

Mesozoic Stratigraphy

The Mesozoic formations are cropping out in relatively huge areas in North and Northeastern Iraq, especially throughout the High Folded, Imbricated and Thrust Zones. Mesozoic rocks also crops out in areas of the stable shelf on and around the Rutba Uplift. Very restricted small out crops are known from Foot Hill Zone (Jabel Sinjar), and in southern Part of the Mesopotamian Zone (Jabel Sanam). Parts of Eugeosynclinal Zagros Thrust Zone are Mesozoic age too. The Mesozoic units might be grouped in several sedimentary and paleogeographic cycles based on stratigraphic study of Iraq, as well as on correlation with surrounding areas. The following cycles were introduced:

- 1- Late Permian – Middle Triassic cycle.
- 2- Upper Triassic – Middle Jurassic cycle.
- 3- Upper Jurassic – Lower Cretaceous cycle.
- 4- Lower Cretaceous (Upper Beriasian - Albian) cycle.
- 5- Cenomanian – Lower Campanian cycle.
- 6- Upper Campanian – Maastrichtian cycle.

Triassic Period

The first tectonic event of the Triassic was rifting events (separation of East and West Gondwana), which cause opening of Neo Tethys along the line of the present Zagros Thrust Zone, and separation of Iranian plate. The formations that deposited in Triassic age were seven formations. Three of them are of Early and Middle Triassic age and four formations are described in the late Triassic.

Exercise:

- 1- Draw the Fence diagram for different sections and make correlation between formations by using Fig. (1 & 2), with table (1).
- 2- Which formation laterally changed to another facies from northern part toward the West of Iraq.
- 3- How many years the western Desert remains as a positive areas, and how many years covered by sea waters during Triassic period.
- 4- Which formation was cropped out at western Desert during the deposition of Mulussa and Zor Hauran formations.

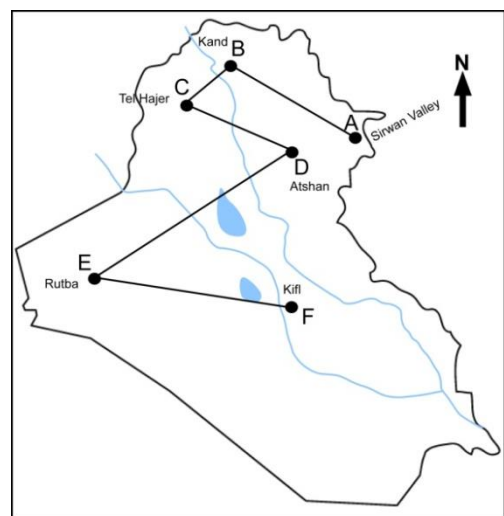


Fig. (1): Location map of Iraq.

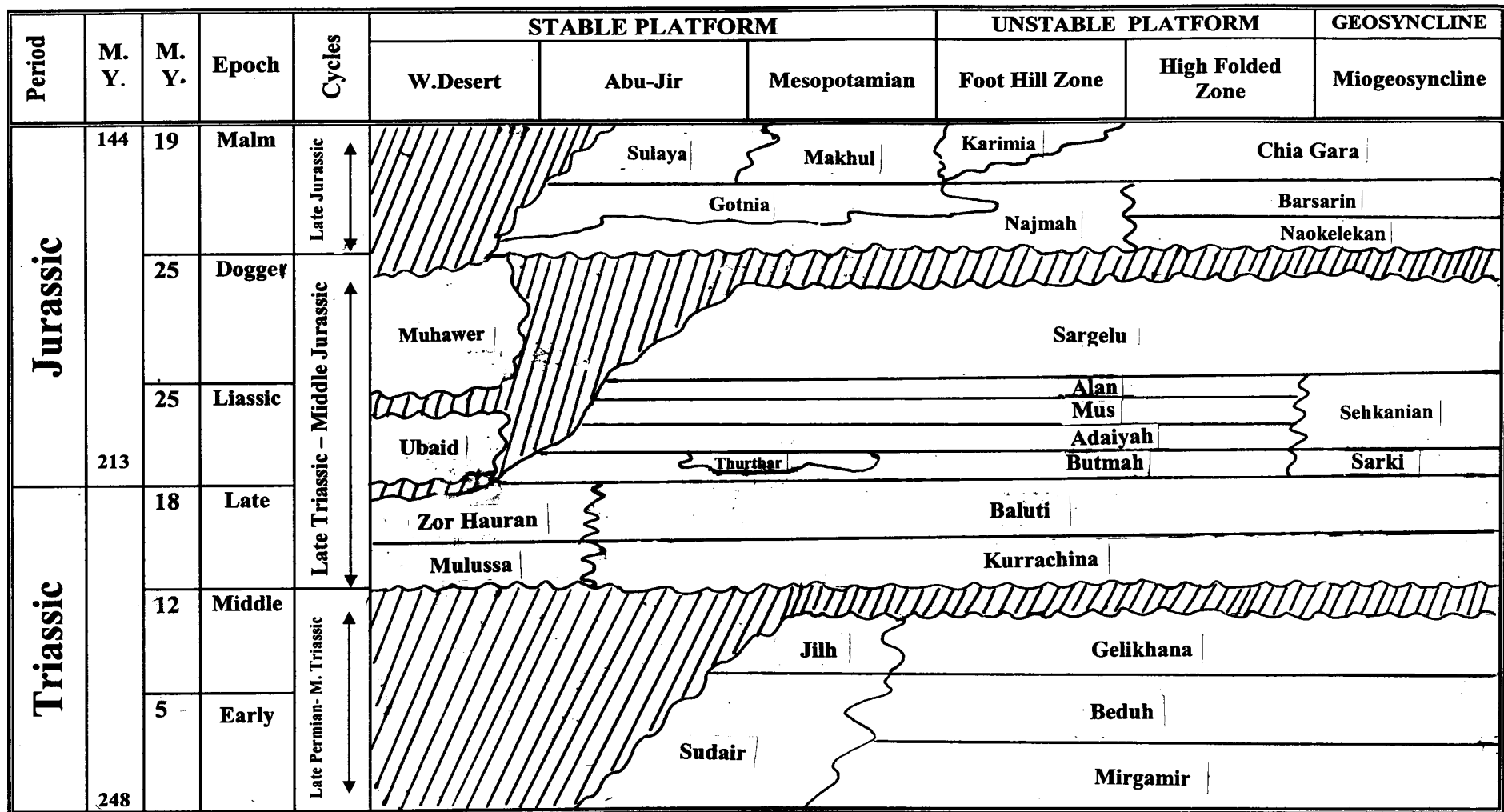


Fig.(2): Correlation Chart of Triassic and Jurassic Rock units in Iraq.

Formation & Environment	A Sirwan Valley	B Well-Kand	C Well- Tel Hajer	D Well-Atshan	E Rutba	F Well-Kiffi
Baluti Shale Fn. Lagoon-Lacustrine		54 m. Thin shale intercalated with thin bedded dolomitic, oolitic L.st. and recrystallized breccia.	58 m. Dolomitic L.st., Anhydrite with thin layer of shale and marl.	39 m. Yellow marl and shale and thin beds of Anhydrite.		279 m. Dolomite, shale, and anhydrite beds.
Kurrachine Fn. Lagoonal - Neritic	850 m. Dolomitic L.st. interbedded by shale and gypsum beds.	1149 m. Well bedded L.st., Dolomites with papyery argillaceous shale and recrystallized breccia.	552 m. Dolomite with numerous anhydrite with sandy mudstone.	546 m. Dolomite and Gypsum layer + Sandstone at the base.		181 m. Dolomite, Anhydrite, with thin layers of shale.
Zor Hauran Fn. Lagoonal					26 m. Marlstone interbedded with oolitic & dolomitic limestone, conglomerate bed at upper parts.	
Mulussa Fn. Neritic					The lower 60 m. Limestone, sandy oolitic L.st., marly L.st. The upper 570 m. oolitic L.st.	
Gelikhana Fn. Up. Neritic Lo. Lagoon	The upper 150 m. Dolomite, and marl The lower 300 m. recrystallized breccia & anhydrite	The upper 250 m. Dolomite, Limestone, and dolomitic L.st., interbedded with shale and marl. The lower 530 m. yellow shale and thin bedded L.st. with S.st.	The upper 240 m. Dolomitic L.st. The lower 182 m. argillaceous shale, sandy L.st., with oolitic L.st. at the base of the formation.	The upper 7 m. Dolomite + Limestone The lower 300 m. yellow shale + L.st.		
Beduh Shale Fn. Shallow Marine	84 m. shale with argillaceous sandstone and thin layers of marl	67 m. Red-brown shale, marl with thin sandy L.st. interbeds.	38 m. Red sandy to silty shale with dolomite.	433 m. Brown shale with marl and marly L.st.		
Mirgamir Fn. Marine-Lagoon		165 m. Well bedded argillaceous L.st. and shale. Oolitic limestone near base.	135 m. Thin beds of shaly L.st. with terigenous admixture.	99 m. Thin beds of L.st. and Shale.		
Total Thickness	1384 m.	2215 m.	1175 m.	1588 m.	656 m.	460 m.

Table (1): Thickness and Lithologic Descriptions of Triassic Formations

