**Oceanward rift migration during formation of Santos-Benguela ultra-wide rifted margin.**

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**Surface processes**

Sedimentation, erosion, and deposition are triggered by topographic changes induced by tectonic deformation, seal level changes or a combination of them. Sediment transport demands loose of rock mass cohesion through erosion and weathering. Here, we assume that sediment is always available at the surface of the model and, consequently, that sediment transport dominates landscape evolution. We can therefore write that the change in surface elevation rate due to surface processes is equal to the divergence of the sediment flux, assuming there is no density difference between the bedrock and sediment and ignoring the effects of compaction. In 1-D this becomes

𝜕h/𝜕t = −𝜕qs/𝜕x ,

where h is the topography, t is time, qs represents the sediment flux, and x is the horizontal coordinate (Culling, 1960; Smith & Bretherton, 1972). This implies that the temporal topographic variation for an element depends only on the difference between the input and output sediment fluxes for an element and, consequently, that landscape evolution is a function of spatial variations in sediment transport. This approximation is known as a transport-limited model (Dietrich et al., 2003; Howard, 1994; Kirkby, 1971; Kirkby & Carson, 1972). We chose this approach for our landscape evolution model since it allows for sedimentation to occur. In the subaerial environment, it is possible to define the sediment transport flux qs in terms of the water flux qw as

qs = −(K + cqn w) 𝜕h/𝜕x ,

where K is the slope diffusivity, c is the transport coefficient, and n ≥ 1 is the power law that defines the type of relationship between the sediment transport and the water flux (Simpson & Schlunegger, 2003; Smith & Bretherton, 1972). This model accounts for hillslope diffusion processes where the topography will tend to a dispersive diffusion (Culling, 1960) and fluvial transport processes that result in concentrative diffusion due to water run off (Graf, 1984). For a simple parameterization we choose a linear relationship between sediment transport and water flux (n = 1). The water flux can be related to the water discharge/effective rainfall 𝛼 as

 𝜕/𝜕x (nqw)=−𝛼

where n is an unit vector directed down the surface gradient (Smith & Bretherton, 1972). By assuming a constant 𝛼 and integrating equation (12) over the surface in the downstream direction, we obtain

qw = 𝛼xd,

where xd is the downstream distance from the drainage divide. By substituting equations (11) and (13) into (10) we obtain the 1-D sediment mass conservation equation for combined hillslope and discharge-dependent fluvial transport:

𝜕h/𝜕t = 𝜕/𝜕x ( (K + k𝛼xd) 𝜕h/𝜕x ) ,

where the downstream distance xd is calculated at each time step as the distance from the topographic highs to the valley floors. Because qw is dependent on the length of the drainage, the model mimics 1-D landscapes similar to river profiles in which fluvial processes are dominant.

In the submarine environment, sediment transport occurs in shallow waters due to the motion of waves and the tide. The intensity of these processes decreases with increasing water depth. This behavior can be reproduced by defining the sediment diffusivity as an exponentially decaying function of water depth (Kaufman et al., 1991):

𝜕h/𝜕t = 𝜕/𝜕x ( Kse(−𝜆shw) 𝜕h/𝜕x )

where Ks is the submarine diffusion coefficient, 𝜆s is the submarine diffusion decay coefficient, and hw is the water depth (the difference between sea level and the submarine topography).

We calculate the sea level with respect to the top reference surface of models by an isostatic balance, comparing to sea level for a 40-km-thick crust, which is a reasonable crustal thickness for continents with topography near sea level. Note that the initial top of our model is at 0 km, implying that sea level is below the model's 0-km reference topography.

With respect to thehemipelagic sedimentation associated to the landscape evolution model, we followed the developments of Pérez-Gussinyé et al. 2020, that express the hemipelagic sedimentation by applying applied a source term on the sea:

$$\frac{∂h}{∂t}= \frac{∂}{∂x} \left(K\_{s}e^{(-λ\_{s}h\_{w})}\frac{∂h}{∂x}\right)+S$$

where *h* is the topography, *t* is the time, *x* the horizontal distance, *Ks* is the submarine diffusion coefficient, $λ$s is the submarine diffusion decay coefficient, *hw* is the water depth (the difference between sea level and the submarine topography), and *S* is the hemipelagic source term.

|  |
| --- |
| Thermomechanical parameters |
| Variable [unit] | Wet QuartziteUpper/Lower crust | Weakened Wet QuartziteMiddle crust | Lithospheric mantle | Asthenospheric mantle |
| Dislocation pre-exponential factor log(*Bdis*) [Pa-n s-1]  | -28.0 | -27.0 | -15.96 | -15.81 |
| Dislocation exponent *ndis* | 4.0 | 4.0 | 3.5 | 3.5 |
| Dislocation activation energy *Edis*[kJ/mol] | 223 | 223 | 530 | 480 |
| Dislocation activation volume *Vdis* [10-6 m3/mol] | - | - | 13 | 10 |
| Diffusion pre-exponential factor log(*Bdif*) [Pa-n s-1]  | - | - | -8.16 | -8.64 |
| Diffusion exponent *ndif* | - | - | 1 | 1 |
| Diffusion activation energy *Edif*[kJ/mol] | - | - | 375 | 335 |
| Diffusion activation volume *Vdif* [10-6 m3/mol] | - | - | 6 | 4 |
| Shear Modulus $μ$ [GPa]  | (upper crust) 36(lower crust) 40 | 36 | 74 | 74 |
| Thermal conductivity K [Wm-1 K-1] | 2.5 | 2.5 | 3.3 | 3.3 |
| Heat capacity *CP* [J kg -1 K-1] | 1200 | 1200 | 1200 | 1200 |
| Radiogenic heat production *Hr* [uWm-3] | 1.2 | 1.2 | 0 | 0 |
| Bulk density $ρ$ [kg m-3] | 2700 | 2700 | 3300 | 3300 |
| Thermal expansivity coefficient $α$ [10-5 K-1] | 2.5 | 2.5 | 3.3 | 3.3 |
| Cohesion (MPa) | (faults/lower crust) 10(strengthened upper crust) 150 | 10 | 10 | 10 |
| Friction angle (o) | 30 | 30 | 30 | 30 |

Table S1. Thermomechanical parameters of the material phases. Rheological parameters from Wilks and Carter (1990), Gleason and Tullis (1995), and Hirth and Kohlstedt (2003).

Table S2. Parameters of the surface processes.

|  |  |
| --- | --- |
| Subaerial hillslope diffusion $K$ $[m^{2} year^{-1}]$ | 0.25 |
| Subaerial discharge transport coefficient $c$ | 10-3 |
| Pelagic sedimentation rate $pe$ $[m^{2} year^{-1}]$ | 10-5 |
| Precipitation rate $α$ $[m year^{-1}]$ | 1 |
| Submarine diffusion coefficient $K\_{s}$ $[m^{2} year^{-1}]$ | 102 |
| Submarine diffusion coefficient decay $λ\_{s}$ $[m^{-1}]$ | 10-3 |

Table S3. Faulting scenario of the model. Note, that, faults deactivated when they reach slip limit or time limit.

|  |
| --- |
| Faulting Phase – 1 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 206 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 220 | 3 | -60 | 10.00 | 0.0 | 1.00 |
| 240 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 245 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 250 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 254 | 3 | -60 | 10.00 | 0.0 | 1.00 |
| 274 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 278 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 282 | 3 | -60 | 10.00 | 0.0 | 1.00 |
| 303 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 308 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 312 | 3 | -60 | 10.00 | 0.0 | 1.00 |
| 333 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 338 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 342 | 3 | -60 | 10.00 | 0.0 | 1.00 |
| 362 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 368 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 384 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 390 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| Faulting Phase – 2 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 210 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 230 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 235 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 240 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 245 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 249 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 272 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 276 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 280 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 300 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 305 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 310 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 330 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 335 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 340 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 345 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 365 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 370 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 375 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 380 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 385 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 390 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| 395 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 400 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| Faulting Phase – 3 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 202 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 210 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 232 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 237 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 242 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 246 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 266 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 270 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 272 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 276 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 295 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 300 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 305 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 310 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 330 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 335 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 340 | 1 | 60 | 10.00 | 0.0 | 1.00 |
| 345 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 350 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 355 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 384 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| 390 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| Faulting Phase – 4 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 195 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 205 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 231 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| 239 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| 245 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 250 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 255 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 260 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 265 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 270 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 275 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 280 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 290 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 295 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 300 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 305 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 310 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 315 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 320 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 325 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 330 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 335 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 340 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 345 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 350 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 355 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 360 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 365 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 370 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 390 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| 395 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| Faulting Phase – 5 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 183 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 195 | 2 | -60 | 10.00 | 0.0 | 1.00 |
| 232 | 3 | 60 | 10.00 | 0.0 | 1.00 |
| 240 | 3 | 60 | 10.00 | 0.0 | 1.00 |
| 245 | 3 | -60 | 10.00 | 0.0 | 1.00 |
| 250 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 255 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 260 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 265 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 275 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 280 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 285 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 290 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 295 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 300 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 305 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 310 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 320 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 325 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 330 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 335 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 340 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 345 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 350 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 360 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 365 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 370 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 375 | 1 | -60 | 10.00 | 0.0 | 1.00 |
| 403 | 2 | 60 | 10.00 | 0.0 | 1.00 |
| Faulting Phase – 6 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 182 | 2 | -60 | 10.00 | 0.0 | 1.50 |
| 203 | 3 | 60 | 10.00 | 0.0 | 1.50 |
| 222 | 3 | 60 | 10.00 | 0.0 | 1.50 |
| 228 | 3 | 60 | 10.00 | 0.0 | 1.50 |
| 236 | 3 | 60 | 10.00 | 0.0 | 1.50 |
| 240 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 245 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 250 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 270 | 2 | 60 | 10.00 | 0.0 | 1.50 |
| 275 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 280 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 285 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 305 | 2 | 60 | 10.00 | 0.0 | 1.50 |
| 310 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 315 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 320 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 325 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 330 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 350 | 2 | 60 | 10.00 | 0.0 | 1.50 |
| 355 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 360 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 365 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 370 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 375 | 1 | -60 | 10.00 | 0.0 | 1.50 |
| 398 | 2 | 60 | 10.00 | 0.0 | 1.50 |
| Faulting Phase – 7 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 228 | 4 | 50 | 11.00 | 0.0 | 2.00 |
| 239 | 4 | 50 | 11.00 | 0.0 | 2.00 |
| 245 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 250 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 255 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 260 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 265 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 270 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 275 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 280 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 285 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 290 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 295 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 300 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 305 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 310 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 315 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 320 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 325 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 330 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 335 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 340 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 345 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 350 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 355 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 360 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 365 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 370 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 375 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 380 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 385 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 390 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| 395 | 1 | -60 | 11.00 | 0.0 | 2.00 |
| Faulting Phase – 8 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 215 | 4 | 50 | 12.00 | 0.0 | 1.50 |
| 230 | 4 | 50 | 12.00 | 0.0 | 1.50 |
| 235 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 240 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 245 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 250 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 255 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 260 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 265 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 270 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 280 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 285 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 290 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 295 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| 300 | 1 | 55 | 12.00 | 0.0 | 1.50 |
| Faulting Phase – 9 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 192 | 4 | 50 | 12.00 | 0.0 | 1.50 |
| 200 | 4 | 50 | 12.00 | 0.0 | 1.00 |
| 205 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 210 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 215 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 220 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 225 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 230 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 235 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 240 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 245 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 250 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 255 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 260 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 265 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 270 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 275 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 280 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 285 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 290 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 295 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 300 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 305 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 310 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 315 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 320 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 325 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 330 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 335 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 340 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 345 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 350 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 355 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 360 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 365 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 370 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 375 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| 380 | 1 | -60 | 12.00 | 0.0 | 1.00 |
| Faulting Phase - 10 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 197 | 4 | 50 | 12.00 | 0.0 | 1.50 |
| Faulting Phase - 11 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 199 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 205 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 210 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 215 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 220 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 225 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 230 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 235 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 240 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 245 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 270 | 1 | 60 | 12.00 | 0.0 | 1.50 |
| 275 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 280 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 285 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 290 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 295 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 300 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 325 | 1 | 60 | 12.00 | 0.0 | 1.50 |
| 330 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 335 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 340 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 345 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 370 | 1 | 60 | 12.00 | 0.0 | 1.50 |
| 375 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 380 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 385 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 390 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 400 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 405 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 410 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 415 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 420 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| 425 | 1 | -55 | 12.00 | 0.0 | 1.50 |
| Faulting Phase - 12 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 183 | 4 | 50 | 12.00 | 0.0 | 1.5 |
| Faulting Phase - 13 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 178 | 3 | 40 | 12.00 | 0.0 | 1.50 |
| Faulting Phase - 14 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 171 | 4 | 40 | 12.00 | 0.0 | 1.50 |
| Faulting Phase - 15 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 190 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 195 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 200 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 205 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 230 | 1 | 60 | 12.00 | 0.0 | 1.50 |
| 235 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 240 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 245 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 250 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 275 | 1 | 60 | 12.00 | 0.0 | 1.50 |
| 280 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 285 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 290 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 295 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 300 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 325 | 1 | 60 | 12.00 | 0.0 | 1.50 |
| 330 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 335 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 340 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 345 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 350 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 380 | 1 | 60 | 12.00 | 0.0 | 1.50 |
| 385 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 390 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 395 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 420 | 1 | 60 | 12.00 | 0.0 | 1.50 |
| 425 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 430 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 435 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 440 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 445 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 450 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 455 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| 460 | 1 | -50 | 12.00 | 0.0 | 1.50 |
| Faulting Phase - 16 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 175 | 2 | -55 | 14.00 | 0.0 | 1.00 |
| 200 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 205 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 210 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 215 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 220 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 225 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 230 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 235 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 240 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 265 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 270 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 275 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 285 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 290 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 295 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 300 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 315 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 320 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 325 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 330 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 335 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 340 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 345 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 350 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 375 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 380 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 385 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| 390 | 1 | -55 | 14.00 | 0.0 | 1.00 |
| Faulting Phase - 17 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 181 | 2 | -55 | 15.00 | 0.0 | 1.00 |
| 185 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 190 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 195 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 200 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 220 | 2 | -55 | 15.00 | 0.0 | 1.00 |
| 225 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 230 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 240 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 265 | 2 | -55 | 15.00 | 0.0 | 1.00 |
| 270 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 275 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 280 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 285 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 290 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 315 | 2 | -55 | 15.00 | 0.0 | 1.00 |
| 320 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 325 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 330 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 335 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 340 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 375 | 2 | -55 | 15.00 | 0.0 | 1.00 |
| 380 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 385 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 390 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| Faulting Phase - 18 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 180 | 3 | -55 | 15.00 | 0.0 | 1.00 |
| 185 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 190 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 195 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 200 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 205 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 210 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 215 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 220 | 3 | -55 | 15.00 | 0.0 | 1.00 |
| 225 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 230 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 235 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 240 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 245 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 250 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 255 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 265 | 3 | -55 | 15.00 | 0.0 | 1.00 |
| 270 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 275 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 280 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 290 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 295 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 300 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 305 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 310 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 315 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 320 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 325 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 335 | 3 | -55 | 15.00 | 0.0 | 1.00 |
| 340 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 345 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 350 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 355 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 360 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 365 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 370 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 375 | 3 | -55 | 15.00 | 0.0 | 1.00 |
| 380 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| 390 | 1 | -55 | 15.00 | 0.0 | 1.00 |
| Faulting Phase - 19 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 170 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 175 | 2 | -55 | 16.00 | 0.0 | 1.00 |
| 180 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 185 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 200 | 3 | -55 | 16.00 | 0.0 | 1.00 |
| 205 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 210 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 215 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 220 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 225 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 251 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 255 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 260 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 265 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 270 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 275 | 3 | -55 | 16.00 | 0.0 | 1.00 |
| 305 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 310 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 315 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 320 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 325 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 330 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 335 | 3 | -55 | 16.00 | 0.0 | 1.00 |
| 365 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 370 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 375 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 379 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| 383 | 1 | -55 | 16.00 | 0.0 | 1.00 |
| Faulting Phase - 20 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 165 | 2 | -55 | 20.00 | 0.0 | 1.00 |
| 170 | 2 | -55 | 20.00 | 0.0 | 1.00 |
| 175 | 2 | -55 | 20.00 | 0.0 | 1.00 |
| 180 | 2 | -55 | 20.00 | 0.0 | 1.00 |
| 185 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| 200 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| 205 | 2 | -55 | 20.00 | 0.0 | 1.00 |
| 210 | 2 | -55 | 20.00 | 0.0 | 1.00 |
| 215 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| 250 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| 255 | 2 | -55 | 20.00 | 0.0 | 1.00 |
| 260 | 2 | -55 | 20.00 | 0.0 | 1.00 |
| 310 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| 315 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| 320 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| 325 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| 330 | 1 | -55 | 20.00 | 0.0 | 1.00 |
| Faulting Phase - 20 |
| Initial Location (Km) | **Slip (Km)** | **Dip Angle (-clockwise, + anticlockwise)** | **Full extension rate (mm/**$year^{-1}$**)** | **Start of faulting (Myr)** | **End of faulting (Myr)** |
| 420 | 15 | -45 | 35.00 | 0.0 | 10.00 |
| 430 | 15 | -45 | 35.00 | 0.0 | 10.00 |
| 440 | 15 | -45 | 35.00 | 0.0 | 10.00 |
| 450 | 15 | -45 | 35.00 | 0.0 | 10.00 |
| 490 | 15 | -45 | 35.00 | 0.0 | 10.00 |
| 480 | 15 | -45 | 35.00 | 0.0 | 10.00 |

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