

Tuwaq Mtn

Generalized lithology
APHANITIC LIMESTONE AND MOLLUSCAN CALCARENITIC LIMESTONE: Brown and light-brown chalky aphanitic limestone and molluscan calcarenitic limestone

Unit 1, 2, 3, 4 Unit 5 & lower 21.4 m of 6 Units 7-10 & upper 14.7 m of 6

24°11'17"-46°11'10"

24°11'53"-46°11'30"

24°11'04"-46°17'14"

24°11'12"-46°17'17"

24°11'19"-46°18'50"

24°12'34"-46°19'03"

(10) SHALE: Tan to olive-tan calcareous poorly exposed shale; thin interbeds of tan, brown, and reddish-brown fine- to coarse-grained pellet and molluscan calcarenite and calcarenitic limestone. Several thin beds of brown, chalky aphanitic limestone. (64.0 m)

(9) CALCARENITIC AND APHANITIC LIMESTONE: Tan and golden-brown chalky calcarenitic limestone with varying amounts of pellet, molluscan, and algal grains. Several beds of light-brown chalky aphanitic limestone and a brown poorly sorted tightly cemented oolite-detrital calcarenite bed. Residual in place hexacorals near the top. (25.0 m)

(8) APHANITIC AND CALCARENITIC LIMESTONE: Tan to brown chalky aphanitic limestone interbedded with brown pellet-molluscan-algal calcarenitic limestone. Thin beds of clean-washed, tightly cemented pellet-molluscan-algal calcarenite occur at several levels. Some intervals poorly exposed are apparently impure aphanitic and calcarenitic limestone. (54.0 m)

(7) APHANITIC LIMESTONE AND CALCAR-ENITE: Lower part light- to reddish-brown chalky aphanitic limestone; rare pellet and molluscan debris. Golden-brown medium- to coarse-grained moderately sorted tightly cemented, in part crossbedded oolite-foram-inferal-molluscan calcarenite; forms major ledge at top. Middle part of section covered. (32.3 m)

(6) CALCARENITIC LIMESTONE, CALCAR-ENITE AND APHANITIC LIMESTONE: Golden and reddish-brown pellet-oolite-molluscan calcarenitic limestone interbedded with golden-brown fine- to medium-grained usually well sorted tightly cemented pellet calcarenite (with some algal and molluscan debris toward the bottom) and brown chalky aphanitic limestone. (36.1 m)

(5) CALCARENITE AND CALCARENITIC LIMESTONE: Interbedded calcarenite and calcarenitic limestone as above. (42.3 m)

(4) APHANITIC LIMESTONE AND SHALE: Upper unit is brown partially recrystallized aphanitic limestone, in part with common pellets and algal nodules, and several thin beds of tan partially recrystallized pellet calcarenitic limestone; forms prominent cliff (Dhibi limestone member). Middle part is unexposed. Lower part is olive-green and golden-brown gypsiferous shale. (34.5 m)

(3) SHALE: Olive-green and golden-brown gypsiferous shale with rare thin beds of chalky aphanitic limestone and impure pellet calcarenitic limestone. (20.2 m)

(2) SHALE, APHANITIC LIMESTONE AND CALCARENITIC LIMESTONE: Green to brown gypsiferous shale interbedded with tan to gray to golden-brown molluscan-pellet calcarenitic limestone. (35.6 m)

(1) SHALE, LIMESTONE AND GYPSUM: Green and purple gypsiferous shale; interbeds of pink to brown aphanitic limestone and brown, partially recrystallized and dolomitized, pellet-molluscan calcarenitic limestone and calcarenite. A thin bed of green silty gypsiferous sandstone tops the unit. Basal bed is varicolored well-bedded gypsum with several thin interbeds of calcarenite and aphanitic limestone. (30.5 m)

APHANITIC LIMESTONE: Brown partially recrystallized aphanitic limestone

Location:

Diagnostic fossils



Gryphaea costellata (in lower 20 meters), *Conicospirillina* sp., *Kurnubia bramkampi*, *K. spp.*, *Praekurnubia crusei*, *Pseudomarssonella media*, *Riyadhella hemeri*, *R. sp.*, *Steinekella crusei*, *Trocholina palastiniensis*, *T. cf. T. palastiniensis*, *T. sp.*

Eligmus rollandi, *E. rollandi* var. *jabbockensis*, *Eudesia cardium*, *E. cardioides*, *Gryphaea costellata*, *Homomya inornata*, *Mactromya aequalis*, *Pholadomya aubryi*, *P. lirata*, "Terebratula" cf. *superstes*, *Kurnubia variabilis*, *Nautiloculina* spp., *Pfenderella arabica*, *Pfenderina gracilis*, *P. neocomiensis*, *P. trochoidea*, *Pseudomarssonella maxima*, *P. plicata*, *Sanderella laynei*, *Trocholina* spp.

Hisyan Member
CALLOVIAN?

Upper JURASSIC(?)

Dhrumaites cardioceratoides (in upper part), *Flabelllammina* sp., *Nautiloculina* spp., *Pseudomars-sonella biangulata*, *P. bipartita*, *Riyadhella inflata*, *R. nana*, *R. rotundata*

"Dhrumaites zone"

Foraminifera:
Bakewellia waltoni, *Daghanirhynchia* cf. *D. daghaniensis*, *Eligmus rollandi*, *Gryphaea costellata*, *Homomya* cf. *H. gibbosa*, *Lopha solitaria*, *Micromphalites elegans*, *M. pustuliferus*, *M. vertebralis*, *M. cf. M. busquetii*, *Pholadomya lirata*

"Micromphalites zone"
Dhrumella evoluta, *Nautiloculina* spp.,
Pseudomarssonella elongata, *R. riyadhensis*, *Virgulina* spp.

BATHONIAN

MIDDLE JURASSIC

Arcomytillus somaliensis, *Chlamys curvivarians*, *Eligmus polytypus*, *E. rollandi*, *E. rollandi* var. *jabbockensis*, *Eudesia cardium*, *Homomya* cf. *H. gibbosa*, *Thambites planus*, *Dhrumella evoluta*, *Nautiloculina* spp., *Pfenderia* sp., *Pseudomarssonella McClurei*, *P. primitiva*, *Riyadhella elongata*

"Tulites zone"
"Thambites zone"

"Micromphalites zone"

"Tulites zone"

"Thambites zone"