97	248.22	0.00	0.00	0.00	0.00	0.00
242	98	-248.22	0.00	0.00	0.00	0.00	0.00
243	98	248.22	0.00	0.00	0.00	0.00	0.00
243	99	-248.22	0.00	0.00	0.00	0.00	0.00
244	99	248.22	0.00	0.00	0.00	0.00	0.00
244	100	-248.22	0.00	0.00	0.00	0.00	0.00
245	100	248.22	0.00	0.00	0.00	0.00	0.00
245	101	-248.22	0.00	0.00	0.00	0.00	0.00
246	101	248.22	0.00	0.00	0.00	0.00	0.00
246	94	-248.22	0.00	0.00	0.00	0.00	0.00
247	115	247.95	0.00	0.00	0.00	0.00	0.00
247	116	-247.95	0.00	0.00	0.00	0.00	0.00
248	116	247.95	0.00	0.00	0.00	0.00	0.00
248	117	-247.95	0.00	0.00	0.00	0.00	0.00
249	117	247.95	0.00	0.00	0.00	0.00	0.00
249	118	-247.95	0.00	0.00	0.00	0.00	0.00
250	118	247.95	0.00	0.00	0.00	0.00	0.00
250	119	-247.95	0.00	0.00	0.00	0.00	0.00
251	119	247.95	0.00	0.00	0.00	0.00	0.00
251	112	-247.95	0.00	0.00	0.00	0.00	0.00
252	133	248.01	0.00	0.00	0.00	0.00	0.00
252	134	-248.01	0.00	0.00	0.00	0.00	0.00
253	134	248.01	0.00	0.00	0.00	0.00	0.00
253	135	-248.01	0.00	0.00	0.00	0.00	0.00
254	135	248.01	0.00	0.00	0.00	0.00	0.00
254	136	-248.01	0.00	0.00	0.00	0.00	0.00
255	136	248.01	0.00	0.00	0.00	0.00	0.00
255	137	-248.01	0.00	0.00	0.00	0.00	0.00
256	137	248.01	0.00	0.00	0.00	0.00	0.00
256	130	-248.01	0.00	0.00	0.00	0.00	0.00
257	151	248.01	0.00	0.00	0.00	0.00	0.00
257	152	-248.01	0.00	0.00	0.00	0.00	0.00
258	152	248.01	0.00	0.00	0.00	0.00	0.00
258	153	-248.01	0.00	0.00	0.00	0.00	0.00
259	153	248.01	0.00	0.00	0.00	0.00	0.00
259	154	-248.01	0.00	0.00	0.00	0.00	0.00
260	154	248.01	0.00	0.00	0.00	0.00	0.00
260	155	-248.01	0.00	0.00	0.00	0.00	0.00
261	155	248.01	0.00	0.00	0.00	0.00	0.00
261	148	-248.01	0.00	0.00	0.00	0.00	0.00
262	169	247.94	0.00	0.00	0.00	0.00	0.00
262	170	-247.94	0.00	0.00	0.00	0.00	0.00
263	170	247.94	0.00	0.00	0.00	0.00	0.00
263	171	-247.94	0.00	0.00	0.00	0.00	0.00
264	171	247.94	0.00	0.00	0.00	0.00	0.00
264	172	-247.94	0.00	0.00	0.00	0.00	0.00
265	172	247.94	0.00	0.00	0.00	0.00	0.00
265	173	-247.94	0.00	0.00	0.00	0.00	0.00
266	173	247.94	0.00	0.00	0.00	0.00	0.00
266	166	-247.94	0.00	0.00	0.00	0.00	0.00
267	187	248.22	0.00	0.00	0.00	0.00	0.00
267	188	-248.22	0.00	0.00	0.00	0.00	0.00
268	188	248.22	0.00	0.00	0.00	0.00	0.00
268	189	-248.22	0.00	0.00	0.00	0.00	0.00
269	189	248.22	0.00	0.00	0.00	0.00	0.00
269	190	-248.22	0.00	0.00	0.00	0.00	0.00
270	190	248.22	0.00	0.00	0.00	0.00	0.00
270	191	-248.22	0.00	0.00	0.00	0.00	0.00
271	191	248.22	0.00	0.00	0.00	0.00	0.00
271	184	-248.22	0.00	0.00	0.00	0.00	0.00

272	205	247.14	0.00	0.00	0.00	-0.01	0.00
272	206	-247.14	0.00	0.00	0.00	0.01	0.00
273	206	247.14	0.00	0.00	0.00	-0.01	0.00
273	207	-247.14	0.00	0.00	0.00	0.01	0.00
274	207	247.14	0.00	0.00	0.00	-0.01	0.00
274	208	-247.14	0.00	0.00	0.00	0.00	0.00
275	208	247.14	0.00	0.00	0.00	0.00	0.00
275	209	-247.14	0.00	0.00	0.00	0.00	0.00
276	209	247.14.	0.00	0.00	0.00	0.00	0.00
276	202	-247.14	0.00	0.00	0.00	0.00	0.00
277	223	251.37	0.00	0.00	0.00	-0.02	0.00
277	224	-251.37	0.00	0.00	0.00	0.02	0.00
278	224	251.37	0.00	0.00	0.00	-0.02	0.00
278	225	-251.37	0.00	0.00	0.00	0.02	0.00
279	225	251.37	0.00	0.00	0.00	-0.02	0.00
279	226	-251.37	0.00	0.00	0.00	0.01	0.00
280	226	251.37	0.00	0.00	0.00	-0.01	0.00
280	227	-251.37	0.00	0.00	0.00	0.01	0.00
281	227	251.37	0.00	0.00	0.00	-0.01	0.00
281	220	-251.37	0.00	0.00	0.00	0.00	0.00
282	241	234.78	0.00	0.01	0.00	-0.08	0.00
282	242	-234.78	0.00	-0.01	0.00	0.07	0.00
283	242	234.78	0.00	0.01	0.00	-0.07	0.00
283	243	-234.78	0.00	-0.01	0.00	0.05	0.00
284	243	234.78	0.00	0.01	0.00	-0.05	0.00
284	244	-234.78	0.00	-0.01	0.00	0.03	0.00
285	244	234.78	0.00	0.01	0.00	-0.03	0.00
285	245	-234.78	0.00	-0.01	0.00	0.01	0.00
286	245	234.78	0.00	0.01	0.00	-0.01	0.00
286	238	-234.78	0.00	-0.01	0.00	0.00	0.00
287	259	295.52	0.00	-0.02	0.00	0.29	0.00
287	260	-295.52	0.00	0.02	0.00	-0.24	0.00
288	260	295.52	0.00	-0.02	0.00	0.24	0.00
288	261	-295.52	0.00	0.02	0.00	-0.18	0.00
289	261	295.52	0.00	-0.02	0.00	0.18	0.00
289	262	-295.52	0.00	0.02	0.00	-0.12	0.00
290	262	295.52	0.00	-0.02	0.00	0.12	0.00
290	263	-295.52	0.00	0.02	0.00	-0.06	0.00
291	263	295.52	0.00	-0.02	0.00	0.06	0.00
291	256	-295.52	0.00	0.02	0.00	0.00	0.00
292	277	-36.99	0.00	0.01	0.00	-0.18	0.00
292	278	36.99	0.00	-0.01	0.00	0.15	0.00
293	278	-36.99	0.00	0.01	0.00	-0.15	0.00
293	279	36.99	0.00	-0.01	0.00	0.11	0.00
294	279	-36.99	0.00	0.01	0.00	-0.11	0.00
294	280	36.99	0.00	-0.01	0.00	0.08	0.00
295	280	-36.99	0.00	0.01	0.00	-0.08	0.00
295	281	36.99	0.00	-0.01	0.00	0.04	0.00
296	281	-36.99	0.00	0.01	0.00	-0.04	0.00
296	274	36.99	0.00	-0.01	0.00	0.00	0.00

CARGAS APLICADAS EN LOS NUDOS LIBRES

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00

57	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00
78	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00
81	0.00	0.00	0.00	0.00	0.00	0.00
82	0.00	0.00	0.00	0.00	0.00	0.00
83	0.00	0.00	0.00	0.00	0.00	0.00
84	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00
86	0.00	0.00	0.00	0.00	0.00	0.00
87	0.00	0.00	0.00	0.00	0.00	0.00
88	0.00	0.00	0.00	0.00	0.00	0.00
89	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00
91	0.00	0.00	0.00	0.00	0.00	0.00
92	0.00	0.00	0.00	0.00	0.00	0.00
93	0.00	0.00	0.00	0.00	0.00	0.00
94	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00
96	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00
99	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00
101	0.00	0.00	0.00	0.00	0.00	0.00
102	0.00	0.00	0.00	0.00	0.00	0.00
103	0.00	0.00	0.00	0.00	0.00	0.00
104	0.00	0.00	0.00	0.00	0.00	0.00
105	0.00	0.00	0.00	0.00	0.00	0.00
106	0.00	0.00	0.00	0.00	0.00	0.00
107	0.00	0.00	0.00	0.00	0.00	0.00
108	0.00	0.00	0.00	0.00	0.00	0.00
109	0.00	0.00	0.00	0.00	0.00	0.00
110	0.00	0.00	0.00	0.00	0.00	0.00
111	0.00	0.00	0.00	0.00	0.00	0.00
112	0.00	0.00	0.00	0.00	0.00	0.00
113	0.00	0.00	0.00	0.00	0.00	0.00
114	0.00	0.00	0.00	0.00	0.00	0.00
116	0.00	0.00	0.00	0.00	0.00	0.00
117	0.00	0.00	0.00	0.00	0.00	0.00
118	0.00	0.00	0.00	0.00	0.00	0.00
119	0.00	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00	0.00
121	0.00	0.00	0.00	0.00	0.00	0.00
122	0.00	0.00	0.00	0.00	0.00	0.00
123	0.00	0.00	0.00	0.00	0.00	0.00
124	0.00	0.00	0.00	0.00	0.00	0.00
125	0.00	0.00	0.00	0.00	0.00	0.00
126	0.00	0.00	0.00	0.00	0.00	0.00
127	0.00	0.00	0.00	0.00	0.00	0.00
128	0.00	0.00	0.00	0.00	0.00	0.00
129	0.00	0.00	0.00	0.00	0.00	0.00
130	0.00	0.00	0.00	0.00	0.00	0.00
131	0.00	0.00	0.00	0.00	0.00	0.00
132	0.00	0.00	0.00	0.00	0.00	0.00
134	0.00	0.00	0.00	0.00	0.00	0.00
135	0.00	0.00	0.00	0.00	0.00	0.00
136	0.00	0.00	0.00	0.00	0.00	0.00
137	0.00	0.00	0.00	0.00	0.00	0.00
138	0.00	0.00	0.00	0.00	0.00	0.00
139	0.00	0.00	0.00	0.00	0.00	0.00
140	0.00	0.00	0.00	0.00	0.00	0.00
141	0.00	0.00	0.00	0.00	0.00	0.00
142	0.00	0.00	0.00	0.00	0.00	0.00
143	0.00	0.00	0.00	0.00	0.00	0.00
144	0.00	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00	0.00
146	0.00	0.00	0.00	0.00	0.00	0.00
147	0.00	0.00	0.00	0.00	0.00	0.00
148	0.00	0.00	0.00	0.00	0.00	0.00
149	0.00	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00	0.00
152	0.00	0.00	0.00	0.00	0.00	0.00
153	0.00	0.00	0.00	0.00	0.00	0.00
154	0.00	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00	0.00
156	0.00	0.00	0.00	0.00	0.00	0.00
157	0.00	0.00	0.00	0.00	0.00	0.00
158	0.00	0.00	0.00	0.00	0.00	0.00
159	0.00	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00	0.00
161	0.00	0.00	0.00	0.00	0.00	0.00
162	0.00	0.00	0.00	0.00	0.00	0.00
163	0.00	0.00	0.00	0.00	0.00	0.00
164	0.00	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00	0.00
166	0.00	0.00	0.00	0.00	0.00	0.00
167	0.00	0.00	0.00	0.00	0.00	0.00
168	0.00	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00	0.00
171	0.00	0.00	0.00	0.00	0.00	0.00
172	0.00	0.00	0.00	0.00	0.00	0.00
173	0.00	0.00	0.00	0.00	0.00	0.00
174	0.00	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00	0.00

176	0.00	0.00	0.00	0.00	0.00	0.00
177	0.00	0.00	0.00	0.00	0.00	0.00
178	0.00	0.00	0.00	0.00	0.00	0.00
179	0.00	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00
181	0.00	0.00	0.00	0.00	0.00	0.00
182	0.00	0.00	0.00	0.00	0.00	0.00
183	0.00	0.00	0.00	0.00	0.00	0.00
184	0.00	0.00	0.00	0.00	0.00	0.00
185	0.00	0.00	0.00	0.00	0.00	0.00
186	0.00	0.00	0.00	0.00	0.00	0.00
188	0.00	0.00	0.00	0.00	0.00	0.00
189	0.00	0.00	0.00	0.00	0.00	0.00
190	0.00	0.00	0.00	0.00	0.00	0.00
191	0.00	0.00	0.00	0.00	0.00	0.00
192	0.00	0.00	0.00	0.00	0.00	0.00
193	0.00	0.00	0.00	0.00	0.00	0.00
194	0.00	0.00	0.00	0.00	0.00	0.00
195	0.00	0.00	0.00	0.00	0.00	0.00
196	0.00	0.00	0.00	0.00	0.00	0.00
197	0.00	0.00	0.00	0.00	0.00	0.00
198	0.00	0.00	0.00	0.00	0.00	0.00
199	0.00	0.00	0.00	0.00	0.00	0.00
200	0.00	0.00	0.00	0.00	0.00	0.00
201	0.00	0.00	0.00	0.00	0.00	0.00
202	0.00	0.00	0.00	0.00	0.00	0.00
203	0.00	0.00	0.00	0.00	0.00	0.00
204	0.00	0.00	0.00	0.00	0.00	0.00
206	0.00	0.00	0.00	0.00	0.00	0.00
207	0.00	0.00	0.00	0.00	0.00	0.00
208	0.00	0.00	0.00	0.00	0.00	0.00
209	0.00	0.00	0.00	0.00	0.00	0.00
210	0.00	0.00	0.00	0.00	0.00	0.00
211	0.00	0.00	0.00	0.00	0.00	0.00
212	0.00	0.00	0.00	0.00	0.00	0.00
213	0.00	0.00	0.00	0.00	0.00	0.00
214	0.00	0.00	0.00	0.00	0.00	0.00
215	0.00	0.00	0.00	0.00	0.00	0.00
216	0.00	0.00	0.00	0.00	0.00	0.00
217	0.00	0.00	0.00	0.00	0.00	0.00
218	0.00	0.00	0.00	0.00	0.00	0.00
219	0.00	0.00	0.00	0.00	0.00	0.00
220	0.00	0.00	0.00	0.00	0.00	0.00
221	0.00	0.00	0.00	0.00	0.00	0.00
222	0.00	0.00	0.00	0.00	0.00	0.00
224	0.00	0.00	0.00	0.00	0.00	0.00
225	0.00	0.00	0.00	0.00	0.00	0.00
226	0.00	0.00	0.00	0.00	0.00	0.00
227	0.00	0.00	0.00	0.00	0.00	0.00
228	0.00	0.00	0.00	0.00	0.00	0.00
229	0.00	0.00	0.00	0.00	0.00	0.00
230	0.00	0.00	0.00	0.00	0.00	0.00
231	0.00	0.00	0.00	0.00	0.00	0.00
232	0.00	0.00	0.00	0.00	0.00	0.00
233	0.00	0.00	0.00	0.00	0.00	0.00
234	0.00	0.00	0.00	0.00	0.00	0.00

235	0.00	0.00	0.00	0.00	0.00	0.00
236	0.00	0.00	0.00	0.00	0.00	0.00
237	0.00	0.00	0.00	0.00	0.00	0.00
238	0.00	0.00	0.00	0.00	0.00	0.00
239	0.00	0.00	0.00	0.00	0.00	0.00
240	0.00	0.00	0.00	0.00	0.00	0.00
242	0.00	0.00	0.00	0.00	0.00	0.00
243	0.00	0.00	0.00	0.00	0.00	0.00
244	0.00	0.00	0.00	0.00	0.00	0.00
245	0.00	0.00	0.00	0.00	0.00	0.00
246	0.00	0.00	0.00	0.00	0.00	0.00
247	0.00	0.00	0.00	0.00	0.00	0.00
248	0.00	0.00	0.00	0.00	0.00	0.00
249	0.00	0.00	0.00	0.00	0.00	0.00
250	0.00	0.00	0.00	0.00	0.00	0.00
251	0.00	0.00	0.00	0.00	0.00	0.00
252	0.00	0.00	0.00	0.00	0.00	0.00
253	0.00	0.00	0.00	0.00	0.00	0.00
254	0.00	0.00	0.00	0.00	0.00	0.00
255	0.00	0.00	0.00	0.00	0.00	0.00
256	0.00	0.00	0.00	0.00	0.00	0.00
257	0.00	0.00	0.00	0.00	0.00	0.00
258	0.00	0.00	0.00	0.00	0.00	0.00
260	0.00	0.00	0.00	0.00	0.00	0.00
261	0.00	0.00	0.00	0.00	0.00	0.00
262	0.00	0.00	0.00	0.00	0.00	0.00
263	0.00	0.00	0.00	0.00	0.00	0.00
264	0.00	0.00	0.00	0.00	0.00	0.00
265	0.00	0.00	0.00	0.00	0.00	0.00
266	0.00	0.00	0.00	0.00	0.00	0.00
267	0.00	0.00	0.00	0.00	0.00	0.00
268	0.00	0.00	0.00	0.00	0.00	0.00
269	0.00	0.00	0.00	0.00	0.00	0.00
270	0.00	0.00	0.00	0.00	0.00	0.00
271	0.00	0.00	0.00	0.00	0.00	0.00
272	0.00	0.00	0.00	0.00	0.00	0.00
273	0.00	0.00	0.00	0.00	0.00	0.00
274	0.00	0.00	0.00	0.00	0.00	0.00
275	0.00	0.00	0.00	0.00	0.00	0.00
276	0.00	0.00	0.00	0.00	0.00	0.00
278	0.00	0.00	0.00	0.00	0.00	0.00
279	0.00	0.00	0.00	0.00	0.00	0.00
280	0.00	0.00	0.00	0.00	0.00	0.00
281	0.00	0.00	0.00	0.00	0.00	0.00

REACCIONES EN LOS APOYOS

NUDO	FUER. X	FUER. Y	FUER. Z	MOM. X	MOM. Y	MOM. Z
7	0.00	-39.01	0.02	0.28	-0.11	0.00
25	0.00	298.19	-0.03	-0.39	0.00	0.00
43	0.00	233.99	0.01	0.10	0.00	0.00

61	0.00	251.54	0.00	0.03	0.00	0.00
79	0.00	247.11	0.00	0.01	0.00	0.00
97	0.00	248.22	0.00	0.00	0.00	0.00
115	0.00	247.95	0.00	0.00	0.00	0.00
133	0.00	248.01	0.00	0.00	0.00	0.00
151	0.00	248.01	0.00	0.00	0.00	0.00
169	0.00	247.94	0.00	0.00	0.00	0.00
187	0.00	248.22	0.00	0.00	0.00	0.00
205	0.00	247.14	0.00	0.01	0.00	0.00
223	0.00	251.37	0.00	0.02	0.00	0.00
241	0.00	234.78	0.01	0.08	0.00	0.00
259	0.00	295.52	-0.02	-0.29	0.00	0.00
277	0.00	-36.99	0.01	0.18	0.00	0.00

DESPLAZAMIENTOS DE LOS NUDOS LIBRES

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
1	-0.000506	0.000005	0.000000	0.000000	0.000000	0.000292
2	-0.000506	0.000005	0.000000	0.000000	0.000000	0.000292
3	-0.000506	0.000005	0.000000	0.000000	0.000000	0.000292
4	0.000000	0.000004	0.000000	0.000000	0.000000	0.000000
5	0.000000	0.000005	0.000000	0.000000	0.000000	0.000000
6	0.000000	0.000005	0.000000	0.000000	0.000000	0.000000
8	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
9	0.000000	0.000002	0.000000	0.000000	0.000000	0.000000
10	0.000000	0.000003	0.000000	0.000000	0.000000	0.000000
11	0.000000	0.000003	0.000000	0.000000	0.000000	0.000000
12	-0.000506	0.000876	0.000000	0.000000	0.000000	0.000278
13	-0.000506	0.001660	0.000000	0.000000	0.000000	0.000234
14	-0.000506	0.002274	0.000000	0.000000	0.000000	0.000161
15	-0.000506	0.002630	0.000000	0.000000	0.000000	0.000059
16	-0.000506	0.002643	0.000000	0.000000	0.000000	-0.000073
17	-0.000506	0.002228	-0.000001	0.000000	0.000000	-0.000233
18	-0.000506	0.001298	-0.000001	0.000000	0.000000	-0.000423
19	-0.000506	-0.000231	-0.000001	0.000000	0.000000	-0.000642
20	-0.000506	-0.000228	-0.000001	0.000001	0.000000	-0.000642
21	-0.000506	-0.000228	-0.000001	-0.000001	0.000000	-0.000642
22	0.000000	-0.000225	0.000000	0.000000	0.000000	0.000000
23	0.000000	-0.000228	0.000000	-0.000001	0.000000	0.000000
24	0.000000	-0.000228	0.000000	0.000001	0.000000	0.000000
26	0.000000	-0.000004	0.000000	0.000000	0.000000	0.000000
27	0.000000	-0.000053	0.000000	0.000000	0.000000	0.000000
28	0.000000	-0.000102	0.000000	0.000000	0.000000	0.000000
29	0.000000	-0.000147	0.000000	0.000000	0.000000	0.000000
30	-0.000506	-0.003317	-0.000001	0.000000	0.000000	-0.000794
31	-0.000506	-0.006414	-0.000001	0.000000	0.000000	-0.000691
32	-0.000506	-0.008686	-0.000001	0.000000	0.000000	-0.000411
33	-0.000506	-0.009606	-0.000001	0.000000	0.000000	-0.000035
34	-0.000506	-0.008962	-0.000001	0.000000	0.000000	0.000354
35	-0.000506	-0.006853	-0.000001	0.000000	0.000000	0.000678
36	-0.000506	-0.003693	-0.000001	0.000000	0.000000	0.000855
37	-0.000506	-0.000207	-0.000001	0.000000	0.000000	0.000804
38	-0.000506	-0.000205	-0.000001	0.000001	0.000000	0.000804
39	-0.000506	-0.000205	-0.000001	-0.000001	0.000000	0.000804
40	0.000000	-0.000202	0.000000	0.000000	0.000000	0.000000
41	0.000000	-0.000204	0.000000	-0.000001	0.000000	0.000000
42	0.000000	-0.000204	0.000000	0.000001	0.000000	0.000000
44	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
45	0.000000	-0.000048	0.000000	0.000000	0.000000	0.000000
46	0.000000	-0.000093	0.000000	0.000000	0.000000	0.000000
47	0.000000	-0.000141	0.000000	0.000000	0.000000	0.000000
48	-0.000506	0.002536	-0.000001	0.000000	0.000000	0.000610
49	-0.000506	0.004522	-0.000001	0.000000	0.000000	0.000413
50	-0.000506	0.005738	-0.000001	0.000000	0.000000	0.000212
51	-0.000506	0.006168	-0.000001	0.000000	0.000000	0.000008
52	-0.000506	0.005799	-0.000001	0.000000	0.000000	-0.000200
53	-0.000506	0.004616	-0.000001	0.000000	0.000000	-0.000412
54	-0.000506	0.002604	-0.000001	0.000000	0.000000	-0.000628
55	-0.000506	-0.000249	-0.000001	0.000000	0.000000	-0.000847
56	-0.000506	-0.000247	-0.000001	0.000001	0.000000	-0.000847
57	-0.000506	-0.000247	-0.000001	-0.000001	0.000000	-0.000847
58	0.000000	-0.000244	0.000000	0.000000	0.000000	0.000000
59	0.000000	-0.000246	0.000000	-0.000001	0.000000	0.000000
60	0.000000	-0.000246	0.000000	0.000001	0.000000	0.000000
62	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
63	0.000000	-0.000058	0.000000	0.000000	0.000000	0.000000
64	0.000000	-0.000113	0.000000	0.000000	0.000000	0.000000
65	0.000000	-0.000178	0.000000	0.000000	0.000000	0.000000
66	-0.000506	-0.003961	-0.000001	0.000000	0.000000	-0.000920
67	-0.000506	-0.007401	-0.000001	0.000000	0.000000	-0.000749
68	-0.000506	-0.009784	-0.000001	0.000000	0.000000	-0.000417
69	-0.000506	-0.010638	-0.000001	0.000000	0.000000	-0.000002
70	-0.000506	-0.009801	-0.000001	0.000000	0.000000	0.000413
71	-0.000506	-0.007428	-0.000001	0.000000	0.000000	0.000749
72	-0.000506	-0.003984	-0.000001	0.000000	0.000000	0.000924
73	-0.000506	-0.000246	-0.000001	0.000000	0.000000	0.000857
74	-0.000506	-0.000243	-0.000001	0.000001	0.000000	0.000857
75	-0.000506	-0.000243	-0.000001	-0.000001	0.000000	0.000857
76	0.000000	-0.000240	0.000000	0.000000	0.000000	0.000000
77	0.000000	-0.000243	0.000000	-0.000001	0.000000	0.000000
78	0.000000	-0.000243	0.000000	0.000001	0.000000	0.000000
80	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
81	0.000000	-0.000057	0.000000	0.000000	0.000000	0.000000
82	0.000000	-0.000112	0.000000	0.000000	0.000000	0.000000
83	0.000000	-0.000176	0.000000	0.000000	0.000000	0.000000
84	-0.000506	0.002663	-0.000001	0.000000	0.000000	0.000644
85	-0.000506	0.004742	-0.000001	0.000000	0.000000	0.000430
86	-0.000506	0.005991	-0.000001	0.000000	0.000000	0.000215
87	-0.000506	0.006410	-0.000001	0.000000	0.000000	0.000001
88	-0.000506	0.005997	-0.000001	0.000000	0.000000	-0.000214
89	-0.000506	0.004751	-0.000001	0.000000	0.000000	-0.000429
90	-0.000506	0.002671	-0.000001	0.000000	0.000000	-0.000644
91	-0.000506	-0.000243	-0.000001	0.000000	0.000000	-0.000860
92	-0.000506	-0.000240	-0.000001	0.000001	0.000000	-0.000860
93	-0.000506	-0.000240	-0.000001	-0.000001	0.000000	-0.000860
94	0.000000	-0.000237	0.000000	0.000000	0.000000	0.000000
95	0.000000	-0.000240	0.000000	-0.000001	0.000000	0.000000

96	0.000000	-0.000240	0.000000	0.000001	0.000000	0.000000
98	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
99	0.000000	-0.000057	0.000000	0.000000	0.000000	0.000000
100	0.000000	-0.000110	0.000000	0.000000	0.000000	0.000000
101	0.000000	-0.000172	0.000000	0.000000	0.000000	0.000000
102	-0.000506	-0.003993	-0.000001	0.000000	0.000000	-0.000927
103	-0.000506	-0.007454	-0.000001	0.000000	0.000000	-0.000753
104	-0.000506	-0.009844	-0.000001	0.000000	0.000000	-0.000417
105	-0.000506	-0.010692	-0.000001	0.000000	0.000000	0.000000
106	-0.000506	-0.009843	-0.000001	0.000000	0.000000	0.000417
107	-0.000506	-0.007453	-0.000001	0.000000	0.000000	0.000753
108	-0.000506	-0.003990	-0.000001	0.000000	0.000000	0.000928
109	-0.000506	-0.000236	-0.000001	0.000000	0.000000	0.000861
110	-0.000506	-0.000233	-0.000001	0.000001	0.000000	0.000861
111	-0.000506	-0.000233	-0.000001	-0.000001	0.000000	0.000861
112	0.000000	-0.000231	0.000000	0.000000	0.000000	0.000000
113	0.000000	-0.000233	0.000000	-0.000001	0.000000	0.000000
114	0.000000	-0.000233	0.000000	0.000001	0.000000	0.000000
116	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
117	0.000000	-0.000055	0.000000	0.000000	0.000000	0.000000
118	0.000000	-0.000107	0.000000	0.000000	0.000000	0.000000
119	0.000000	-0.000166	0.000000	0.000000	0.000000	0.000000
120	-0.000506	0.002683	-0.000001	0.000000	0.000000	0.000646
121	-0.000506	0.004768	-0.000001	0.000000	0.000000	0.000431
122	-0.000506	0.006019	-0.000001	0.000000	0.000000	0.000215
123	-0.000506	0.006437	-0.000001	0.000000	0.000000	0.000000
124	-0.000506	0.006020	-0.000001	0.000000	0.000000	-0.000215
125	-0.000506	0.004770	-0.000001	0.000000	0.000000	-0.000430
126	-0.000506	0.002685	-0.000001	0.000000	0.000000	-0.000646
127	-0.000506	-0.000233	-0.000001	0.000000	0.000000	-0.000861
128	-0.000506	-0.000231	-0.000001	0.000001	0.000000	-0.000861
129	-0.000506	-0.000231	-0.000001	-0.000001	0.000000	-0.000861
130	0.000000	-0.000228	0.000000	0.000000	0.000000	0.000000
131	0.000000	-0.000230	0.000000	-0.000001	0.000000	0.000000
132	0.000000	-0.000230	0.000000	0.000001	0.000000	0.000000
134	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
135	0.000000	-0.000054	0.000000	0.000000	0.000000	0.000000
136	0.000000	-0.000106	0.000000	0.000000	0.000000	0.000000
137	0.000000	-0.000163	0.000000	0.000000	0.000000	0.000000
138	-0.000506	-0.003987	-0.000001	0.000000	0.000000	-0.000928
139	-0.000506	-0.007450	-0.000001	0.000000	0.000000	-0.000753
140	-0.000506	-0.009841	-0.000001	0.000000	0.000000	-0.000417
141	-0.000506	-0.010690	-0.000001	0.000000	0.000000	0.000000
142	-0.000506	-0.009841	-0.000001	0.000000	0.000000	0.000417
143	-0.000506	-0.007450	-0.000001	0.000000	0.000000	0.000753
144	-0.000506	-0.003987	-0.000001	0.000000	0.000000	0.000928
145	-0.000506	-0.000232	-0.000001	0.000000	0.000000	0.000861
146	-0.000506	-0.000230	-0.000001	0.000001	0.000000	0.000861
147	-0.000506	-0.000230	-0.000001	-0.000001	0.000000	0.000861
148	0.000000	-0.000227	0.000000	0.000000	0.000000	0.000000
149	0.000000	-0.000229	0.000000	-0.000001	0.000000	0.000000
150	0.000000	-0.000229	0.000000	0.000001	0.000000	0.000000
152	0.000000	-0.000004	0.000000	0.000000	0.000000	0.000000
153	0.000000	-0.000055	0.000000	0.000000	0.000000	0.000000
154	0.000000	-0.000106	0.000000	0.000000	0.000000	0.000000
155	0.000000	-0.000162	0.000000	0.000000	0.000000	0.000000
156	-0.000506	0.002686	-0.000001	0.000000	0.000000	0.000646
157	-0.000506	0.004771	-0.000001	0.000000	0.000000	0.000430
158	-0.000506	0.006023	-0.000001	0.000000	0.000000	0.000215
159	-0.000506	0.006440	-0.000001	0.000000	0.000000	0.000000
160	-0.000506	0.006023	-0.000001	0.000000	0.000000	-0.000215
161	-0.000506	0.004773	-0.000001	0.000000	0.000000	-0.000430
162	-0.000506	0.002689	-0.000001	0.000000	0.000000	-0.000645
163	-0.000506	-0.000229	-0.000001	0.000000	0.000000	-0.000861
164	-0.000506	-0.000227	-0.000001	0.000001	0.000000	-0.000861
165	-0.000506	-0.000227	-0.000001	-0.000001	0.000000	-0.000861
166	0.000000	-0.000224	0.000000	0.000000	0.000000	0.000000
167	0.000000	-0.000226	0.000000	-0.000001	0.000000	0.000000
168	0.000000	-0.000226	0.000000	0.000001	0.000000	0.000000
170	0.000000	-0.000004	0.000000	0.000000	0.000000	0.000000
171	0.000000	-0.000054	0.000000	0.000000	0.000000	0.000000
172	0.000000	-0.000104	0.000000	0.000000	0.000000	0.000000
173	0.000000	-0.000159	0.000000	0.000000	0.000000	0.000000
174	-0.000506	-0.003982	-0.000001	0.000000	0.000000	-0.000928
175	-0.000506	-0.007443	-0.000001	0.000000	0.000000	-0.000753
176	-0.000506	-0.009832	-0.000001	0.000000	0.000000	-0.000417
177	-0.000506	-0.010680	-0.000001	0.000000	0.000000	0.000000
178	-0.000506	-0.009829	-0.000001	0.000000	0.000000	0.000417
179	-0.000506	-0.007438	-0.000001	0.000000	0.000000	0.000753
180	-0.000506	-0.003975	-0.000001	0.000000	0.000000	0.000928
181	-0.000506	-0.000223	-0.000001	0.000000	0.000000	0.000860
182	-0.000506	-0.000221	-0.000001	0.000001	0.000000	0.000860
183	-0.000506	-0.000221	-0.000001	-0.000001	0.000000	0.000860
184	0.000000	-0.000218	0.000000	0.000000	0.000000	0.000000
185	0.000000	-0.000220	0.000000	-0.000001	0.000000	0.000000
186	0.000000	-0.000220	0.000000	0.000001	0.000000	0.000000
188	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
189	0.000000	-0.000052	0.000000	0.000000	0.000000	0.000000
190	0.000000	-0.000101	0.000000	0.000000	0.000000	0.000000
191	0.000000	-0.000153	0.000000	0.000000	0.000000	0.000000
192	-0.000506	0.002692	-0.000001	0.000000	0.000000	0.000645
193	-0.000506	0.004773	-0.000001	0.000000	0.000000	0.000429
194	-0.000506	0.006021	-0.000001	0.000000	0.000000	0.000214
195	-0.000506	0.006435	-0.000001	0.000000	0.000000	0.000000
196	-0.000506	0.006018	-0.000001	0.000000	0.000000	-0.000215
197	-0.000506	0.004769	-0.000001	0.000000	0.000000	-0.000429
198	-0.000506	0.002690	-0.000001	0.000000	0.000000	-0.000643
199	-0.000506	-0.000218	-0.000001	0.000000	0.000000	-0.000857
200	-0.000506	-0.000216	-0.000001	0.000001	0.000000	-0.000857
201	-0.000506	-0.000216	-0.000001	-0.000001	0.000000	-0.000857
202	0.000000	-0.000213	0.000000	0.000000	0.000000	0.000000
203	0.000000	-0.000215	0.000000	-0.000001	0.000000	0.000000
204	0.000000	-0.000215	0.000000	0.000001	0.000000	0.000000
206	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
207	0.000000	-0.000050	0.000000	0.000000	0.000000	0.000000
208	0.000000	-0.000098	0.000000	0.000000	0.000000	0.000000
209	0.000000	-0.000148	0.000000	0.000000	0.000000	0.000000
210	-0.000506	-0.003956	-0.000001	0.000000	0.000000	-0.000924
211	-0.000506	-0.007401	-0.000001	0.000000	0.000000	-0.000749
212	-0.000506	-0.009774	-0.000001	0.000000	0.000000	-0.000413
213	-0.000506	-0.010611	-0.000001	0.000000	0.000000	0.000002
214	-0.000506	-0.009757	-0.000001	0.000000	0.000000	0.000417

215	-0.000506	-0.007374	-0.000001	0.000000	0.000000	0.000749
216	-0.000506	-0.003933	-0.000001	0.000000	0.000000	0.000920
217	-0.000506	-0.000220	-0.000001	0.000000	0.000000	0.000847
218	-0.000506	-0.000217	-0.000001	0.000001	0.000000	0.000847
219	-0.000506	-0.000217	-0.000001	-0.000001	0.000000	0.000847
220	0.000000	-0.000214	0.000000	0.000000	0.000000	0.000000
221	0.000000	-0.000217	0.000000	-0.000001	0.000000	0.000000
222	0.000000	-0.000217	0.000000	0.000001	0.000000	0.000000
224	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
225	0.000000	-0.000051	0.000000	0.000000	0.000000	0.000000
226	0.000000	-0.000099	0.000000	0.000000	0.000000	0.000000
227	0.000000	-0.000149	0.000000	0.000000	0.000000	0.000000
228	-0.000506	0.002636	-0.000001	0.000000	0.000000	0.000628
229	-0.000506	0.004649	-0.000001	0.000000	0.000000	0.000413
230	-0.000506	0.005833	-0.000001	0.000000	0.000000	0.000200
231	-0.000506	0.006202	-0.000001	0.000000	0.000000	-0.000008
232	-0.000506	0.005769	-0.000001	0.000000	0.000000	-0.000213
233	-0.000506	0.004548	-0.000001	0.000000	0.000000	-0.000415
234	-0.000506	0.002552	-0.000001	0.000000	0.000000	-0.000613
235	-0.000506	-0.000205	-0.000001	0.000000	0.000000	-0.000808
236	-0.000506	-0.000203	-0.000001	0.000001	0.000000	-0.000808
237	-0.000506	-0.000203	-0.000001	-0.000001	0.000000	-0.000808
238	0.000000	-0.000200	0.000000	0.000000	0.000000	0.000000
239	0.000000	-0.000202	0.000000	-0.000001	0.000000	0.000000
240	0.000000	-0.000202	0.000000	0.000001	0.000000	0.000000
242	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
243	0.000000	-0.000047	0.000000	0.000000	0.000000	0.000000
244	0.000000	-0.000092	0.000000	0.000000	0.000000	0.000000
245	0.000000	-0.000138	0.000000	0.000000	0.000000	0.000000
246	-0.000506	-0.003710	-0.000001	0.000000	0.000000	-0.000860
247	-0.000506	-0.006891	-0.000001	0.000000	0.000000	-0.000683
248	-0.000506	-0.009019	-0.000001	0.000000	0.000000	-0.000359
249	-0.000506	-0.009679	-0.000001	0.000000	0.000000	0.000032
250	-0.000506	-0.008766	-0.000001	0.000000	0.000000	0.000410
251	-0.000506	-0.006491	-0.000001	0.000000	0.000000	0.000693
252	-0.000506	-0.003375	-0.000001	0.000000	0.000000	0.000801
253	-0.000506	-0.000255	-0.000001	0.000000	0.000000	0.000654
254	-0.000506	-0.000252	-0.000001	0.000001	0.000000	0.000654
255	-0.000506	-0.000252	-0.000001	-0.000001	0.000000	0.000654
256	0.000000	-0.000248	0.000000	0.000000	0.000000	0.000000
257	0.000000	-0.000251	0.000000	-0.000001	0.000000	0.000000
258	0.000000	-0.000251	0.000000	0.000001	0.000000	0.000000
260	0.000000	-0.000003	0.000000	0.000000	0.000000	0.000000
261	0.000000	-0.000059	0.000000	0.000000	0.000000	0.000000
262	0.000000	-0.000114	0.000000	0.000000	0.000000	0.000000
263	0.000000	-0.000171	0.000000	0.000000	0.000000	0.000000
264	-0.000506	0.001362	-0.000001	0.000000	0.000000	0.000431
265	-0.000506	0.002345	-0.000001	0.000000	0.000000	0.000238
266	-0.000506	0.002785	0.000000	0.000000	0.000000	0.000074
267	-0.000506	0.002774	0.000000	0.000000	0.000000	-0.000060
268	-0.000506	0.002401	0.000000	0.000000	0.000000	-0.000164
269	-0.000506	0.001756	0.000000	0.000000	0.000000	-0.000238
270	-0.000506	0.000930	0.000000	0.000000	0.000000	-0.000282
271	-0.000506	0.000014	0.000000	0.000000	0.000000	-0.000297
272	-0.000506	0.000014	0.000000	0.000000	0.000000	-0.000297
273	-0.000506	0.000014	0.000000	0.000000	0.000000	-0.000297
274	0.000000	0.000014	0.000000	0.000000	0.000000	0.000000
275	0.000000	0.000014	0.000000	0.000000	0.000000	0.000000
276	0.000000	0.000014	0.000000	0.000000	0.000000	0.000000
278	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
279	0.000000	0.000003	0.000000	0.000000	0.000000	0.000000
280	0.000000	0.000006	0.000000	0.000000	0.000000	0.000000
281	0.000000	0.000009	0.000000	0.000000	0.000000	0.000000

DESPLAZAMIENTOS DE LOS APOYOS

NUDO	DESP. X	DESP. Y	DESP. Z	GIRO X	GIRO Y	GIRO Z
7	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
43	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
61	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
79	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
97	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
115	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
133	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
151	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
169	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
187	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
205	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
223	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
241	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
259	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
277	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

PRUEBA DE CARGA ESTATICA

1. OBJETO

Conforme a las Bases de Cálculo, la prueba de carga estática se realizará antes de la instalación de la vía y con camiones.
Con posterioridad se definirá la prueba a realizar, con la locomotora específica y toda la vía instalada.

2. METODOLOGIA

Se establece un camión tipo, cargado con 40 tn.
Se definen las hipótesis significativas que representen las situaciones más desfavorables en las secciones más solicitadas en apoyos y centros de vano.
Para cada una de estas hipótesis se obtienen los desplazamientos verticales teóricos en los puntos de control.

3. DEFINICION DE LA SOBRECARGA

CAMION TIPO :

Longitud = 12 m
Carga total = 40 t

SEPARACION ENTRE CAMIONES = 13 m

Transversalmente se colocan 3 camiones

VANO DE 31 M : 2 Camiones longitudinalmente
VANO DE 24.35/23.50 : 2 Camiones longitudinalmente

VANO 31 m : $q = \frac{3*2*40}{31} = 7.74\ t/m$

VANO 24 m (DE MEDIA) : $q = \frac{3*2*40}{24} = 10\ t/m$

CARLOS FERNANDEZ CASADO, S.L.
OFICINA DE PROYECTOS

PROYECTO

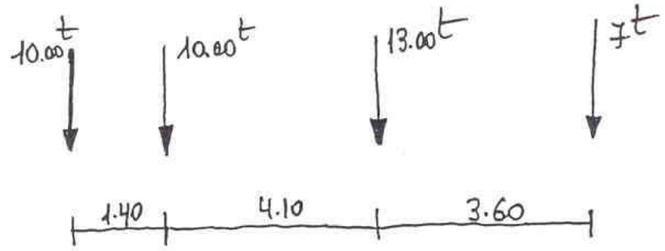
HOJA ___ DE ___
FECHA

4. HIPOTESIS DE CARGA

Se ha modelizado una longitud de puente

$\underbrace{23.50 + 11 * 31 + 23.50}$
TRAMO E1 – E2

CAMION TIPO.



3 CAMIONES ⇒
10 * 3 = 30 t
10 * 3 = 30 t
13 * 3 = 39 t
7 * 3 = 21 t
} 3 camiones transversalmente.

VANO 1 y 13 – Luz = 23.50 M

BARRA	fuerzy	dist
1	−60	+0.750
1	−60	+2.150
3	−78	+0.375
4	−42	+1.0375
5	−60	+1.900
6	−60	+0.3625
7	−78	+1.525
8	−42	+2.1875

VANO 2 A 12

BARRA	fuerzy	dist
10	−60	+0.625
10	−60	+2.025
11	−78	+2.250
12	−42	+1.975
13	−60	+1.900
13	−60	+3.300
14	−78	+3.525
15	−42	+3.250

```
estr  VIADUCTO RIERA FEMOSA - SIC-pruebacarga
nume de nudo  281
nume de barr  296
nume de hipo 23
nume de apoy   17
tipo port espa
list nada
coor de nudo
```

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5	0.0000	-1.426	-1.9000
6	0.0000	-1.426	1.9000
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8	0.0000	-8.126	0.0000
9	0.0000	-6.451	0.0000
10	0.0000	-4.776	0.0000
11	0.0000	-3.101	0.0000
12	2.9375	0.000	0.0000
13	5.8750	0.000	0.0000
14	8.8125	0.000	0.0000
15	11.7500	0.000	0.0000
16	14.6875	0.000	0.0000
17	17.6250	0.000	0.0000
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23	23.5000	-1.458	-1.9000
24	23.5000	-1.458	1.9000
25	23.5000	-10.308	0.0000 s
26	23.5000	-7.958	0.0000
27	23.5000	-6.333	0.0000
28	23.5000	-4.708	0.0000
29	23.5000	-3.083	0.0000
30	27.3750	0.000	0.0000
31	31.2500	0.000	0.0000
32	35.1250	0.000	0.0000
33	39.0000	0.000	0.0000
34	42.8750	0.000	0.0000
35	46.7500	0.000	0.0000
36	50.6250	0.000	0.0000
37	54.5000	0.000	0.0000
38	54.5000	0.000	-1.9000
39	54.5000	0.000	1.9000
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43	54.5000	-10.808	0.0000 s
44	54.5000	-8.458	0.0000
45	54.5000	-6.708	0.0000
46	54.5000	-4.958	0.0000
47	54.5000	-3.208	0.0000
48	58.3750	0.000	0.0000
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50	66.1250	0.000	0.0000
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62	85.5000	-8.658	0.0000
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64	85.5000	-5.058	0.0000
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69	101.0000	0.000	0.0000
70	104.8750	0.000	0.0000
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78	116.5000	-1.458	1.9000
79	116.5000	-11.308	0.0000 s
80	116.5000	-8.958	0.0000
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124	197.8750	0.000	0.0000	
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127	209.5000	0.000	0.0000	
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186	302.5000	-1.458	1.9000	
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188	302.5000	-10.058	0.0000	
189	302.5000	-7.908	0.0000	
190	302.5000	-5.758	0.0000	
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280	450.0000	-3.825	0.0000
281	450.0000	-2.642	0.0000

inci de barr

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291  263  256
292  277  278
293  278  279
294  279  280
295  280  281
296  281  274
libe de barr
* Desconexion del tablero
105 inic fuer x y z mome x y z
* E1
  185 inic          mome x y z
  186 inic fuer   z mome x y z
* P01
  187 inic fuer y   mome x y z
  188 inic fuer y z mome x y z
* P02
  189 inic fuer y   mome x y z
  190 inic fuer y z mome x y z
* P03
  191 inic fuer y   mome x y z
  192 inic fuer y z mome x y z
* P04
  193 inic fuer y   mome x y z
  194 inic fuer y z mome x y z
* P05
  195 inic fuer y   mome x y z
  196 inic fuer y z mome x y z
* P06
  197 inic fuer y   mome x y z
  198 inic fuer y z mome x y z
* P07
  199 inic fuer y   mome x y z
  200 inic fuer y z mome x y z
* P08
  201 inic fuer y   mome x y z
  202 inic fuer y z mome x y z
* P09
  203 inic fuer y   mome x y z
  204 inic fuer y z mome x y z
* P10
  205 inic fuer y   mome x y z
  206 inic fuer y z mome x y z
* P11
  207 inic fuer y   mome x y z
  208 inic fuer y z mome x y z
* P12
  209 inic fuer y   mome x y z
  210 inic fuer y z mome x y z
* P13
  211 inic fuer y   mome x y z
  212 inic fuer y z mome x y z
* P14
  213 inic fuer y   mome x y z
  214 inic fuer y z mome x y z
* P15
  215 inic fuer y   mome x y z
  216 inic fuer y z mome x y z
mate de barr
    1 a  120    1
  121 a  216    1
         217    3
  218 a  221    3
         222    3
  223 a  226    2
         227    3
  228 a  231    2
         232    3
  233 a  236    2
         237    3
  238 a  241    2
         242    3
  243 a  246    2
         247    3
  248 a  251    2
         252    3
  253 a  261    2
         262    3
  263 a  266    2
         267    3
  268 a  271    2
         272    3
  273 a  276    2
         277    3
  278 a  281    2
         282    3
  283 a  286    2
         287    3
  288 a  291    2
         292    3
  293 a  296    3
prop de barr pris
```

```
* TABLERO
    1 a  120 8.787 2.972 3.860  5.447 80.54 3.341
* BARRAS DE GRAN RIGIDEZ
  121 a  184 100. 100. 100.  100. 1000. 100.
* APARATOS DE APOYO
* E1
  185 a  186 100. 100. 100.  100.  500. 100.
* P01
  187 a  188 100. 100. 100.  100.  500. 100.
* P02
  189 a  190 100. 100. 100.  100.  500. 100.
* P03
  191 a  192 100. 100. 100.  100.  500. 100.
* P04
  193 a  194 100. 100. 100.  100.  500. 100.
* P05
  195 a  196 100. 100. 100.  100.  500. 100.
* P06
  197 a  198 100. 100. 100.  100.  500. 100.
* P07
  199 a  200 100. 100. 100.  100.  500. 100.
* P08
  201 a  202 100. 100. 100.  100.  500. 100.
* P09
  203 a  204 100. 100. 100.  100.  500. 100.
* P10
  205 a  206 100. 100. 100.  100.  500. 100.
* P11
  207 a  208 100. 100. 100.  100.  500. 100.
* P12
  209 a  210 100. 100. 100.  100.  500. 100.
* P13
  211 a  212 100. 100. 100.  100.  500. 100.
* P14
  213 a  214 100. 100. 100.  100.  500. 100.
* P15
  215 a  216 100. 100. 100.  100.  500. 100.
* FUSTES DE ESTRIBOS Y PILAS
* E1
        217 158.4  132.   132.   3182.3  3379.2 1293.7
  218 a 221  54.17  45.14  45.14   44.19 1129.3  337.3
*
* 3 ULTIMOS METROS SIN TABIQUE DE UNION
*
* P01
        222 65.61 54.68 54.68  606.24 358.72 358.72
  223 a 225  5.16  4.30  4.30    1.166 14.31  0.722
        226  3.60  3.00  3.00    0.887 13.43  0.675
*
* P02
        227 65.61 54.68 54.68  606.24 358.72 358.72
  228 a 230  5.16  4.30  4.30    1.166 14.31  0.722
        231  3.60  3.00  3.00    0.887 13.43  0.675
*
* P03
        232 65.61 54.68 54.68  606.24 358.72 358.72
  233 a 235  5.16  4.30  4.30    1.166 14.31  0.722
        236  3.60  3.00  3.00    0.887 13.43  0.675
*
* P04
        237 65.61 54.68 54.68  606.24 358.72 358.72
  238 a 240  5.16  4.30  4.30    1.166 14.31  0.722
        241  3.60  3.00  3.00    0.887 13.43  0.675
*
* P05
        242 65.61 54.68 54.68  606.24 358.72 358.72
  243 a 245  5.16  4.30  4.30    1.166 14.31  0.722
        246  3.60  3.00  3.00    0.887 13.43  0.675
*
* P06
        247 65.61 54.68 54.68  606.24 358.72 358.72
  248 a 250  5.16  4.30  4.30    1.166 14.31  0.722
        251  3.60  3.00  3.00    0.887 13.43  0.675
*
* P07
        252 65.61 54.68 54.68  606.24 358.72 358.72
  253 a 255  5.16  4.30  4.30    1.166 14.31  0.722
        256  3.60  3.00  3.00    0.887 13.43  0.675
*
* P08
        257 65.61 54.68 54.68  606.24 358.72 358.72
  258 a 260  5.16  4.30  4.30    1.166 14.31  0.722
        261  3.60  3.00  3.00    0.887 13.43  0.675
*
* P09
        262 65.61 54.68 54.68  606.24 358.72 358.72
  263 a 265  5.16  4.30  4.30    1.166 14.31  0.722
        266  3.60  3.00  3.00    0.887 13.43  0.675
*
* P10
        267 65.61 54.68 54.68  606.24 358.72 358.72
  268 a 270  5.16  4.30  4.30    1.166 14.31  0.722
        271  3.60  3.00  3.00    0.887 13.43  0.675
*
* P11
        272 65.61 54.68 54.68  606.24 358.72 358.72
  273 a 275  5.16  4.30  4.30    1.166 14.31  0.722
        276  3.60  3.00  3.00    0.887 13.43  0.675
*
* P12
        277 65.61 54.68 54.68  606.24 358.72 358.72
  278 a 280  5.16  4.30  4.30    1.166 14.31  0.722
        281  3.60  3.00  3.00    0.887 13.43  0.675
*
* P13
        282 65.61 54.68 54.68  606.24 358.72 358.72
  283 a 285  5.16  4.30  4.30    1.166 14.31  0.722
        286  3.60  3.00  3.00    0.887 13.43  0.675
*
* P14
        287 65.61 54.68 54.68  606.24 358.72 358.72
  288 a 290  5.16  4.30  4.30    1.166 14.31  0.722
```

```
        291  3.60  3.00  3.00    0.887 13.43   0.675
*
* PILA 15 (PILA DOBLE)
        292 65.61 54.68 54.68  606.24 358.72 358.72
  293 a 295 13.40 11.16 11.16    7.335 31.86   8.860
        296  7.68  6.40  6.40    2.815 28.65   6.554
*
cons de mate
* HORMIGON TABLERO fck=40 MPa
* E=100000*[9.50*(40.00+8)**1/3]=3452529.
* G=E/2(1+nu=0.2)=1438554.
    1 3452529. 1438554. 2.5
* HORMIGON PILAS fck=3000 t/m2
* E=100000*[9.50*(30.00+8)**1/3]=3193877.
* G=E/2(1+nu=0.2)=1330782.
    2 3193877. 1330782. 2.5
* HORMIGON ZAPATAS Y ESTRIBOS fck=2500 t/m2
* E=950000*[9.50*(25.00+8)**1/3]=3047158.
* G=E/2(1+nu=0.2)=1269649.
    3 3047158. 1269649. 2.5
hipo  1 VANOS CARGADOS 1+2
carga en barr
  1 fuer y conc -30. +0.7500
  1 fuer y conc -30. +2.1500
  3 fuer y conc -39. +0.3750
  4 fuer y conc -21. +1.0375
  5 fuer y conc -30. +1.9000
  6 fuer y conc -30. +0.3625
  7 fuer y conc -39. +1.5250
  8 fuer y conc -21. +2.1875
*
 10 fuer y conc -30. +0.6250
 10 fuer y conc -30. +2.0250
 11 fuer y conc -39. +2.2500
 12 fuer y conc -21. +1.9750
 13 fuer y conc -30. +1.9000
 13 fuer y conc -30. +3.3000
 14 fuer y conc -39. +3.5250
 15 fuer y conc -21. +3.2500
hipo  2 VANOS CARGADOS 1+3
carga en barr
  1 fuer y conc -30. +0.7500
  1 fuer y conc -30. +2.1500
  3 fuer y conc -39. +0.3750
  4 fuer y conc -21. +1.0375
  5 fuer y conc -30. +1.9000
  6 fuer y conc -30. +0.3625
  7 fuer y conc -39. +1.5250
  8 fuer y conc -21. +2.1875
*
 18 fuer y conc -30. +0.6250
 18 fuer y conc -30. +2.0250
 19 fuer y conc -39. +2.2500
 20 fuer y conc -21. +1.9750
 21 fuer y conc -30. +1.9000
 21 fuer y conc -30. +3.3000
 22 fuer y conc -39. +3.5250
 23 fuer y conc -21. +3.2500
hipo  3 VANOS CARGADOS 2+3
carga en barr
 10 fuer y conc -30. +0.6250
 10 fuer y conc -30. +2.0250
 11 fuer y conc -39. +2.2500
 12 fuer y conc -21. +1.9750
 13 fuer y conc -30. +1.9000
 13 fuer y conc -30. +3.3000
 14 fuer y conc -39. +3.5250
 15 fuer y conc -21. +3.2500
*
 18 fuer y conc -30. +0.6250
 18 fuer y conc -30. +2.0250
 19 fuer y conc -39. +2.2500
 20 fuer y conc -21. +1.9750
 21 fuer y conc -30. +1.9000
 21 fuer y conc -30. +3.3000
 22 fuer y conc -39. +3.5250
 23 fuer y conc -21. +3.2500
hipo  4 VANOS CARGADOS 2+4
carga en barr
 10 fuer y conc -30. +0.6250
 10 fuer y conc -30. +2.0250
 11 fuer y conc -39. +2.2500
 12 fuer y conc -21. +1.9750
 13 fuer y conc -30. +1.9000
 13 fuer y conc -30. +3.3000
 14 fuer y conc -39. +3.5250
 15 fuer y conc -21. +3.2500
*
 26 fuer y conc -30. +0.6250
 26 fuer y conc -30. +2.0250
 27 fuer y conc -39. +2.2500
 28 fuer y conc -21. +1.9750
 29 fuer y conc -30. +1.9000
 29 fuer y conc -30. +3.3000
 30 fuer y conc -39. +3.5250
 31 fuer y conc -21. +3.2500
hipo  5 VANOS CARGADOS 3+4
carga en barr
 18 fuer y conc -30. +0.6250
 18 fuer y conc -30. +2.0250
 19 fuer y conc -39. +2.2500
 20 fuer y conc -21. +1.9750
 21 fuer y conc -30. +1.9000
 21 fuer y conc -30. +3.3000
 22 fuer y conc -39. +3.5250
 23 fuer y conc -21. +3.2500
*
 26 fuer y conc -30. +0.6250
 26 fuer y conc -30. +2.0250
 27 fuer y conc -39. +2.2500
 28 fuer y conc -21. +1.9750
 29 fuer y conc -30. +1.9000
```

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 29 fuer y conc -30. +3.3000
 30 fuer y conc -39. +3.5250
 31 fuer y conc -21. +3.2500
hipo  6 VANOS CARGADOS 3+5
carga en barr
 18 fuer y conc -30. +0.6250
 18 fuer y conc -30. +2.0250
 19 fuer y conc -39. +2.2500
 20 fuer y conc -21. +1.9750
 21 fuer y conc -30. +1.9000
 21 fuer y conc -30. +3.3000
 22 fuer y conc -39. +3.5250
 23 fuer y conc -21. +3.2500
*
 34 fuer y conc -30. +0.6250
 34 fuer y conc -30. +2.0250
 35 fuer y conc -39. +2.2500
 36 fuer y conc -21. +1.9750
 37 fuer y conc -30. +1.9000
 37 fuer y conc -30. +3.3000
 38 fuer y conc -39. +3.5250
 39 fuer y conc -21. +3.2500
hipo  7 VANOS CARGADOS 4+5
carga en barr
 26 fuer y conc -30. +0.6250
 26 fuer y conc -30. +2.0250
 27 fuer y conc -39. +2.2500
 28 fuer y conc -21. +1.9750
 29 fuer y conc -30. +1.9000
 29 fuer y conc -30. +3.3000
 30 fuer y conc -39. +3.5250
 31 fuer y conc -21. +3.2500
*
 34 fuer y conc -30. +0.6250
 34 fuer y conc -30. +2.0250
 35 fuer y conc -39. +2.2500
 36 fuer y conc -21. +1.9750
 37 fuer y conc -30. +1.9000
 37 fuer y conc -30. +3.3000
 38 fuer y conc -39. +3.5250
 39 fuer y conc -21. +3.2500
hipo  8 VANOS CARGADOS 4+6
carga en barr
 26 fuer y conc -30. +0.6250
 26 fuer y conc -30. +2.0250
 27 fuer y conc -39. +2.2500
 28 fuer y conc -21. +1.9750
 29 fuer y conc -30. +1.9000
 29 fuer y conc -30. +3.3000
 30 fuer y conc -39. +3.5250
 31 fuer y conc -21. +3.2500
*
 42 fuer y conc -30. +0.6250
 42 fuer y conc -30. +2.0250
 43 fuer y conc -39. +2.2500
 44 fuer y conc -21. +1.9750
```

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 45 fuer y conc -30. +1.9000
 45 fuer y conc -30. +3.3000
 46 fuer y conc -39. +3.5250
 47 fuer y conc -21. +3.2500
hipo  9 VANOS CARGADOS 5+6
carga en barr
 34 fuer y conc -30. +0.6250
 34 fuer y conc -30. +2.0250
 35 fuer y conc -39. +2.2500
 36 fuer y conc -21. +1.9750
 37 fuer y conc -30. +1.9000
 37 fuer y conc -30. +3.3000
 38 fuer y conc -39. +3.5250
 39 fuer y conc -21. +3.2500
*
 42 fuer y conc -30. +0.6250
 42 fuer y conc -30. +2.0250
 43 fuer y conc -39. +2.2500
 44 fuer y conc -21. +1.9750
 45 fuer y conc -30. +1.9000
 45 fuer y conc -30. +3.3000
 46 fuer y conc -39. +3.5250
 47 fuer y conc -21. +3.2500
hipo 10 VANOS CARGADOS 5+7
carga en barr
 34 fuer y conc -30. +0.6250
 34 fuer y conc -30. +2.0250
 35 fuer y conc -39. +2.2500
 36 fuer y conc -21. +1.9750
 37 fuer y conc -30. +1.9000
 37 fuer y conc -30. +3.3000
 38 fuer y conc -39. +3.5250
 39 fuer y conc -21. +3.2500
*
 50 fuer y conc -30. +0.6250
 50 fuer y conc -30. +2.0250
 51 fuer y conc -39. +2.2500
 52 fuer y conc -21. +1.9750
 53 fuer y conc -30. +1.9000
 53 fuer y conc -30. +3.3000
 54 fuer y conc -39. +3.5250
 55 fuer y conc -21. +3.2500
hipo 11 VANOS CARGADOS 6+7
carga en barr
 42 fuer y conc -30. +0.6250
 42 fuer y conc -30. +2.0250
 43 fuer y conc -39. +2.2500
 44 fuer y conc -21. +1.9750
 45 fuer y conc -30. +1.9000
 45 fuer y conc -30. +3.3000
 46 fuer y conc -39. +3.5250
 47 fuer y conc -21. +3.2500
*
 50 fuer y conc -30. +0.6250
 50 fuer y conc -30. +2.0250
 51 fuer y conc -39. +2.2500
```

```
 52 fuer y conc -21. +1.9750
 53 fuer y conc -30. +1.9000
 53 fuer y conc -30. +3.3000
 54 fuer y conc -39. +3.5250
 55 fuer y conc -21. +3.2500
hipo 12 VANOS CARGADOS 6+8
carga en barr
 42 fuer y conc -30. +0.6250
 42 fuer y conc -30. +2.0250
 43 fuer y conc -39. +2.2500
 44 fuer y conc -21. +1.9750
 45 fuer y conc -30. +1.9000
 45 fuer y conc -30. +3.3000
 46 fuer y conc -39. +3.5250
 47 fuer y conc -21. +3.2500
*
 58 fuer y conc -30. +0.6250
 58 fuer y conc -30. +2.0250
 59 fuer y conc -39. +2.2500
 60 fuer y conc -21. +1.9750
 61 fuer y conc -30. +1.9000
 61 fuer y conc -30. +3.3000
 62 fuer y conc -39. +3.5250
 63 fuer y conc -21. +3.2500
hipo 13 VANOS CARGADOS 7+8
carga en barr
 50 fuer y conc -30. +0.6250
 50 fuer y conc -30. +2.0250
 51 fuer y conc -39. +2.2500
 52 fuer y conc -21. +1.9750
 53 fuer y conc -30. +1.9000
 53 fuer y conc -30. +3.3000
 54 fuer y conc -39. +3.5250
 55 fuer y conc -21. +3.2500
*
 58 fuer y conc -30. +0.6250
 58 fuer y conc -30. +2.0250
 59 fuer y conc -39. +2.2500
 60 fuer y conc -21. +1.9750
 61 fuer y conc -30. +1.9000
 61 fuer y conc -30. +3.3000
 62 fuer y conc -39. +3.5250
 63 fuer y conc -21. +3.2500
hipo 14 VANOS CARGADOS 7+9
carga en barr
 50 fuer y conc -30. +0.6250
 50 fuer y conc -30. +2.0250
 51 fuer y conc -39. +2.2500
 52 fuer y conc -21. +1.9750
 53 fuer y conc -30. +1.9000
 53 fuer y conc -30. +3.3000
 54 fuer y conc -39. +3.5250
 55 fuer y conc -21. +3.2500
*
 66 fuer y conc -30. +0.6250
 66 fuer y conc -30. +2.0250
 67 fuer y conc -39. +2.2500
 68 fuer y conc -21. +1.9750
 69 fuer y conc -30. +1.9000
 69 fuer y conc -30. +3.3000
 70 fuer y conc -39. +3.5250
 71 fuer y conc -21. +3.2500
hipo 15 VANOS CARGADOS 8+9
carga en barr
 58 fuer y conc -30. +0.6250
 58 fuer y conc -30. +2.0250
 59 fuer y conc -39. +2.2500
 60 fuer y conc -21. +1.9750
 61 fuer y conc -30. +1.9000
 61 fuer y conc -30. +3.3000
 62 fuer y conc -39. +3.5250
 63 fuer y conc -21. +3.2500
*
 66 fuer y conc -30. +0.6250
 66 fuer y conc -30. +2.0250
 67 fuer y conc -39. +2.2500
 68 fuer y conc -21. +1.9750
 69 fuer y conc -30. +1.9000
 69 fuer y conc -30. +3.3000
 70 fuer y conc -39. +3.5250
 71 fuer y conc -21. +3.2500
hipo 16 VANOS CARGADOS 8+10
carga en barr
 58 fuer y conc -30. +0.6250
 58 fuer y conc -30. +2.0250
 59 fuer y conc -39. +2.2500
 60 fuer y conc -21. +1.9750
 61 fuer y conc -30. +1.9000
 61 fuer y conc -30. +3.3000
 62 fuer y conc -39. +3.5250
 63 fuer y conc -21. +3.2500
*
 74 fuer y conc -30. +0.6250
 74 fuer y conc -30. +2.0250
 75 fuer y conc -39. +2.2500
 76 fuer y conc -21. +1.9750
 77 fuer y conc -30. +1.9000
 77 fuer y conc -30. +3.3000
 78 fuer y conc -39. +3.5250
 79 fuer y conc -21. +3.2500
hipo 17 VANOS CARGADOS 9+10
carga en barr
 66 fuer y conc -30. +0.6250
 66 fuer y conc -30. +2.0250
 67 fuer y conc -39. +2.2500
 68 fuer y conc -21. +1.9750
 69 fuer y conc -30. +1.9000
 69 fuer y conc -30. +3.3000
 70 fuer y conc -39. +3.5250
 71 fuer y conc -21. +3.2500
*
 74 fuer y conc -30. +0.6250
```

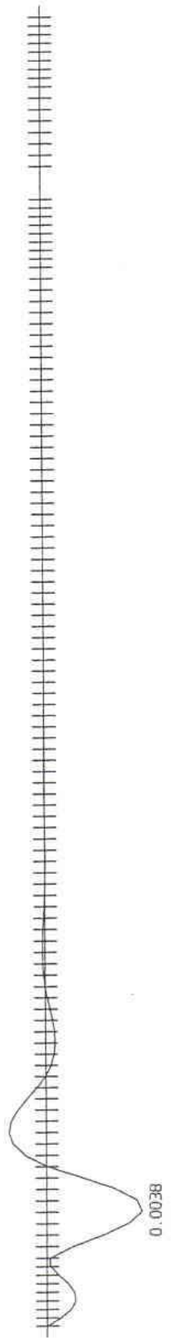
```
 74 fuer y conc -30. +2.0250
 75 fuer y conc -39. +2.2500
 76 fuer y conc -21. +1.9750
 77 fuer y conc -30. +1.9000
 77 fuer y conc -30. +3.3000
 78 fuer y conc -39. +3.5250
 79 fuer y conc -21. +3.2500
hipo 18 VANOS CARGADOS 9+11
carga en barr
 66 fuer y conc -30. +0.6250
 66 fuer y conc -30. +2.0250
 67 fuer y conc -39. +2.2500
 68 fuer y conc -21. +1.9750
 69 fuer y conc -30. +1.9000
 69 fuer y conc -30. +3.3000
 70 fuer y conc -39. +3.5250
 71 fuer y conc -21. +3.2500
*
 82 fuer y conc -30. +0.6250
 82 fuer y conc -30. +2.0250
 83 fuer y conc -39. +2.2500
 84 fuer y conc -21. +1.9750
 85 fuer y conc -30. +1.9000
 85 fuer y conc -30. +3.3000
 86 fuer y conc -39. +3.5250
 87 fuer y conc -21. +3.2500
hipo 19 VANOS CARGADOS 10+11
carga en barr
 74 fuer y conc -30. +0.6250
 74 fuer y conc -30. +2.0250
 75 fuer y conc -39. +2.2500
 76 fuer y conc -21. +1.9750
 77 fuer y conc -30. +1.9000
 77 fuer y conc -30. +3.3000
 78 fuer y conc -39. +3.5250
 79 fuer y conc -21. +3.2500
*
 82 fuer y conc -30. +0.6250
 82 fuer y conc -30. +2.0250
 83 fuer y conc -39. +2.2500
 84 fuer y conc -21. +1.9750
 85 fuer y conc -30. +1.9000
 85 fuer y conc -30. +3.3000
 86 fuer y conc -39. +3.5250
 87 fuer y conc -21. +3.2500
hipo 20 VANOS CARGADOS 10+12
carga en barr
 74 fuer y conc -30. +0.6250
 74 fuer y conc -30. +2.0250
 75 fuer y conc -39. +2.2500
 76 fuer y conc -21. +1.9750
 77 fuer y conc -30. +1.9000
 77 fuer y conc -30. +3.3000
 78 fuer y conc -39. +3.5250
 79 fuer y conc -21. +3.2500
*
```

```
 90 fuer y conc -30. +0.6250
 90 fuer y conc -30. +2.0250
 91 fuer y conc -39. +2.2500
 92 fuer y conc -21. +1.9750
 93 fuer y conc -30. +1.9000
 93 fuer y conc -30. +3.3000
 94 fuer y conc -39. +3.5250
 95 fuer y conc -21. +3.2500
hipo 21 VANOS CARGADOS 11+12
carga en barr
 82 fuer y conc -30. +0.6250
 82 fuer y conc -30. +2.0250
 83 fuer y conc -39. +2.2500
 84 fuer y conc -21. +1.9750
 85 fuer y conc -30. +1.9000
 85 fuer y conc -30. +3.3000
 86 fuer y conc -39. +3.5250
 87 fuer y conc -21. +3.2500
*
 90 fuer y conc -30. +0.6250
 90 fuer y conc -30. +2.0250
 91 fuer y conc -39. +2.2500
 92 fuer y conc -21. +1.9750
 93 fuer y conc -30. +1.9000
 93 fuer y conc -30. +3.3000
 94 fuer y conc -39. +3.5250
 95 fuer y conc -21. +3.2500
hipo 22 VANOS CARGADOS 11+13
carga en barr
 82 fuer y conc -30. +0.6250
 82 fuer y conc -30. +2.0250
 83 fuer y conc -39. +2.2500
 84 fuer y conc -21. +1.9750
 85 fuer y conc -30. +1.9000
 85 fuer y conc -30. +3.3000
 86 fuer y conc -39. +3.5250
 87 fuer y conc -21. +3.2500
*
 98 fuer y conc -30. +0.7500
 98 fuer y conc -30. +2.1500
 99 fuer y conc -39. +0.3750
100 fuer y conc -21. +1.0375
101 fuer y conc -30. +1.9000
101 fuer y conc -30. +0.3625
102 fuer y conc -39. +1.5250
103 fuer y conc -21. +2.1875
hipo 23 VANOS CARGADOS 12+13
carga en barr
 90 fuer y conc -30. +0.6250
 90 fuer y conc -30. +2.0250
 91 fuer y conc -39. +2.2500
 92 fuer y conc -21. +1.9750
 93 fuer y conc -30. +1.9000
 93 fuer y conc -30. +3.3000
 94 fuer y conc -39. +3.5250
 95 fuer y conc -21. +3.2500
```

```
*
 98 fuer y conc -30. +0.7500
 98 fuer y conc -30. +2.1500
 99 fuer y conc -39. +0.3750
100 fuer y conc -21. +1.0375
101 fuer y conc -30. +1.9000
101 fuer y conc -30. +0.3625
102 fuer y conc -39. +1.5250
103 fuer y conc -21. +2.1875
calcula y almacena
2 2 2
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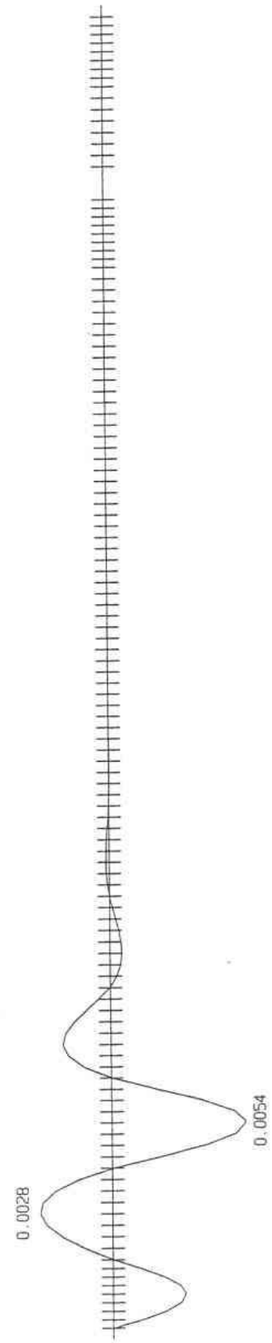
VIADUCTO RIERA FEMOSA - SIC-pruebocorgo
hipo 1 VANOS CARGADOS 1+2

F. Y 2.5 -3



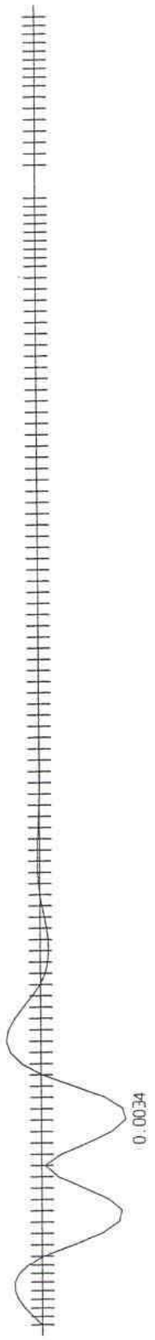
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hipo 2 VANOS CARGADOS 1+3

F. Y 2.5 -3



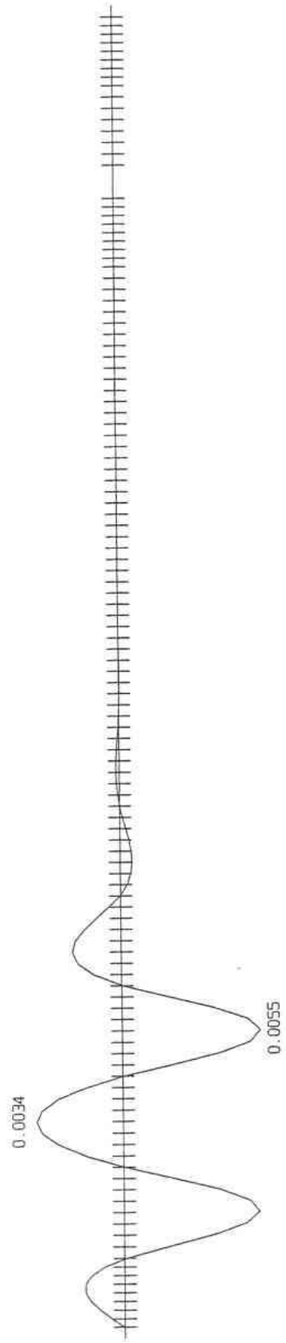
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hipo .3 VANOS CARGADOS 2+3

F. Y 2.5 -3



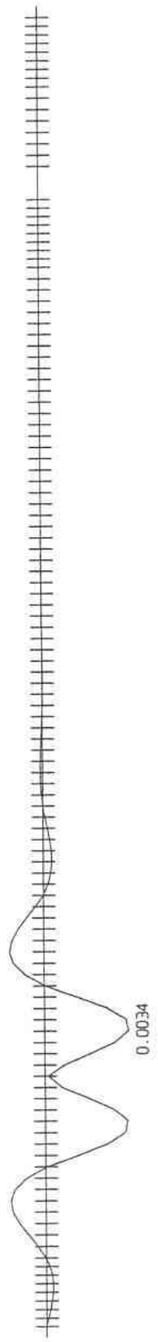
VIADUCTO RIERA FEMOSA - SIC-pruebacarga
hipo 4 VANOS CARGADOS 2+4

F. Y 2.5 -3



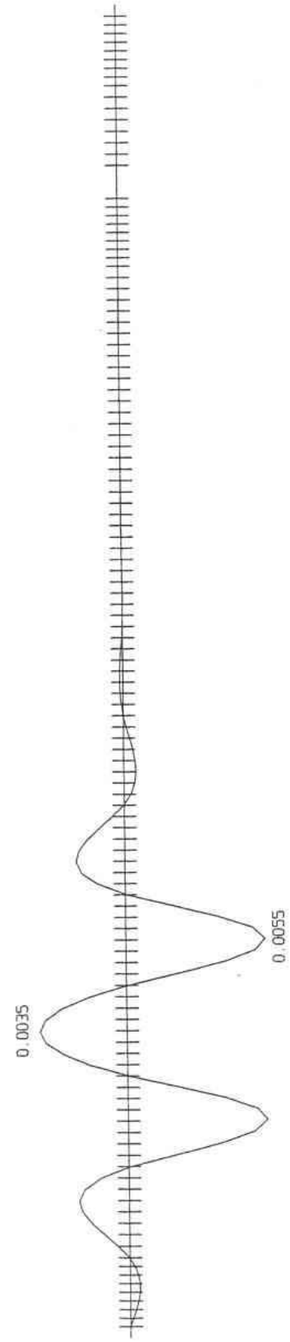
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hipo 5 VANOS CARGADOS 3+4

F. Y 2.5 -3



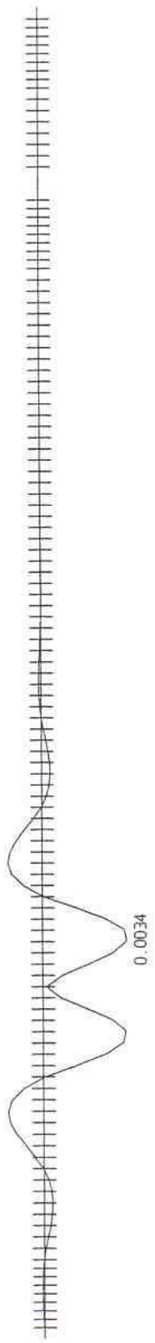
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hipo 6 VANOS CARGADOS 3+5

F. Y 2.5 -3



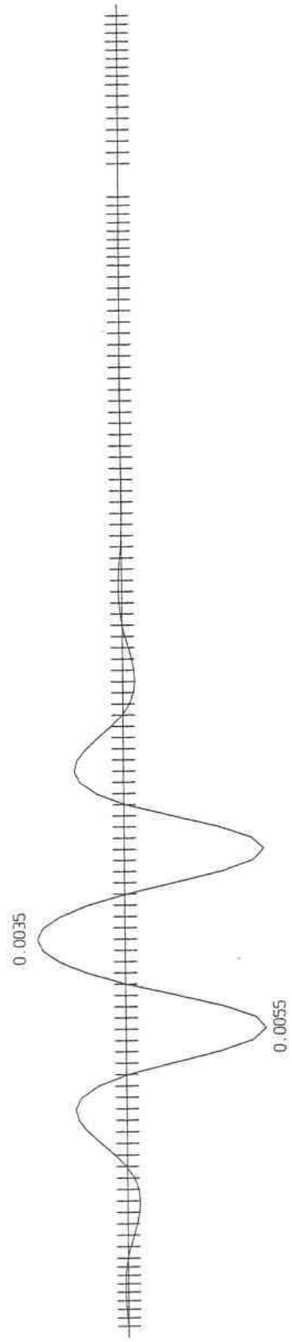
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hipo 7 VANOS CARGADOS 4+5

F. Y 2.5 -3



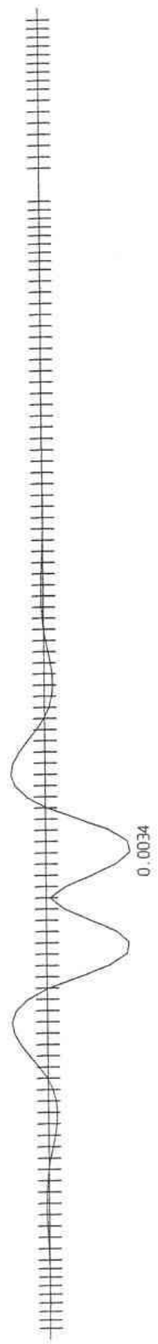
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hipo 8 VANOS CARGADOS 4+6

F. Y 2.5 -3



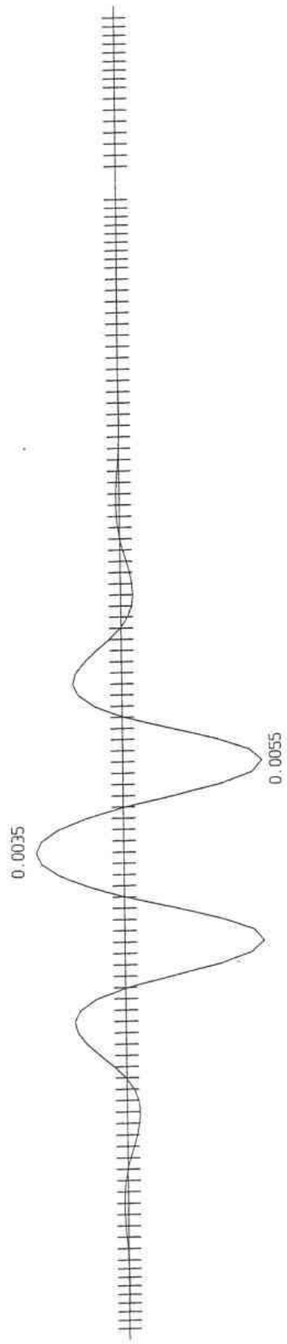
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hipo 9 VANOS CARGADOS 5+6

F. Y 2.5 -3



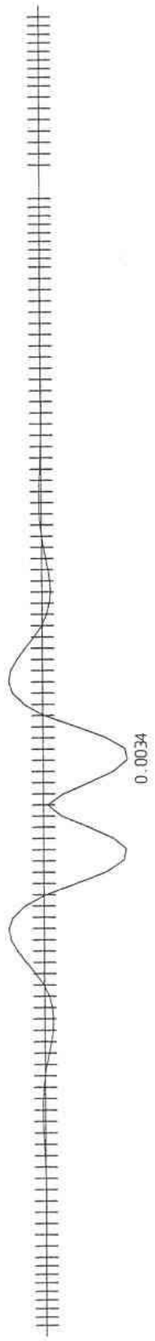
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hipo 10 VANOS CARGADOS 5+7

F. Y 2.5 -3



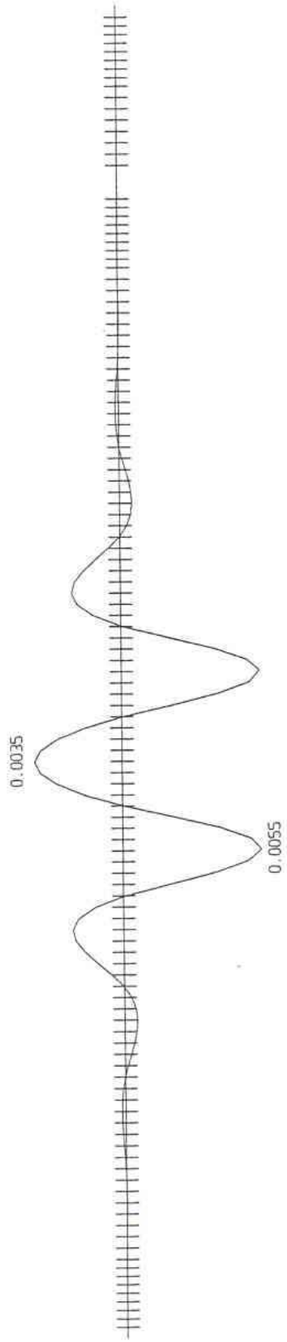
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hipo 11 VANOS CARGADOS 6+7

F. Y 2.5 -3



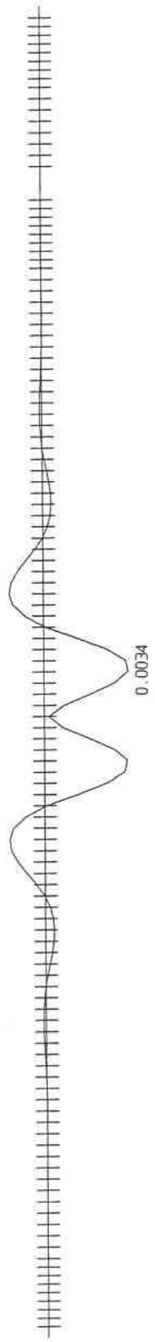
VIADUCTO RIERA FEMOSA - SIC-pruebacarga
hipo 12 VANOS CARGADOS 6+8

F. Y 2.5 -3



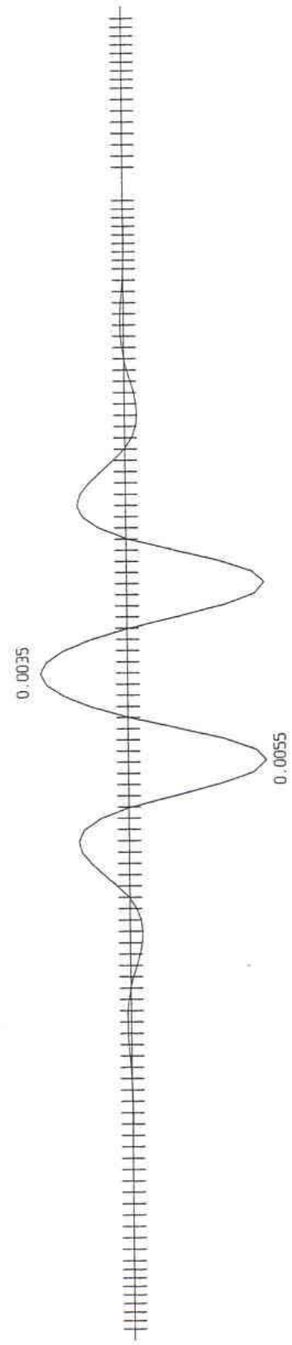
VIADUCTO RIERA FEMOSA - SIC-pruebacarga
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F. Y 2.5 -3



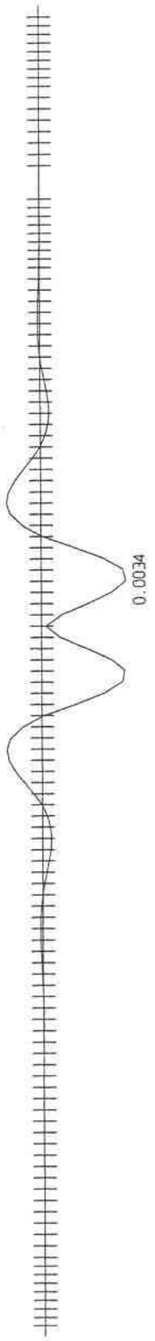
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F. Y 2.5 -3



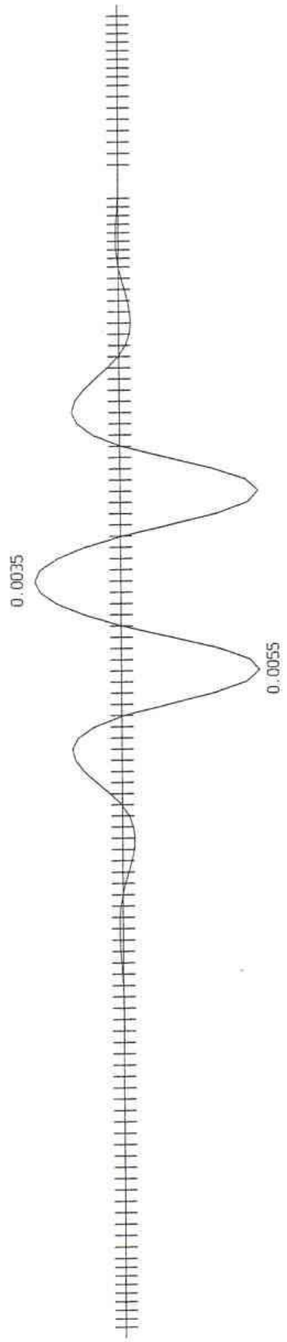
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F. Y 2.5 -3



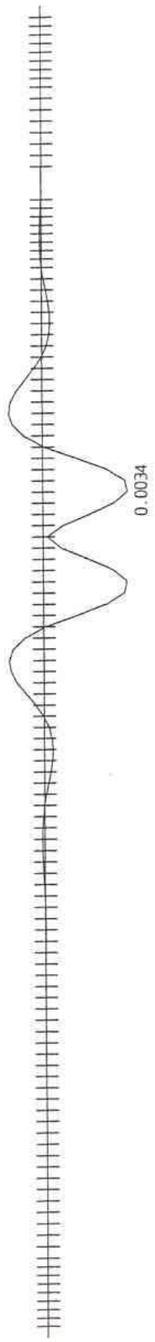
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F. Y 2.5 -3



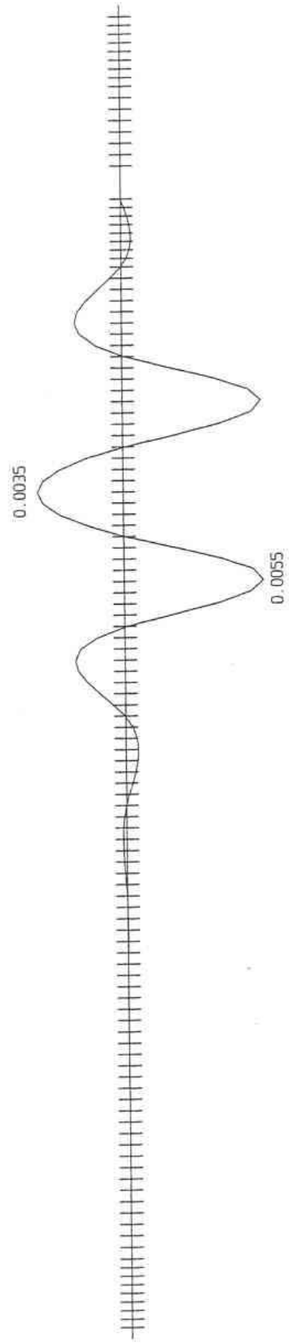
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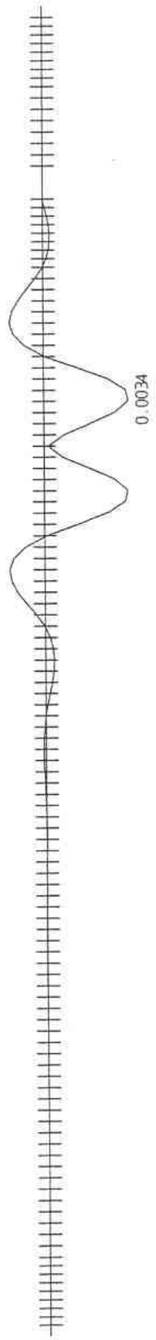
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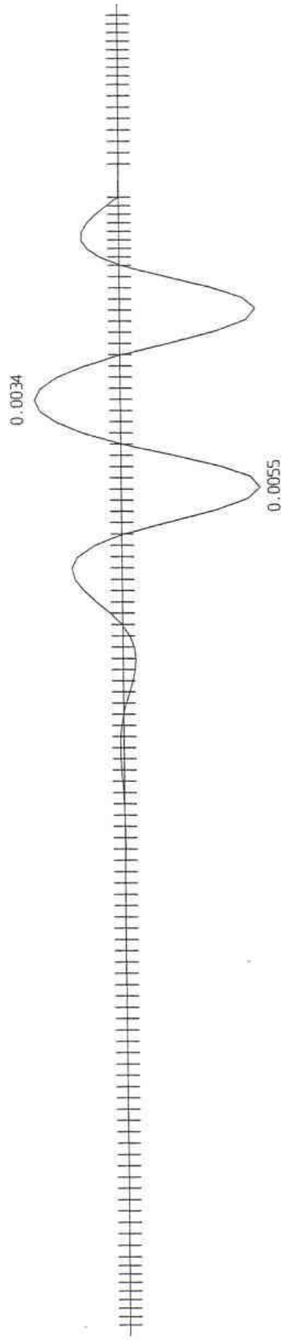
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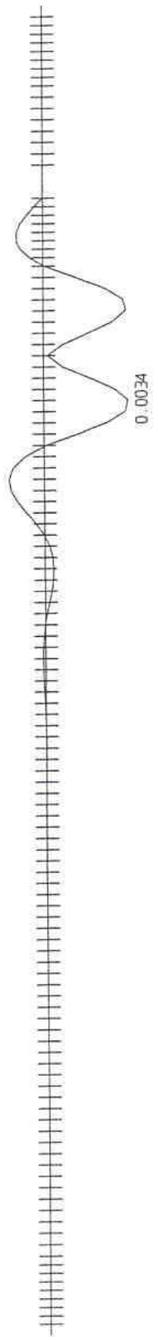
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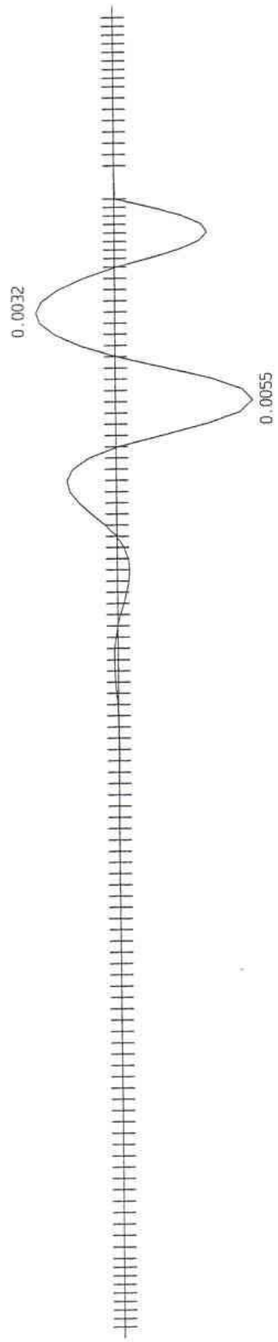
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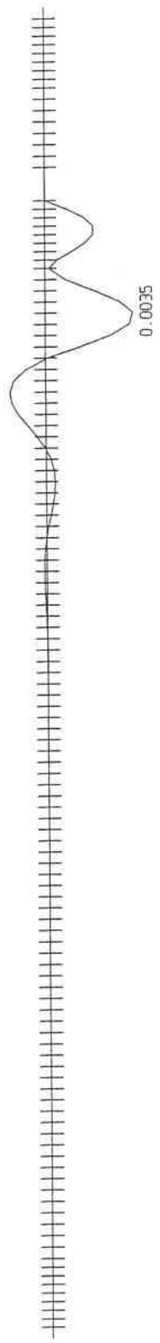
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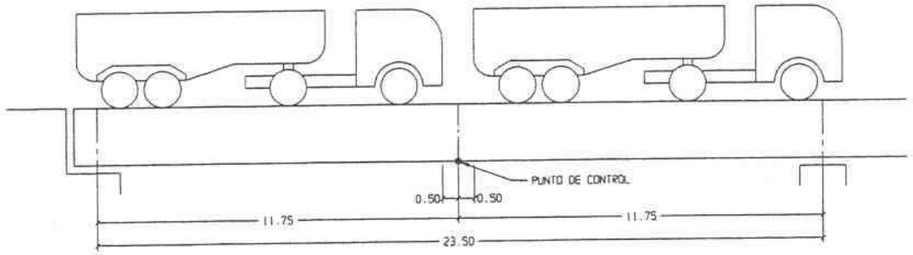
F. Y 2.5 -3



VIADUCTO RIERA FEMOSA - SIC-pruebacarga
hipo 23 VANOS CARGADOS 12+13

F. Y 2.5 -3

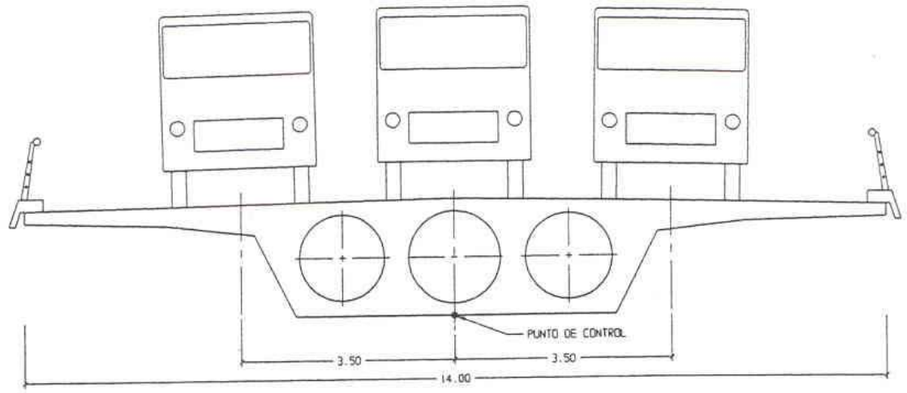




CAMIONES Y PUNTO DE CONTROL EN VANOS DE 23.50 m. . ALZADO

TRAMO I : VANO 1 Y 13

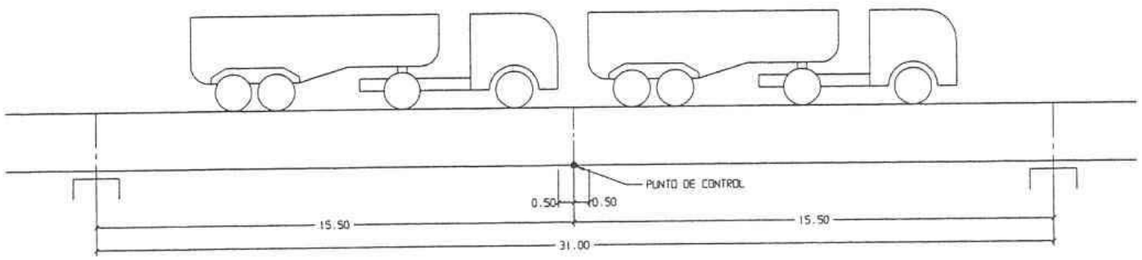
ESCALA 1:100



CAMIONES Y PUNTO DE CONTROL EN SECCION TRANSVERSAL

VANO 1 A VANO 42

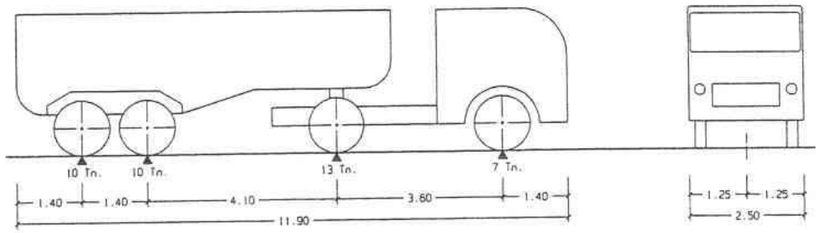
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CAMIONES Y PUNTO DE CONTROL EN VANOS DE 31.00 m. . ALZADO

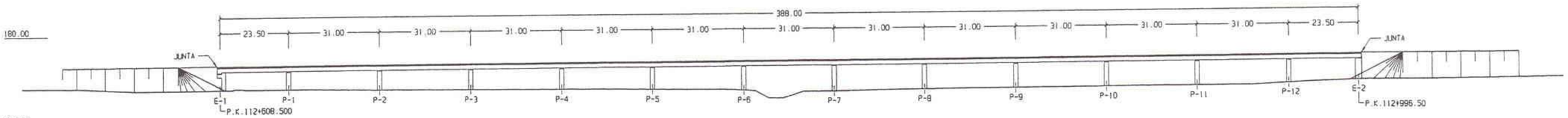
TRAMO I : VANOS 2 A 12

ESCALA 1:100



CAMION TIPO BA(ERA DE 40 Tn.

SIN ESCALA



ALZADO GENERAL ESQUEMATICO

SIN ESCALA

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TITULO: PROYECTO CONSTRUCTIVO DE LA LINEA DE ALTA VELOCIDAD MADRID-BARCELONA-FRONTERA FRANCESA. TRAMO: LLEIDA-MARTORELL

AUTOR: CARLOS FERNANDEZ CASADO, S.L.
D. LEONARDO FERNANDEZ TROYANO — D. CELSO IGLESIAS PEREZ

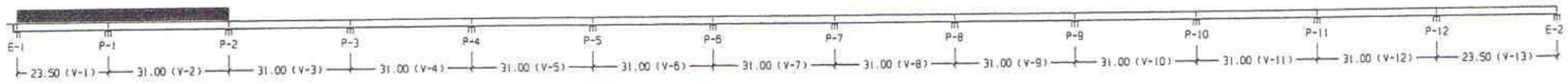
ESCALA NORMAL: 1: 100 Numerico — ORIGINAL UNE A-1 — Grafico

FECHA: SEPTIEMBRE 2001

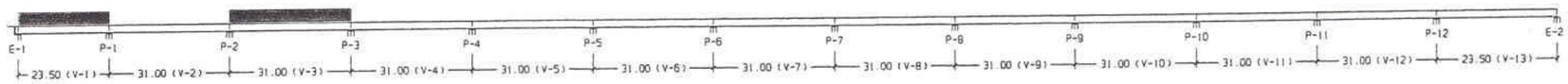
TITULO DEL PLANO: VIADUCTO RIERA FEMOSA
PRUEBA DE CARGA (I)
DEFINICION DE CAMIONES Y PUNTOS DE CONTROL

No DE PLANO: HOJA 1 DE 4

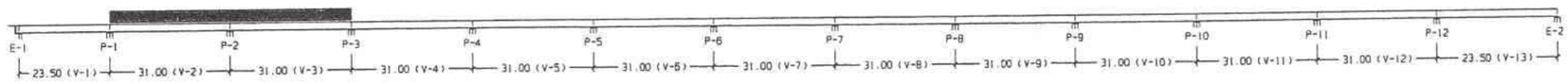
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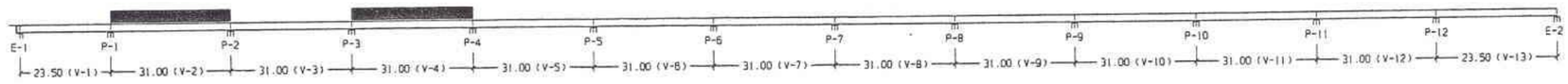
HIPOTESIS 01 . VANOS 1 Y 2



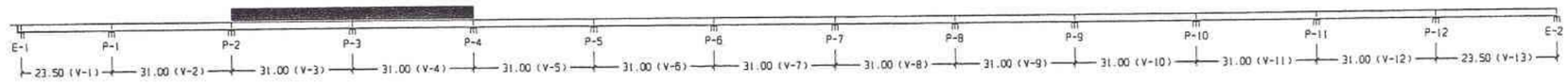
HIPOTESIS 02 . VANOS 1 Y 3



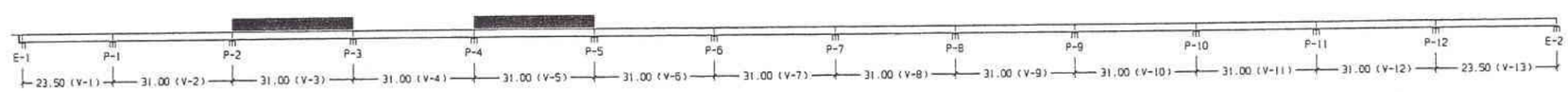
HIPOTESIS 03 . VANOS 2 Y 3



HIPOTESIS 04 . VANOS 2 Y 4



HIPOTESIS 05 . VANOS 3 Y 4



HIPOTESIS 06 . VANOS 3 Y 5



HIPOTESIS 07 . VANOS 4 Y 5



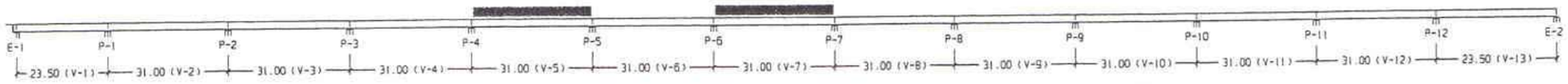
HIPOTESIS 08 . VANOS 4 Y 6



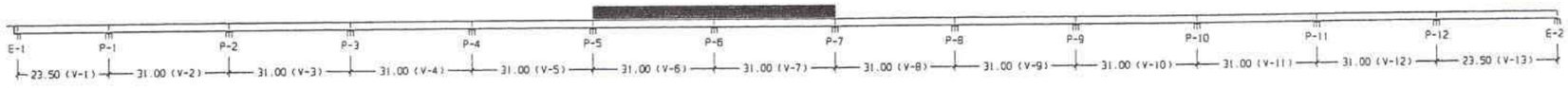
HIPOTESIS 09 . VANOS 5 Y 6

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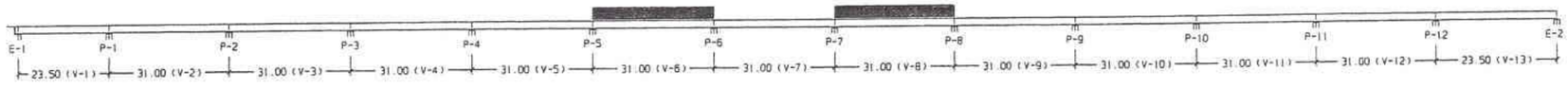
TITULO: PROYECTO CONSTRUCTIVO DE LA LINEA DE ALTA VELOCIDAD MADRID-BARCELONA-FRONTERA FRANCESA. TRAMO: LLEIDA-MARTORELL	AUTOR: CARLOS FERNANDEZ CASADO, S.L. D. LEONARDO FERNANDEZ TROYANO / D. CELSO IGLESIAS PEREZ	ESCALA NORMAL: Numerica / Grafica; ORIGINAL UNE A-1	FECHA: SEPTIEMBRE 2001	TITULO DEL PLANO: VIADUCTO RIERA FEMOSA. PRUEBA DE CARGA (2). TRAMO I . HIPOTESIS 01 A 09	No DE PLANO: HOJA 2 DE 4



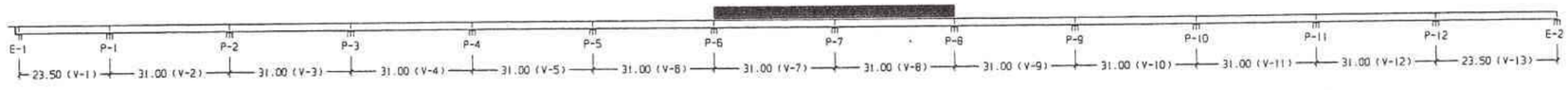
HIPOTESIS 10 . VANOS 5 Y 7



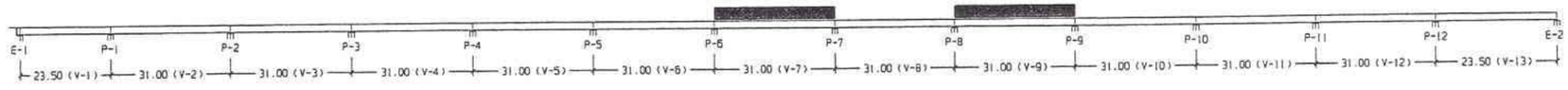
HIPOTESIS 11 . VANOS 6 Y 7



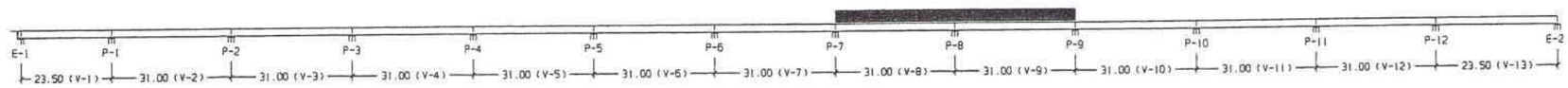
HIPOTESIS 12 . VANOS 6 Y 8



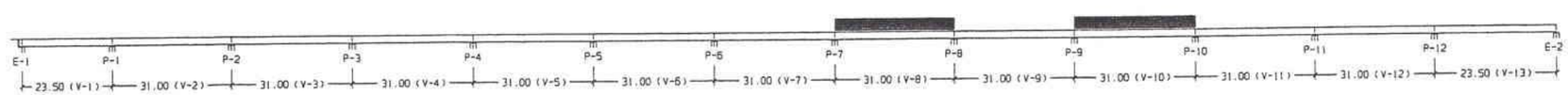
HIPOTESIS 13 . VANOS 7 Y 8



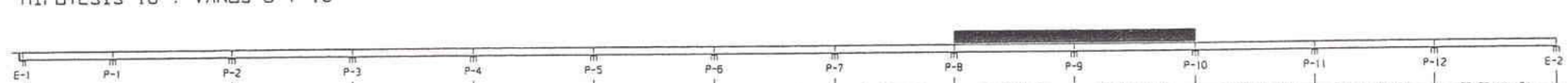
HIPOTESIS 14 . VANOS 7 Y 9



HIPOTESIS 15 . VANOS 8 Y 9



HIPOTESIS 16 . VANOS 8 Y 10



HIPOTESIS 17 . VANOS 9 Y 10



HIPOTESIS 18 . VANOS 9 Y 11

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AUTOR: CARLOS FERNANDEZ CASADO S.L.
D. LEONARDO FERNANDEZ TROYANO D. CELSO IGLESIAS PEREZ

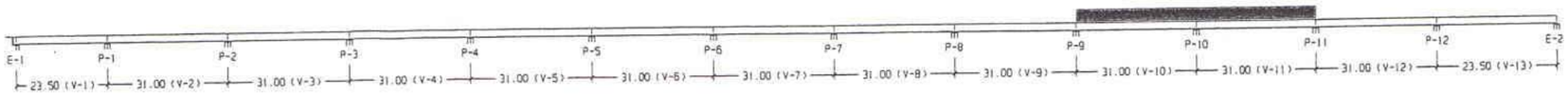
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Numerico Grafico

FECHA: SEPTIEMBRE 2001

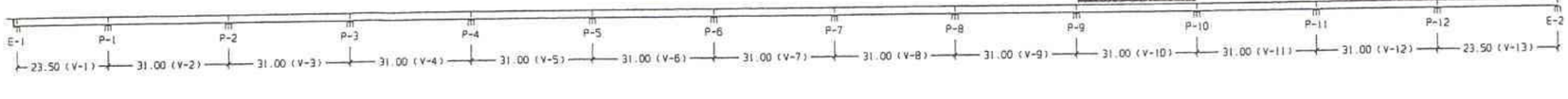
TITULO DEL PLANO: VIADUCTO RIERA FEMOSA
PRUEBA DE CARGA (3)
TRAMO I . HIPOTESIS 10 A 18

No DE PLANO
HOJA 3 DE 4

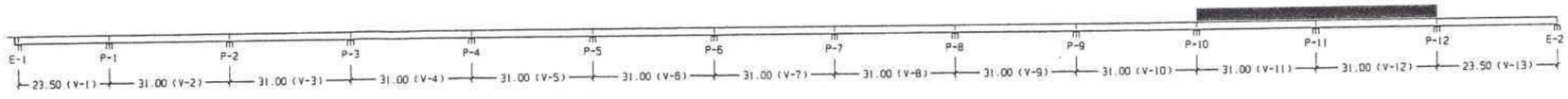
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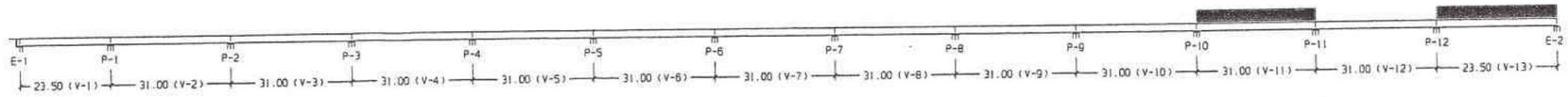
HIPOTESIS 19 . VANOS 10 Y 11



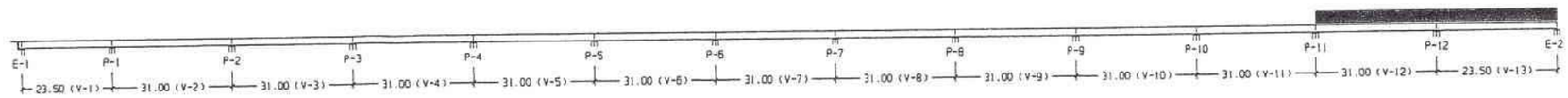
HIPOTESIS 20 . VANOS 10 Y 12



HIPOTESIS 21 . VANOS 11 Y 12



HIPOTESIS 22 . VANOS 11 Y 13



HIPOTESIS 23 . VANOS 12 Y 13

GIF Gestor de Infraestructuras Ferroviarias

TITULO
PROYECTO CONSTRUCTIVO DE LA LINEA DE ALTA VELOCIDAD MADRID-BARCELONA-FRONTERA FRANCESA.
TRAMO: LLEIDA-MARTORELL

AUTOR
CARLOS FERNANDEZ CASADO, S.L.
D. LEONARDO FERNANDEZ TROYANO D. CELSO IGLESIAS PEREZ

ESCALA NORMAL ORIGINAL UNE A-1
Numerica Grafica

FECHA
SEPTIEMBRE 2001

TITULO DEL PLANO VIADUCTO RIERA FEMOSA
PRUEBA DE CARGA (4)
TRAMO I . HIPOTESIS 19 A 23

No DE PLANO
HOJA 4 DE 4

PRUEBA DE CARGA DINÁMICA

PRUEBA DE CARGA DINAMICA.

La prueba de carga dinámica tiene por objeto la identificación de los parámetros de cálculo dinámico considerados en el cálculo que, de forma genérica, se puede concretar en la evaluación del periodo o frecuencia de vibración vertical cuyo modo fundamental tiene mayor repercusión en la amplificación dinámica ante el paso de la sobrecarga.

El cálculo de los modos de vibración en la situación final del puente (con vías y balasto) se ha realizado en el apartado correspondiente a la evaluación de la sobrecarga de uso para obtener el coeficiente de impacto.

Dado que es posible que se lleve a cabo la prueba de carga antes de instalar la vía, es decir, sin una parte significativa de la masa (balasto), se calculan los modos de vibración con y sin carga muerta para evaluar o identificar correctamente los PARAMETROS DINAMICOS.

Los resultados se resumen en el cuadro adjunto.

PIERA FELOSA

CON BALASTO

AUTOVALORES

N	AUTOVALOR	FRECUENCIA(HZ)	PERIODO(SEG.)
1	0.23080E+02	0.7646	1.30786
2	0.10306E+03	1.6157	0.61892
3	0.29255E+03	2.7222	0.36735
4	0.33177E+03	2.8989	0.34496
5	0.36307E+03	3.0326	0.32975
6	0.41397E+03	3.2382	0.30881
7	0.48538E+03	3.5064	0.28519
8	0.57644E+03	3.8212	0.26170
9	0.68234E+03	4.1574	0.24054
10	0.76649E+03	4.4063	0.22695
11	0.79631E+03	4.4912	0.22266
12	0.81016E+03	4.5301	0.22075
13	0.82136E+03	4.5613	0.21924
14	0.89545E+03	4.7626	0.20997
15	0.93774E+03	4.8737	0.20518
16	0.98865E+03	5.0043	0.19983
17	0.10638E+04	5.1910	0.19264
18	0.11145E+04	5.3132	0.18821
19	0.11456E+04	5.3869	0.18564
20	0.11866E+04	5.4823	0.18240
21	0.12433E+04	5.6118	0.17820
22	0.13450E+04	5.8369	0.17132
23	0.13552E+04	5.8589	0.17068
24	0.15122E+04	6.1890	0.16158
25	0.16137E+04	6.3933	0.15641
26	0.18076E+04	6.7667	0.14778
27	0.19821E+04	7.0856	0.14113
28	0.24231E+04	7.8344	0.12764
29	0.30060E+04	8.7261	0.11460
30	0.30907E+04	8.8481	0.11302
31	0.34781E+04	9.3863	0.10654
32	0.35032E+04	9.4200	0.10616
33	0.35387E+04	9.4676	0.10562
34	0.35653E+04	9.5032	0.10523
35	0.35751E+04	9.5162	0.10508
36	0.35981E+04	9.5467	0.10475
37	0.36261E+04	9.5839	0.10434
38	0.36588E+04	9.6270	0.10387
39	0.36959E+04	9.6756	0.10335
40	0.37058E+04	9.6886	0.10321
41	0.37505E+04	9.7469	0.10260
42	0.39037E+04	9.9439	0.10056
43	0.46358E+04	10.8364	0.09228
44	0.47378E+04	10.9550	0.09128
45	0.49400E+04	11.1862	0.08940

MASA TOTAL DE CALCULO DE LA ESTRUCTURA: 21944.6

PROPORCION DE MASA MOVILIZADA ACUMULADA
PARA CADA MODO Y DIRECCION EN ACCIONES SISMICAS

MODO	TANTO POR CIENTO PARA CADA DIRECCION		
1	0.0	3.3	0.0
2	57.6	3.3	0.0
3	57.6	3.3	4.3
4	57.6	3.3	4.3
5	57.6	3.3	4.3
6	57.6	3.3	4.3
7	57.6	3.3	4.3
8	57.6	3.3	4.3
9	57.7	3.3	4.3
10	57.7	3.3	31.1
11	58.1	3.4	31.1
12	58.1	3.4	31.1
13	58.1	3.4	35.8
14	60.1	3.5	35.8
15	60.1	3.5	44.3
16	61.3	3.6	44.3
17	61.3	3.6	50.1
18	61.7	4.8	50.1
19	61.7	4.9	50.1
20	61.7	4.9	58.1
21	61.8	4.9	58.1
22	61.8	29.5	58.1
23	61.8	29.5	58.4
24	61.8	44.9	58.4
25	61.8	44.9	61.1
26	62.1	50.9	61.1
27	62.1	50.9	61.1
28	62.1	50.9	62.2
29	62.1	50.9	62.2
30	63.9	51.7	62.2
31	63.9	51.7	65.3
32	63.9	51.7	65.5
33	63.9	51.7	66.4
34	63.9	51.7	67.3
35	63.9	51.7	67.4
36	63.9	51.7	68.3
37	63.9	51.7	68.5
38	63.9	51.7	68.7
39	63.9	51.7	68.7
40	63.9	51.7	68.8
41	63.9	51.7	68.9
42	63.9	51.7	69.2
43	63.9	51.7	69.2
44	63.9	51.7	69.2
45	63.9	51.7	69.2

RIERA FEMOSA

SIN BALASTO

AUTOVALORES

N	AUTOVALOR	FRECUENCIA(HZ)	PERIODO(SEG.)
1	0.32852E+02	0.9122	1.09622
2	0.16392E+03	2.0377	0.49076
3	0.42005E+03	3.2619	0.30657
4	0.52882E+03	3.6599	0.27323
5	0.57843E+03	3.8278	0.26125
6	0.66087E+03	4.0914	0.24441
7	0.77512E+03	4.4310	0.22568
8	0.81350E+03	4.5394	0.22029
9	0.91983E+03	4.8270	0.20717
10	0.10906E+04	5.2561	0.19026
11	0.11257E+04	5.3400	0.18727
12	0.12092E+04	5.5344	0.18069
13	0.12753E+04	5.6837	0.17594
14	0.13827E+04	5.9180	0.16898
15	0.14333E+04	6.0254	0.16596
16	0.15534E+04	6.2729	0.15942
17	0.15820E+04	6.3302	0.15797
18	0.17304E+04	6.6205	0.15105
19	0.17626E+04	6.6819	0.14966
20	0.17845E+04	6.7233	0.14874
21	0.19839E+04	7.0888	0.14107
22	0.19927E+04	7.1047	0.14075
23	0.21528E+04	7.3845	0.13542
24	0.23555E+04	7.7243	0.12946
25	0.25899E+04	8.0995	0.12346
26	0.28439E+04	8.4874	0.11782
27	0.29061E+04	8.5798	0.11655
28	0.33341E+04	9.1898	0.10882
29	0.36041E+04	9.5547	0.10466
30	0.36643E+04	9.6342	0.10380
31	0.36881E+04	9.6655	0.10346
32	0.36936E+04	9.6726	0.10339
33	0.37183E+04	9.7049	0.10304
34	0.37515E+04	9.7482	0.10258
35	0.37870E+04	9.7942	0.10210
36	0.38440E+04	9.8676	0.10134
37	0.39029E+04	9.9429	0.10057
38	0.39671E+04	10.0244	0.09976
39	0.41626E+04	10.2683	0.09739
40	0.47677E+04	10.9894	0.09100
41	0.49219E+04	11.1657	0.08956
42	0.56062E+04	11.9166	0.08392
43	0.62866E+04	12.6190	0.07925
44	0.67851E+04	13.1098	0.07628
45	0.74931E+04	13.7769	0.07259

MASA TOTAL DE CALCULO DE LA ESTRUCTURA: 15985.3

PROPORCION DE MASA MOVILIZADA ACUMULADA
PARA CADA MODO Y DIRECCION EN ACCIONES SISMICAS

MODO	TANTO POR CIENTO PARA CADA DIRECCION		
1	0.0	3.0	0.0
2	50.1	3.0	0.0
3	50.1	3.0	3.9
4	50.1	3.0	3.9
5	50.1	3.0	3.9
6	50.1	3.0	3.9
7	50.1	3.0	3.9
8	50.1	3.0	3.9
9	50.1	3.1	3.9
10	50.2	3.1	3.9
11	50.2	3.1	27.1
12	50.2	3.1	28.8
13	50.7	3.2	28.8
14	50.7	3.2	36.6
15	52.4	3.4	36.6
16	52.4	3.4	41.0
17	53.5	3.4	41.0
18	53.5	3.4	46.2
19	53.5	3.5	46.2
20	53.8	4.9	46.2
21	53.8	4.9	46.4
22	53.9	4.9	46.4
23	53.9	29.5	46.4
24	53.9	29.5	47.9
25	53.9	39.2	47.9
26	53.9	39.2	47.9
27	54.1	44.3	47.9
28	54.1	44.3	48.4
29	54.1	44.3	48.4
30	54.1	44.3	51.4
31	54.1	44.3	52.9
32	54.1	44.3	53.1
33	54.1	44.3	54.0
34	54.1	44.3	54.0
35	54.1	44.3	55.3
36	54.1	44.3	56.7
37	54.1	44.3	58.8
38	54.1	44.3	59.9
39	54.1	44.3	60.4
40	54.1	44.3	60.4
41	55.8	44.9	60.4
42	55.8	44.9	60.4
43	55.8	44.9	60.4
44	55.8	44.9	61.5
45	55.8	44.9	61.5

VIADUCTO RIERA FEMOSA

MODO	PUENTE CON BALASTO			PUENTE SIN BALASTO		
	Nº MODO	% MASA	FRECUENCIA (Hz)	Nº MODO	% MASA	FRECUENCIA (Hz)
1	22	29,5	5,84	23	29,5	7,38
2	24	44,9	6,19	25	39,2	8,10
3	26	50,9	6,77	27	44,3	8,49
4	30	51,7	8,85	41	44,9	11,17

Los ingenieros autores del Proyecto

Leonardo Fernández Troyano

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Lucía Fernández Muñoz

Guillermo Ayuso Calle