POBLET B21047

GSA DATA REPOSITORY 980

FIGURE CAPTIONS

Figure DP1. Graphs showing the Mediano anticline uplift, interlimb angle, axial-plane dip, shortening, backlimb length/forelimb length, limb dips, limb lengths and area of the fold core versus distance between cross sections in Figure 5 measured along the fold axis. Data used to construct the graphs are in GSA Data Repository Table 2.

Figure DP2. Graphs showing the variation of uplift, limb dip, limb length, axial-plane dip, and interlimb angle versus shortening. Data used to construct these graphs are in GSA Data Repository Table 2.

Figure DP3. Graphs showing the uplift, variation of limb length, slip, area of the fold core, limb dip, interlimb angle, and axial-plane dip versus time for the Mediano anticline. Data plotted are in GSA Data Repository Table 4.

TABLE CAPTIONS

Table DP1. Input parameters for decompaction of growth strata. COM= thickness of compacted beds, DEC= thickness of

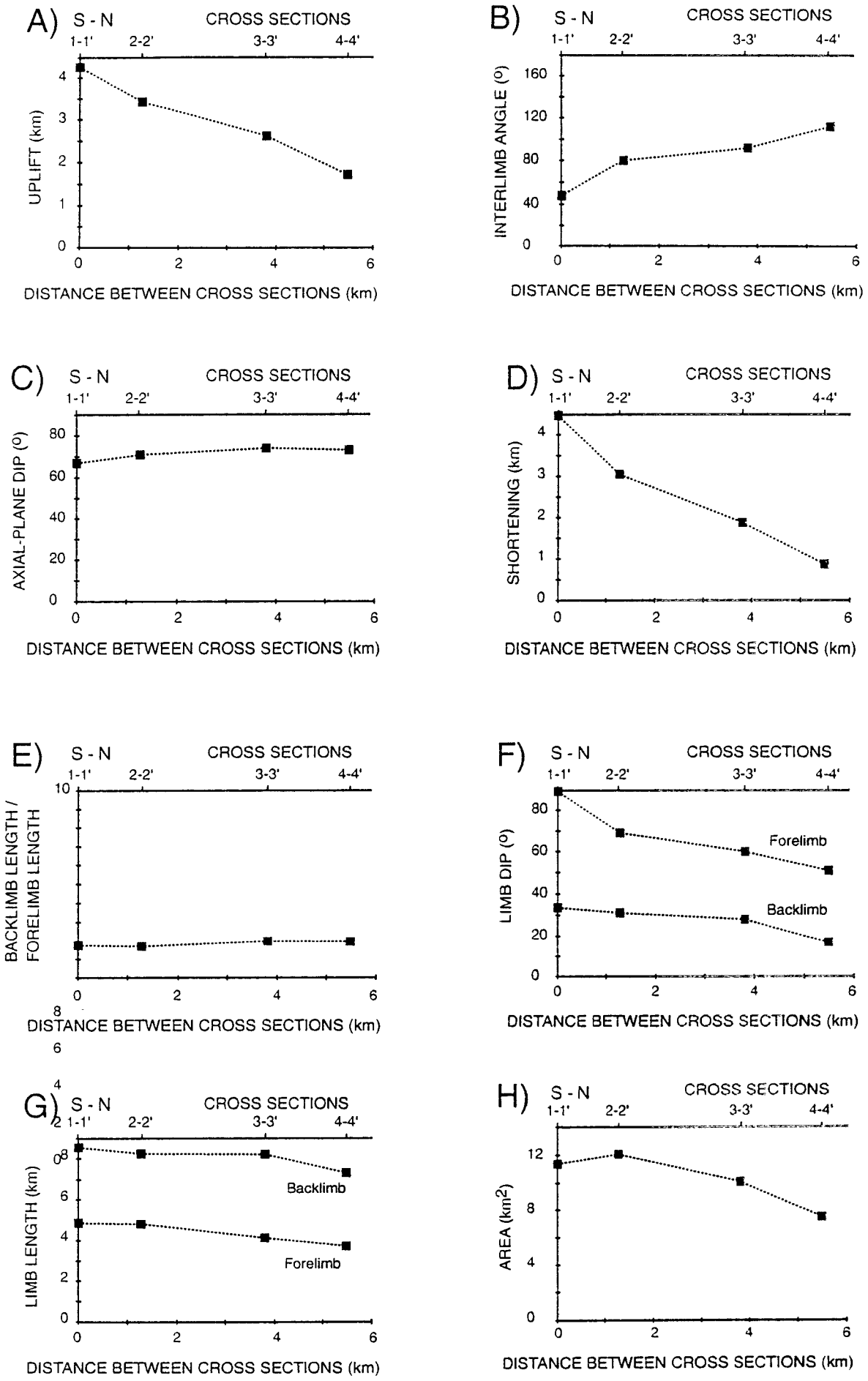
decompacted beds, LIT= lithology, U.= upper, and L.= lower. The compacted thickness of the units has been estimated from the stratigraphic sections in Figure 6. Thickness in km.

Table DP2. Geometric parameters used to display the geometry of the Mediano anticline estimated from the cross sections in Figure 5. SECT= cross section in Figure 5, DIST= distance to cross section 1–1', PRE L= prefolding fold length, WIDTH= fold width, DEPTH= estimated depth to detachment, F DIP= forelimb dip, B DIP= backlimb dip, F LEN= forelimb length, B LEN= backlimb length, BL/FL= ratio of backlimb length to forelimb length, INTER= interlimb angle, and A DIP= axial-plane dip. Distances, lengths, shortening, depth and uplift in m, area in m^2, and angles and dips in degrees.

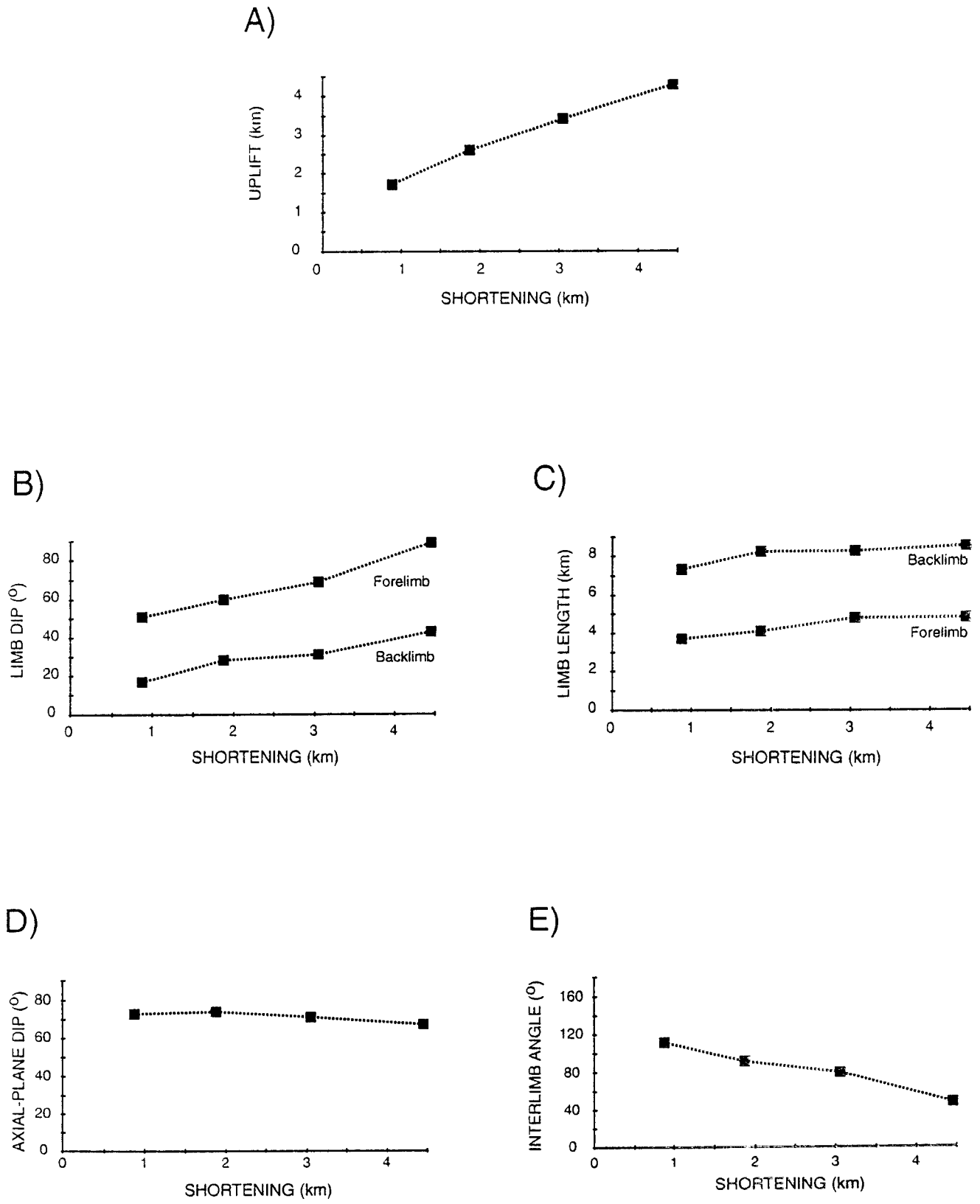
Table DP3. Ages and thickness of growth strata, and values of uplift calculated for the Mediano anticline. t= unit thickness, T= cumulative unit thickness, BAS= basin, HIN= hinge, UPL= uplift, U.= upper, and L.= lower. The compacted thickness of the units has been estimated from the stratigraphic sections in Figure 6. The decompacted thickness of the units are in Table 1. Ages in Ma, thicknesses and uplift in m.

Table DP4. Geometric parameters used to model the Mediano anticline evolution. W U= uplift of the west limb, E U= uplift of the east limb, AV U= average uplift, U + ER= uplift plus thickness of eroded crest, F LENGTH= forelimb length, F DIP=

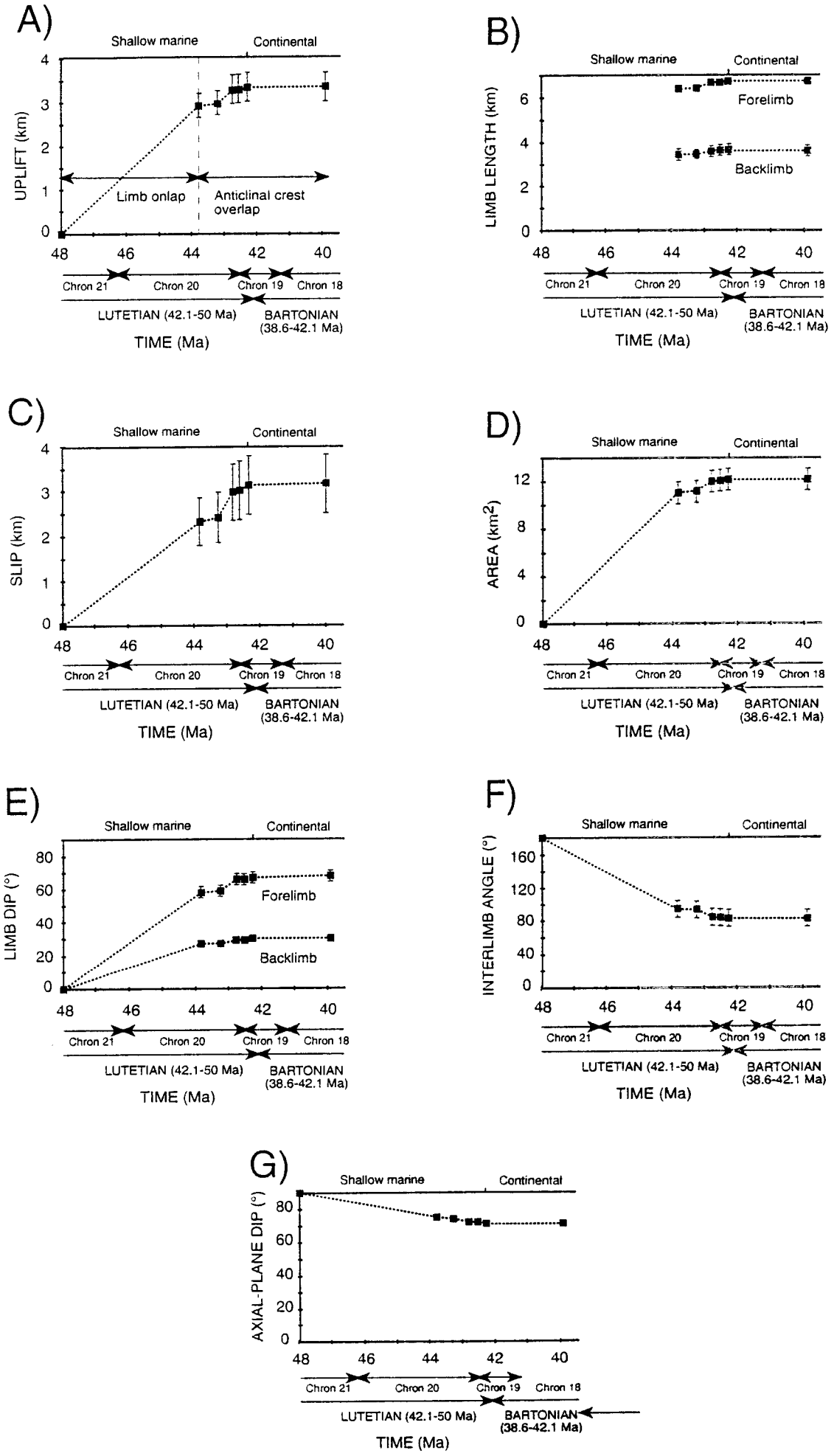
forelimb dip, B LENGTH= backlimb length, B DIP= backlimb dip, INTER= interlimb angle, A DIP= dip of the axial plane, U.= upper, and L.= lower. The uplift of the west and east limb are in Table 3. Ages in Ma, uplift, limb lengths and slip in m, angles and dips in degrees, and areas in m^2.



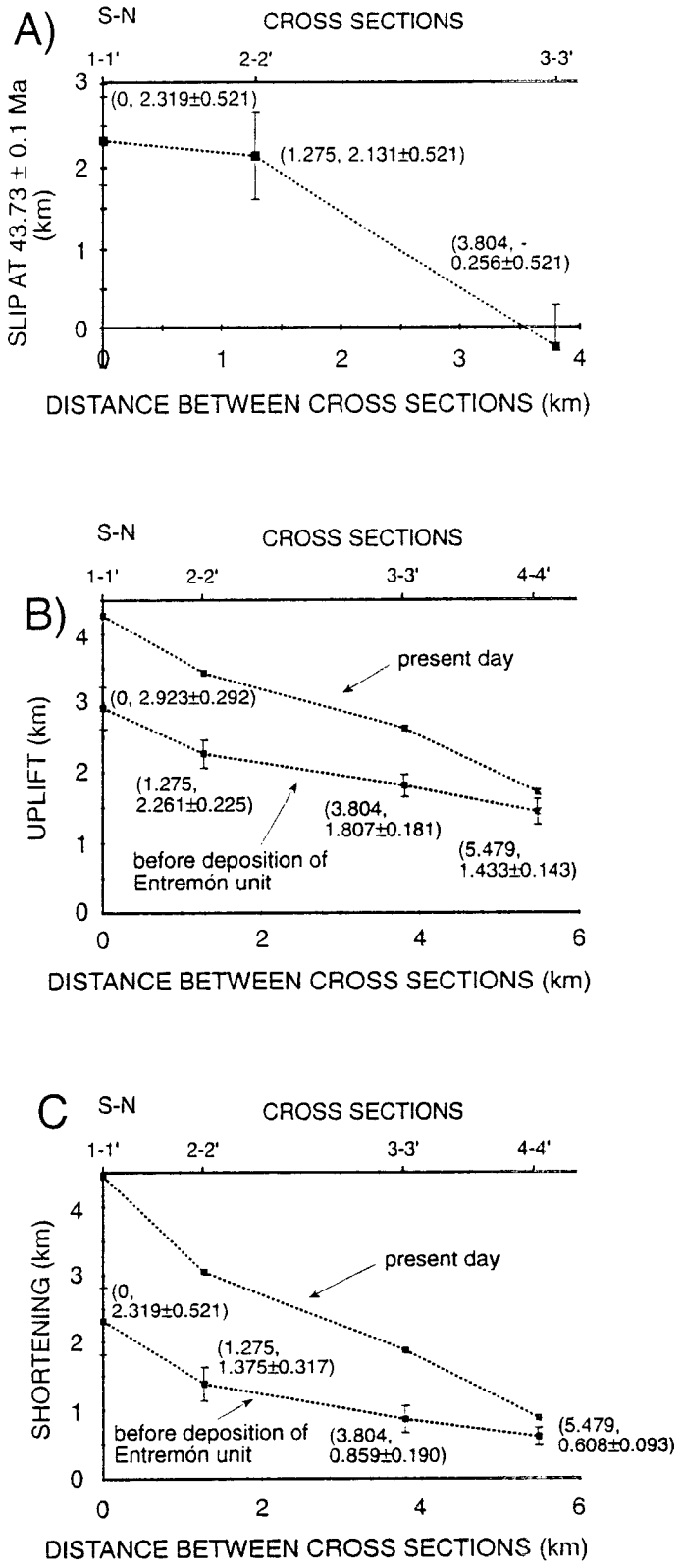
Poblet et al. GSA Data Repository Fig. 1



Poblet et al. GSA Data Repository Fig. 2



Poblet et al. GSA Data Repository Fig. 3



Poblet et al. GSA Data Repository Fig. 4

	WEST			LIMB			EAST			LIMB		
	BASIN			HINGE			BASIN			HINGE		
	COM	DEC	LIT	COM	DEC	LIT	COM	DEC	LIT	COM	DEC	LIT
U. Escanilla+Graus	750	750	ss	750	750	ss	950	950	ss	100	100	ss
U. Pardina+L. Escanilla	479	525	ss	459	511	ss						
Lower Pardina	80	122	sh-ss	53	80	sh-ss	75	107	sh-ss	40	42	sh-ss
Mesón de Ligüerre	81	125	sh-ss	80	122	sh-ss	72	106	sh-ss	71	77	sh-ss
Camporrotuno	374	591	sh	110	188	sh	137	221	sh	9	11	sh
Entremón+Coscojuela	102	184	sh	87	140	ls	79	133	sh	56	67	sh
Samitier	334	555	sh				358	559	sh			
Mediano	106	197	sh				284	475	sh			

	SHALE	SANDSTONE	SHALE-SAND	LIMESTONE
IDENTITY	sh	ss	sh-ss	ls
C (km-1)	1.009	0.27	0.6395	0.7
DENSITY (g/cm3)	2.6	2.65	2.625	2.71
SURFACE POROSITY (%)	51.5	49	50.25	50

SECT	DIST	PRE L	WIDTH	SLIP	AREA	DEPTH	UPLIFT	F DIP	B DIP	F LEN	B LEN	B L/F L	INTER	A DIP
1-1'	0	13400	8950	4450	11375000	2556	4270	89	33	4850	8550	1.76	48	67
2-2'	1275	13050	10000	3050	12083000	3961	3430	69	31	4800	8250	1.71	80	71
3-3'	3804	12325	10450	1875	10085000	5378	2620	60	28	4112	8213	1.99	92	74
4-4'	5479	11025	10150	875	7468000	8535	1710	51	17	3712	7313	1.97	112	73

UNDECOMPACTED BEDS													
WEST LIMB							EAST LIMB						
UNITS	AGE	t BAS	T BAS	t HIN	T HIN	UPL	UNITS	AGE	t BAS	T BAS	t HIN	T HIN	UPL
U. Pardina-L. Escanilla	39.85±0.1	479	1556	459	789	767							
Lower Pardina	42.24±0.1	80	1077	53	330	747	Lower Pardina	42.24±0.1	75	1005	40	176	829
Mesón de Ligüerre	42.57±0.1	81	997	80	277	720	Mesón de Ligüerre	42.57±0.1	72	930	71	136	794
Camporrotuno	42.76±0.1	374	916	110	197	719	Camporrotuno	42.76±0.1	137	858	9	65	793
Entremón+Coscojuela	43.21±0.1	102	542	87	87	455	Entremón+Coscojuela	43.21±0.1	79	721	56	56	665
Mediano+Samitier	43.73±0.1	440	440	0	0	440	Mediano+Samitier	43.73±0.1	642	642	0	0	642
Pregrowth	47.90±0.1	0	0	0	0	0	Pregrowth	47.90±0.1	0	0	0	0	0

DECOMPACTED BEDS													
WEST LIMB							EAST LIMB						
UNITS	AGE	t BAS	T BAS	t HIN	T HIN	UPL	UNITS	AGE	t BAS	T BAS	t HIN	T HIN	UPL
U. Pardina-L. Escanilla	39.85±0.1	525	2299	511	1041	1258							
Lower Pardina	42.24±0.1	122	1774	80	530	1244	Lower Pardina	42.24±0.1	107	1601	42	197	1404
Mesón de Ligüerre	42.57±0.1	125	1652	122	450	1202	Mesón de Ligüerre	42.57±0.1	106	1494	77	155	1339
Camporrotuno	42.76±0.1	591	1527	188	328	1199	Camporrotuno	42.76±0.1	221	1388	11	78	1310
Entremón+Coscojuela	43.21±0.1	184	936	140	140	796	Entremón+Coscojuela	43.21±0.1	133	1167	67	67	1100
Mediano+Samitier	43.73±0.1	752	752	0	0	752	Mediano+Samitier	43.73±0.1	1034	1034	0	0	1034
Pregrowth	47.90±0.1	0	0	0	0	0	Pregrowth	47.90±0.1	0	0	0	0	0

DECOMPACTED BEDS													
UNITS	AGE	W U	E U	AV U	U+ER	F LENGTH	F DIP	B LENGTH	B DIP	SLIP	INTER	A DIP	AREA
U. Pardina-L. Escanilla	39.85±0.1	1258		1338	3368±337	3636±138	68±8	6754±255	30±2	3165±664	82±10	71±3	12167851±807019
Lower Pardina	42.24±0.1	1244	1404	1324	3354±335	3631±138	67±8	6745±257	30±2	3133±652	83±10	71±3	12146304±825212
Mesón de Ligüerre	42.57±0.1	1202	1339	1271	3301±330	3706±232	66±7	6706±254	29±2	3017±797	84±9	72±3	12045853±866286
Camporrotuno	42.76±0.1	1199	1310	1255	3285±328	3604±136	66±7	6694±253	29±2	2984±608	85±9	72±3	12013139±876347
Entremón+Coscojuela	43.21±0.1	796	1100	948	2978±298	3476±125	59±7	6456±232	27±2	2411±553	94±8	74±2	11197252±800085
Mediano+Samitier	43.73±0.1	752	1034	893	2923±292	3453±123	58±6	6414±278	27±2	2319±521	95±9	75±2	11031734±826964
Pregrowth	47.90±0.1	0	0	0	0	-	0	-	0	0	180	90	0