

MARRAT SEQUENCE III TO IV TRANSITION

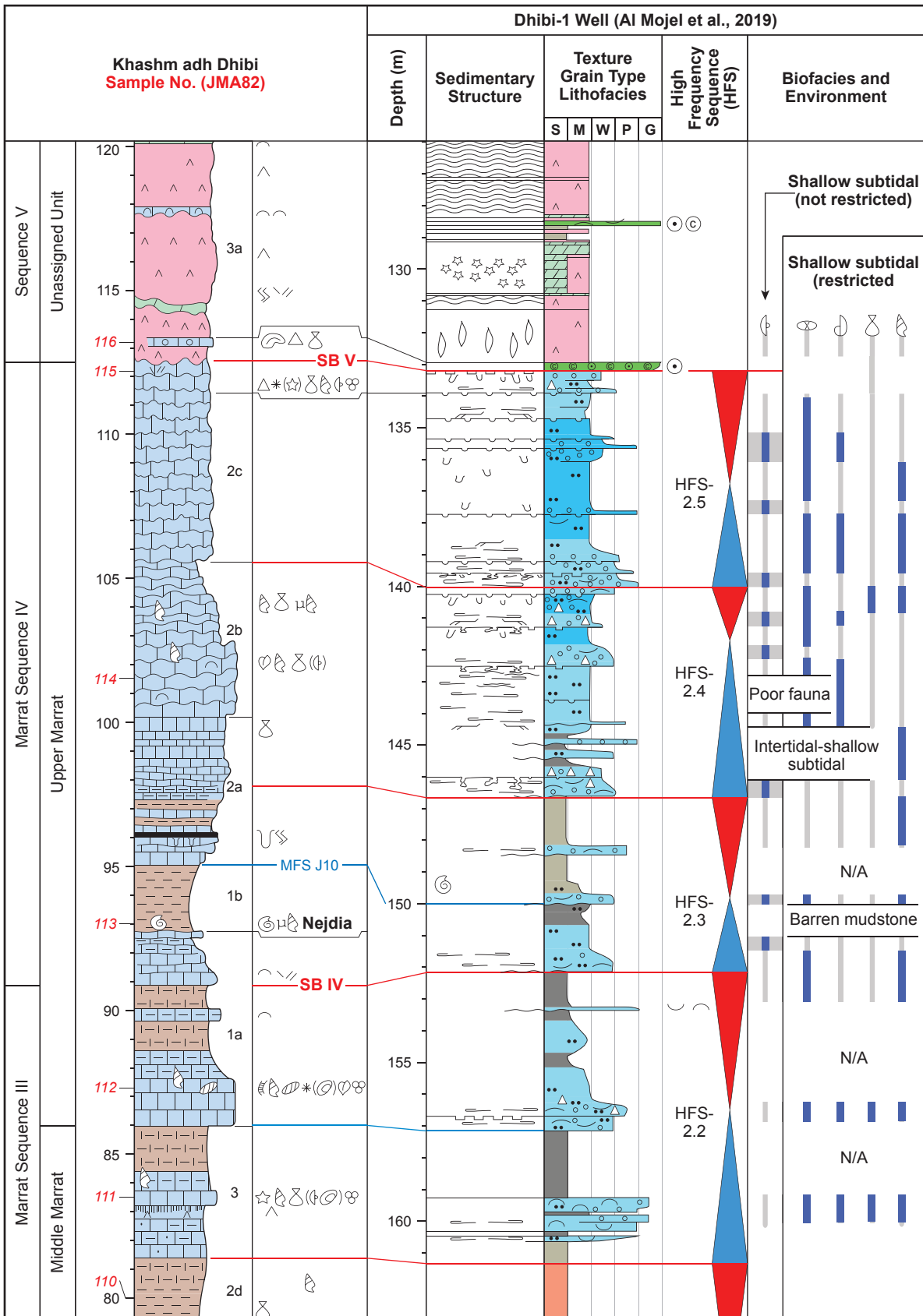


Figure 7: (a) For caption and legend see facing page.







































Facies	Grain Types	Sedimentary Features
 Red thin laminated shale  Mottled bluish green shales  Grayish green calcareous shale  Argillaceous nodular bioturbated peloidal wackestone/mudstone  Bioturbated peloidal wackestone/packstone  Dolomite  Anhydrite	 Intraclast > 2 mm  Coated grain  Ooid  Peloid  Skeletal fragments  Pellet  Plant debris	 Skolithos  Vertical burrows  Horizontal burrows  Chondrites  Stromatolite  Firmground  Hardground  Scouring surface  Mud draped cross-bedding  Current ripple  Trough cross-bedding  Rootlet traces  Vertical elongate anhydrite crystal  Lath-shaped anhydrite crystals
<p>Transgressive-Regressive (T-R) Sequence</p>  SB Highstand  MFS Maximum Flooding Surface  TST Transgression  SB Sequence Boundary	<p>Fossils</p>  Ammonite  Echinoderms  Brachiopods  Bivalve  Gastropod  Foraminifera	

Figure 7 (continued): (a) In the Dhibi-1 borehole, situated about 15 km east of the reference section, Al-Mojel et al. (2019) interpreted four high-frequency sequences (HFS-2.2 to HFS-2.5) in the upper part of the Marrat Formation (below the anhydrite interval of the Unassigned Unit). A bed-for-bed correlation indicates SB IV in the reference section at 91 m is a minor SB and passes to base HFS-2.3 in Dhibi-1. MFS IV corresponds to Arabian Plate MFS J10 (Sharland et al., 2001) and occurs at 95.0 m at top Nejdia horizon (*bifrons* zone). **(b)** Legend for Dhibi-1 Well (Al-Mojel et al., 2019) with some symbols redrawn to better resemble those in Figure 4.