

---

## **Sag-Interior Oligocene Basin of North-central Iraq : Sequence Stratigraphy and Basin Overview**

---

*Basim Al-Qayim, Department of Geology, Sulaimaniah University, P.O. Box 96, Sulaimaniah Iraq, phone: 976 07701921021, alqayim@yahoo.com*

The Oligocene sequence of north-central Iraq is developed in a relatively narrow, downwarping Sag-interior basin following an interval of uplift and wide spread regression . This study attempt the sequence stratigraphic analysis of of Oligocene sediments using subsurface data of thirty boreholes from Kirkuk oil field to elaborate on the basin architecture and evolution. Basinal marlstone and marginal reef-controlled ramp complexes along its northeastern and southwestern coasts dominate its sediments. The second order sequence is bounded by unconformity surfaces from top and bottom of SB1 type and Known as "Kirkuk Group" . The cyclic nature of these sediments is well differentiated at the marginal ramps and considered to represent a three-fold third order cycles of fairly consistent facies architecture.

The lower cycle (Lower Oligocene) is developed after a long period of subaerial exposure and erosion with unconformable lower contact. The early stage of reef nucleation and zonation into the associated facies represent the TST . The maximum flooding surface of this cycle is recognized by occurrence of glauconitic horizon within the basinal facies. The high stand system tract (HST) is represented by the extensive progradation of the reef facies and its associated back reef facies over its fore reef facies of the middle ramp. The low stand system tract (LST) is less developed due its short duration . It is represented by the seaward downshift of the facies belt, which is accompanied by subsequent local erosion of the upper reefal part.

The second (Middle Oligocene) cycle is developed almost similarly with relatively extensive reef association which indicate longer high stand interval as compared to the lower cycle. The uniform thickness of the reef - back reef facies indicates deposition in a uniform accommodation space furnished during most of the cycle period which reflects stable environmental condition over a tectonically stable ramp.

---

---