Table 6-2. Representative Neoproterozoic arcs and terrane-related sedimentary (Abt formation)

rocks in the Arabian shield

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Terrane** | **Components** | **Best estimate**  **max.-min. age or representative age** |
|  |  |  |  |
| **UPPER CRYOGENIAN-EDIACARAN** |  |  |  |
| Abt formation | Ad Dawadimi | Tectonic setting uncertain: Abt formation forearc or backarc deposit with respect to Afif terrane or Ar Rayn terrane | ~600-580 Ma |
| Al Amar arc | Ar Rayn | Al Amar group+ Group I+Group 2 intrusives | >690-580 Ma |
|  |  |  |  |
| CRYOGENIAN |  |  |  |
| Suwaj arc | Afif | Suwaj domain gabbro, diorite, tonalite, granodiorite+subordinate, mostly high grade volcanosedimentary rocks | ~695-685 Ma |
| Tathlith arc(?) | Tathlith | High-grade volcanosedimentary rocks+plutonic rocks | 700-680 Ma (?) |
| Hulayfah arc | Hulayfah | Hulayfah group+plutonic rocks | >720 Ma |
| Khadra belt arc(s) | Asir | Volcanosedimentary rocks of the Khadra belt, and Tarib batholith | 745-~725 Ma |
| Malahah belt arc | Asir | Volcanosedimentary rocks of the Malahah belt+Tarib batholith | >730 Ma |
| Banana and Sufran formation arc | Ha’il | Banana formation, Sufran formation+ syn- to post-Banana formation intrusive rocks (diorite to granodiorite, with lesser tonalite, gabbro, and serpentinite) | >740-683 Ma |
| Al Ays arc | Hijaz | Al Ays group+plutonic rocks | 745-700 Ma |
| Siham arc | Afif | Siham group+plutonic rocks | 750-685 Ma |
| Midyan arc(s) | Midyan | Zaam group+Bayda group+Ghawjah formation+Silasia formation+Muwaylih supersuite+Jabal Ess and Wask ophiolites | 780-700 Ma |
| Shwas belt and Tayyah belt arc | Asir | Volcanosedimentary rocks of the Shwas and Tayyah belts+An Nimas batholith (gabbro, diorite, tonalite, trondhjemite, and granodiorite) | >795 Ma |
| Samran-Mahd adh Dhahab arc(s) | Jiddah | Arc assemblages on north margin of Jiddah terrane:  M2 assemblage (Shayban formation, Mahd group, Kamil suite, Hufayriyah suite, Qudayd tonalite)  M1 assemblage (Nida formation, Arj group, Dhukhr tonalite, early phase of Kamil suite) | 825-745 Ma  785-745 Ma  825-800 Ma |
| Birak arc | Jiddah | Birak group+Rabigh intrusive suite | >800 Ma |
| Bidah belt arc | Asir | Bidah belt volcanosedimentary rocks+Buwwah suite diorite and tonalite | ~855-815 Ma |
| Nuqrah arc | Afif | Isamah formation, Bi’r Tuluhah ophiolite, Darb Zubayd ophiolite | ~840 Ma |
|  |  |  |  |
| TONIAN |  |  |  |
| Makkah arc | Jiddah | Makkah batholith and Zibarah group | ~870-850 Ma |