

# Virtual geological mapping in the Lurestan region of the Zagros with Google Earth

## *Supplementary material* *Photos&Stratigraphy*

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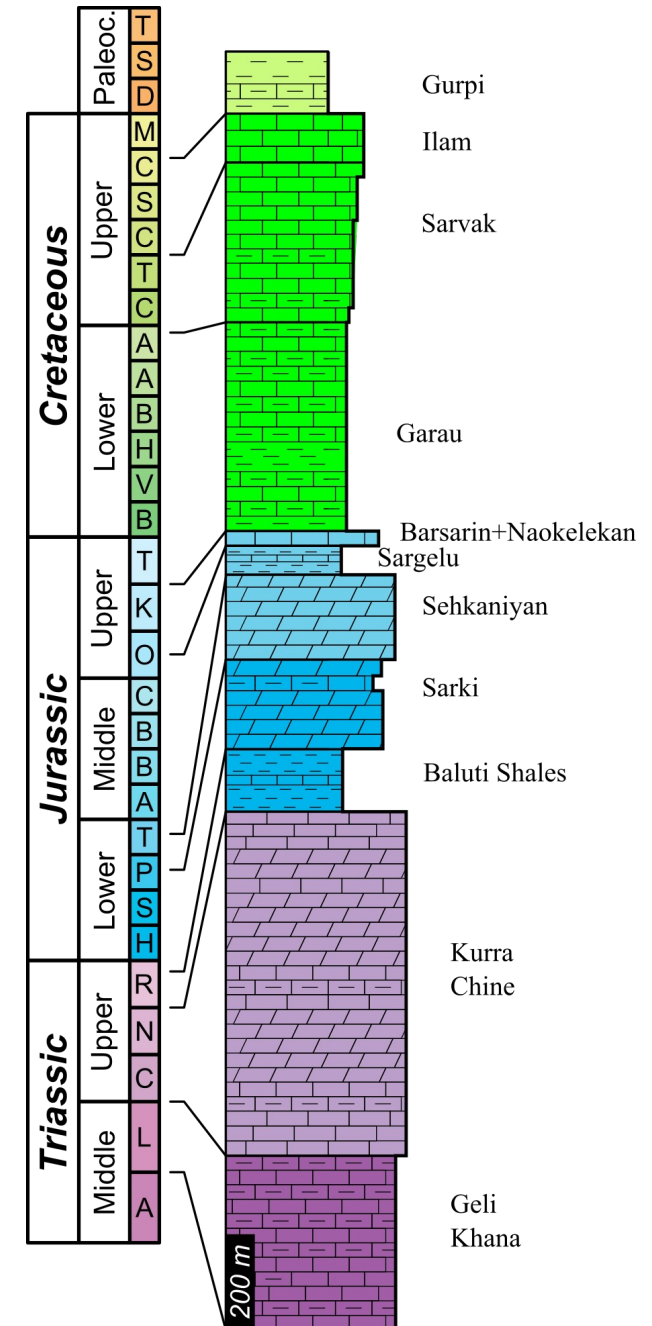
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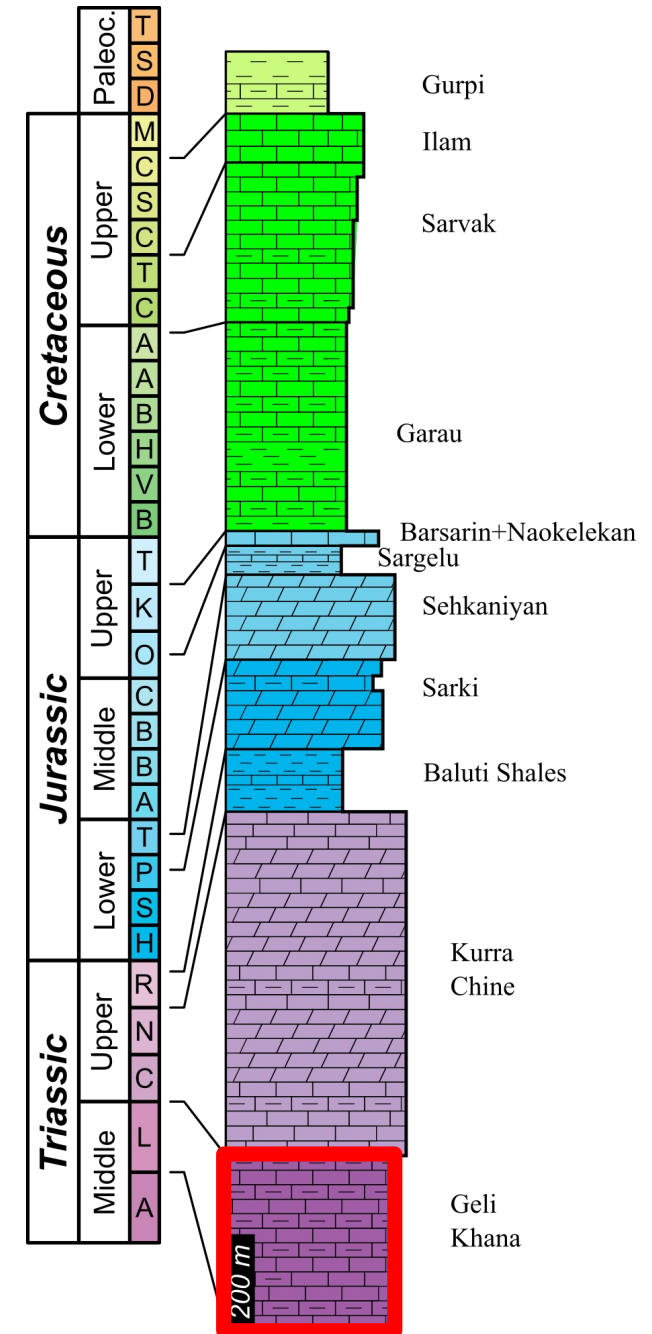


## Geli Khana Formation



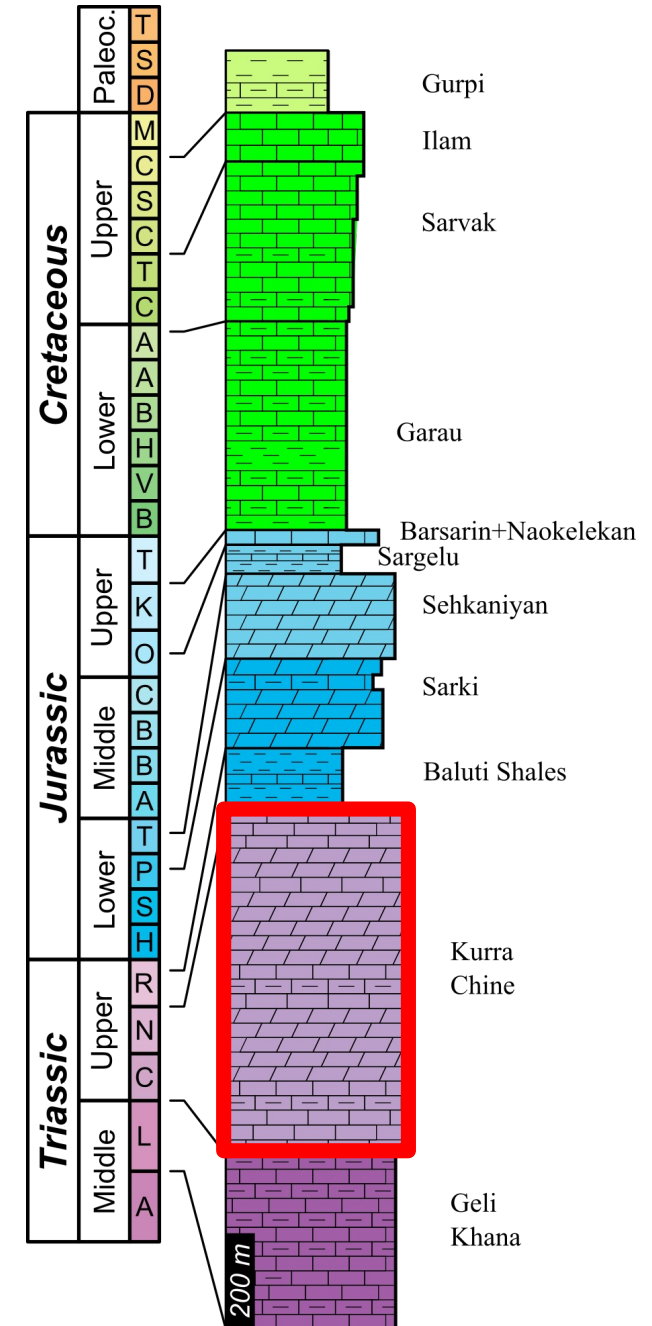
The Geli Khana Fm. consists of alternating limestones, argillaceous limestones, marls, calcareous shales and shales.

It is mainly a recessive-weathering unit, with small cliffs no more than 10 m-high. The contact with the overlying Kurra Chine Fm. is marked by very thick-bedded cliff-forming limestones and dolostones (Kurra Chine Fm.) on top of recessive medium-bedded limestones with shale intercalations (Geli Khana Fm.).

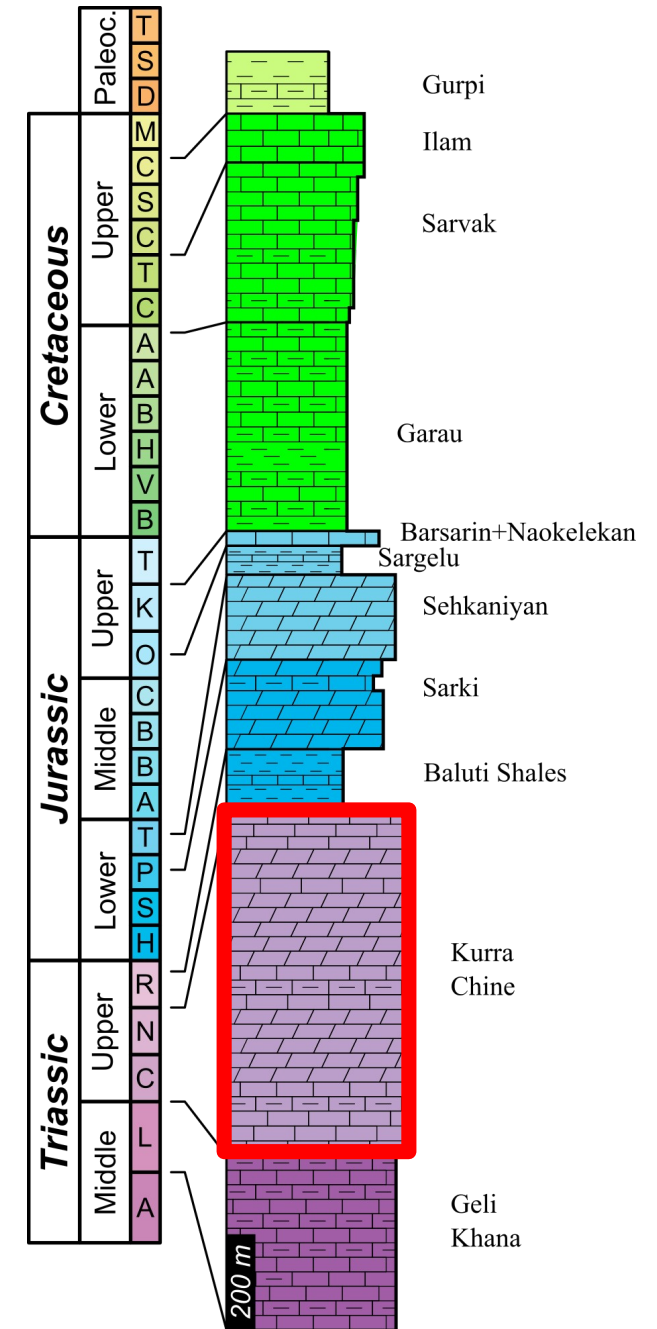


## Kurra Chine Formation

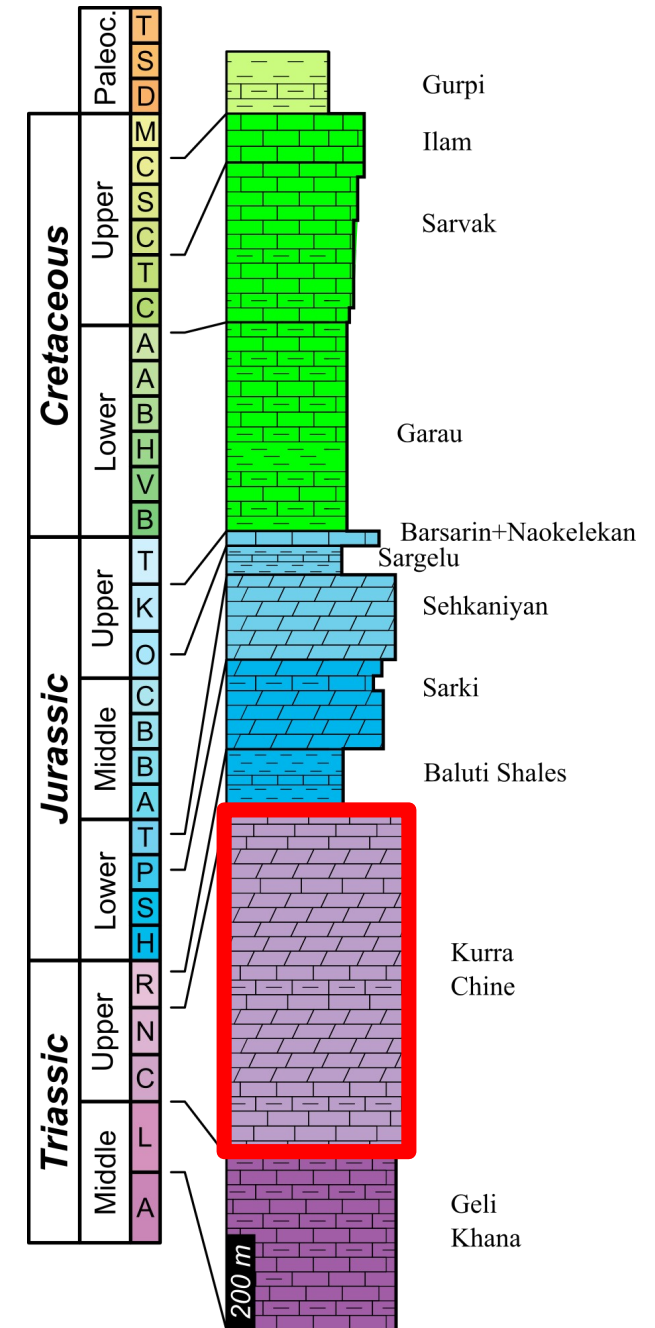
The Kurra Chine Fm. is made of intervals of thick-bedded to massive cliff-forming limestones and dolostones (each one 50 to 150 m thick), separated by more recessive intervals of thin-bedded limestones, argillaceous limestones and marls (each one 15 to 30 m thick). The contact with the overlying Baluti Shale Fm. is easily recognizable as a thick cliff of massive dolostones (uppermost Kurra Chine Fm.) overlain by recessive shales with thin beds of limestones and dolostones (Baluti Shale Fm.).



**Kurra Chine Formation:** Thick-bedded cliff-forming dolostones in the upper part of the formation.

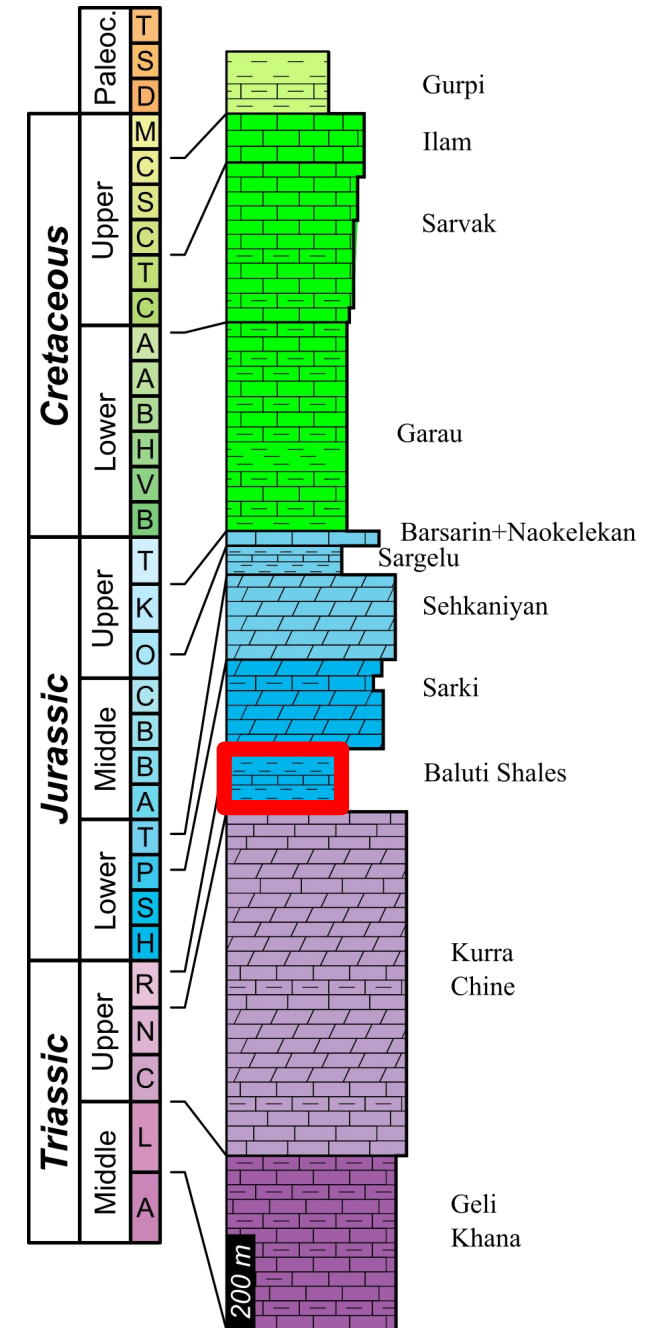


**Kurra Chine Formation:** Laminated peritidal dolostones in the upper part of the formation.

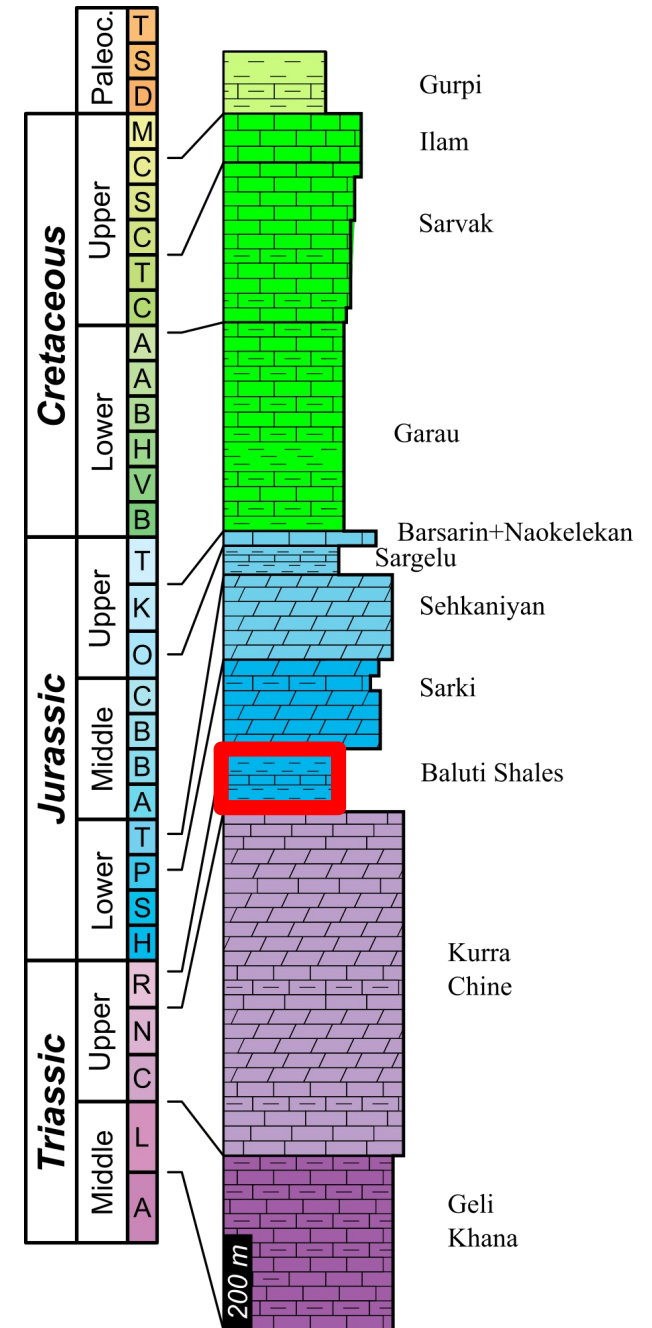


## Baluti Shale Formation

The Baluti Shale Fm. consists of green and grey shales with thin beds of fine-grained limestones and dolostones. This formation makes a recessive unit between the cliffs of the upper part of Kurra Chine Fm. and of the lower part of Sarki Fm.

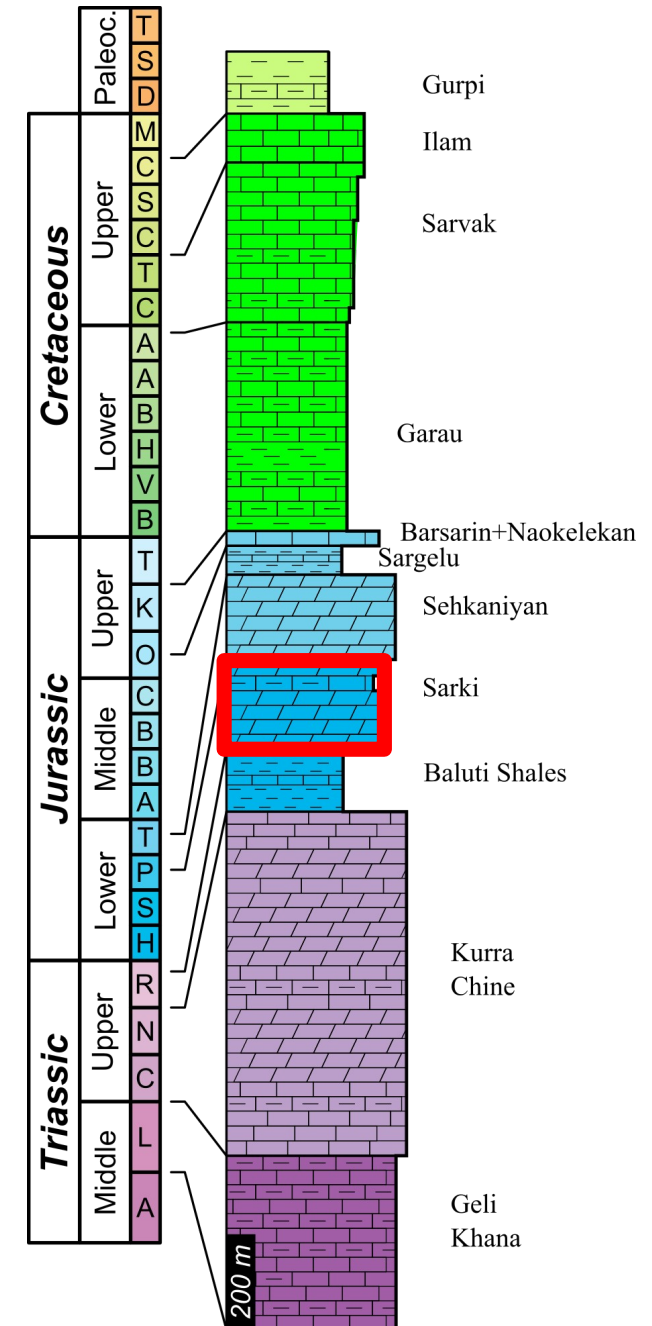


**Baluti Shale Formation:** grey shales with thin beds of fine-grained limestones. In the background the first cliff of the Sarki Fm.



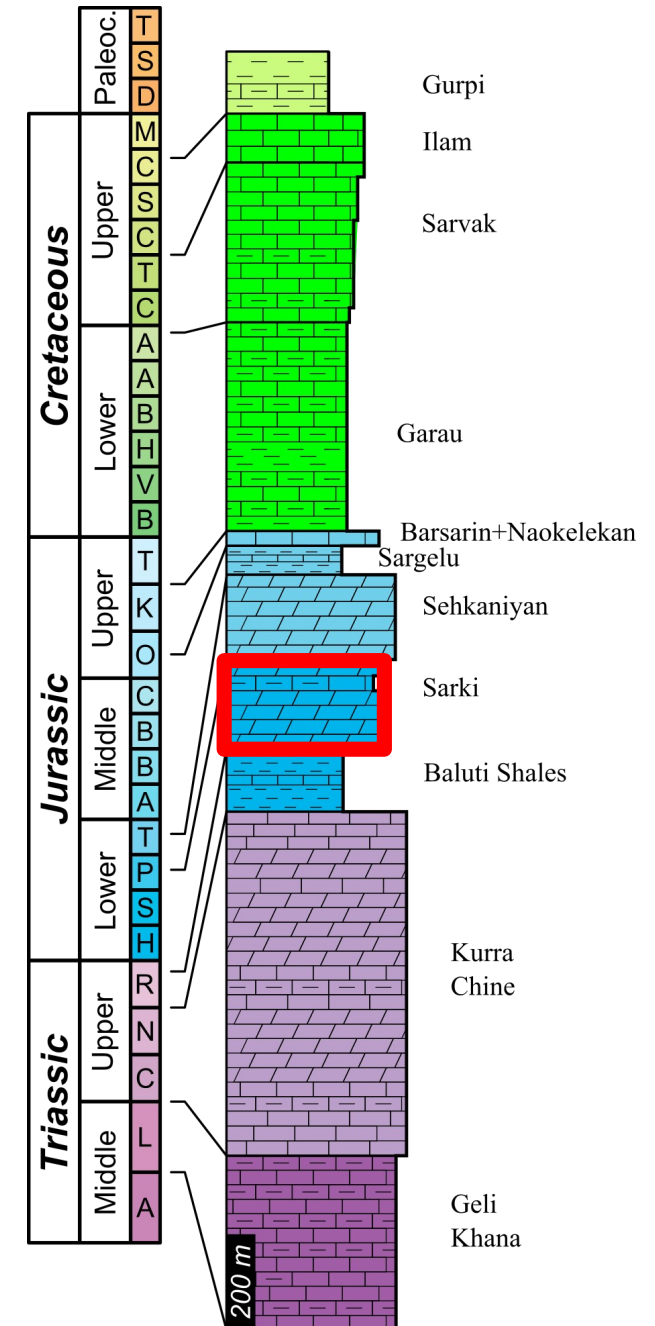
## Sarki Formation

The Sarki Fm. is easily identified between the recessive interval of the Baluti Shale Fm. and the massive cliff-forming dolostones of the Sehkaniyan Fm. It can be further subdivided into three cliff-forming intervals of thick-bedded to massive dolostones and calcareous dolostones, alternating with recessive intervals of thin- to medium-bedded dolostones and marls.

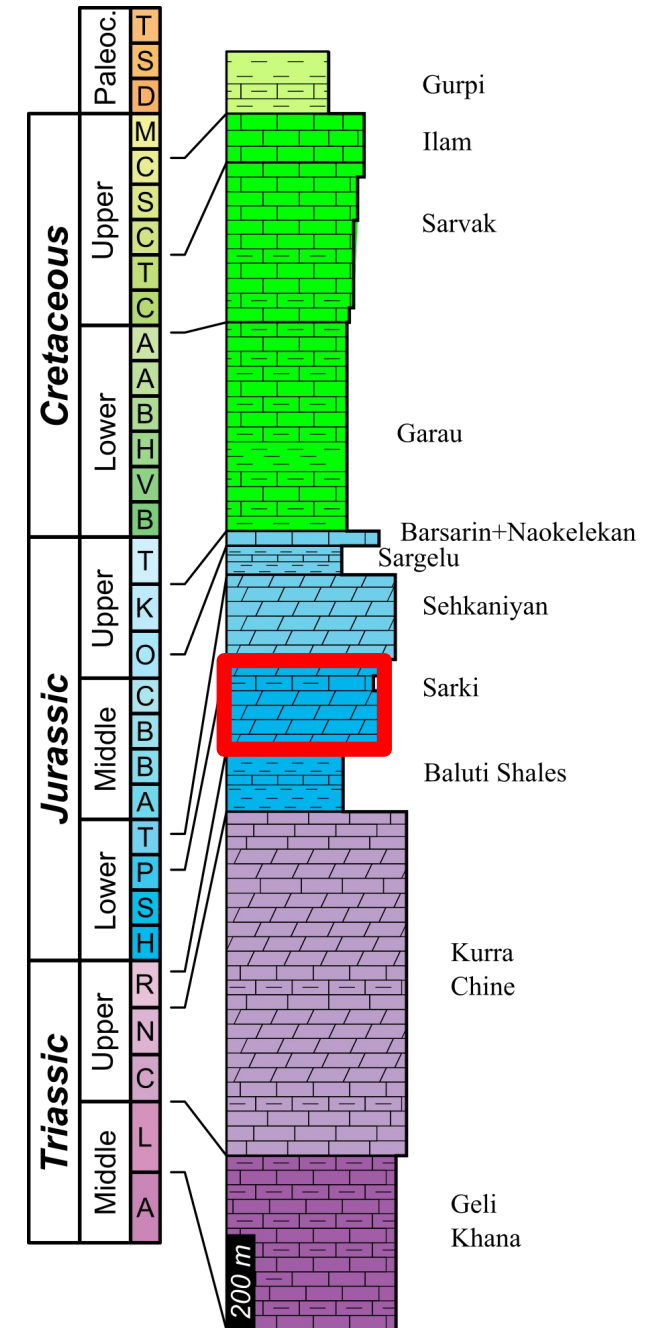




**Sarki Formation:** The uppermost part of the Sarki Fm. is a recessive interval of thin- to medium-bedded dolostones with marly intercalations, overlain by the thick cliff of the Sehkaniyan Fm.

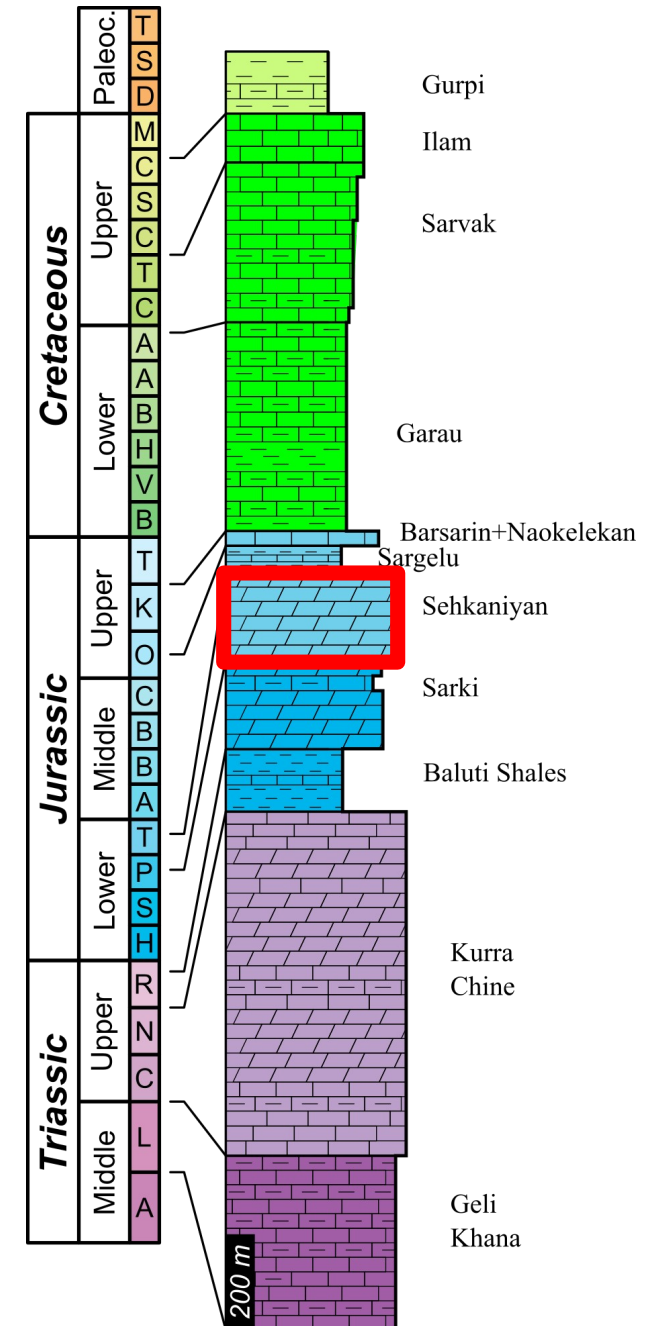


**Sarki Formation:** Stromatolitic dolostones in the lower part of the Sarki Fm. Tang-e-mastan section.

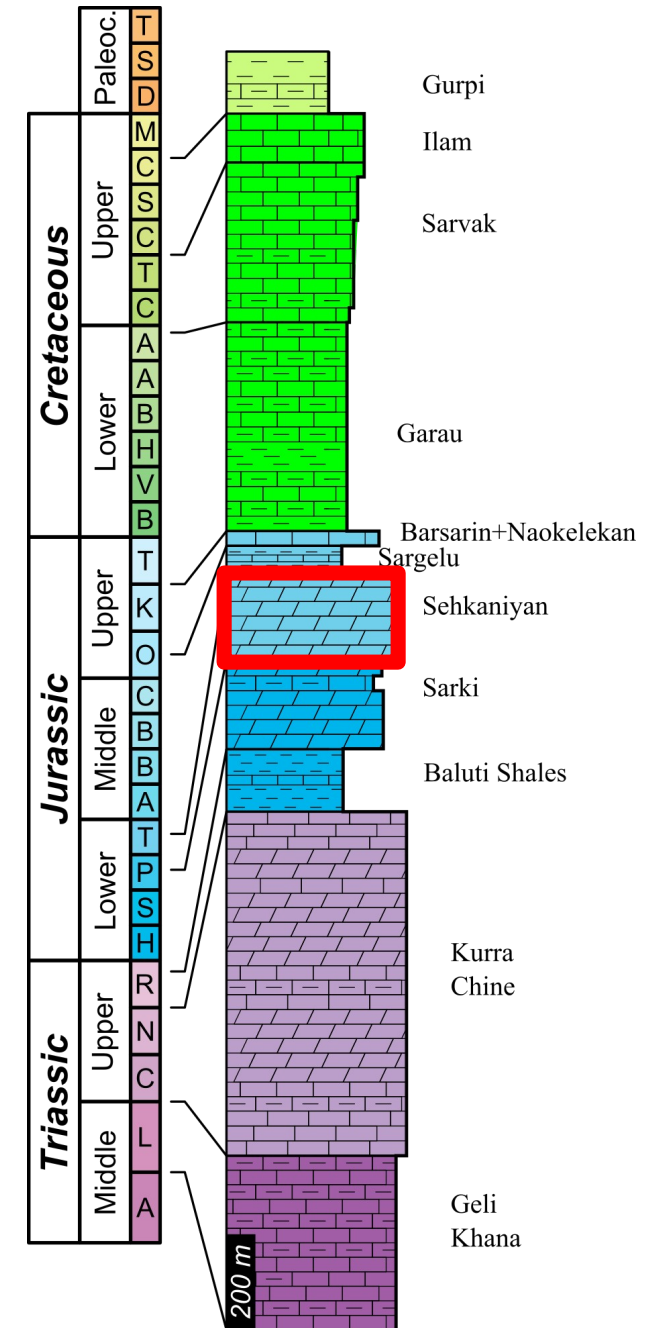


## Sehkaniyan Formation

The Sehkaniyan Fm. is a cliff-forming unit. It consists of about 130-200 m of massive dolostones mainly made of m-scale sedimentary cycles. The overlying Sargelu Fm. makes a vegetated, gently sloping interval on top of the subvertical cliff of the Sehkaniyan Fm.

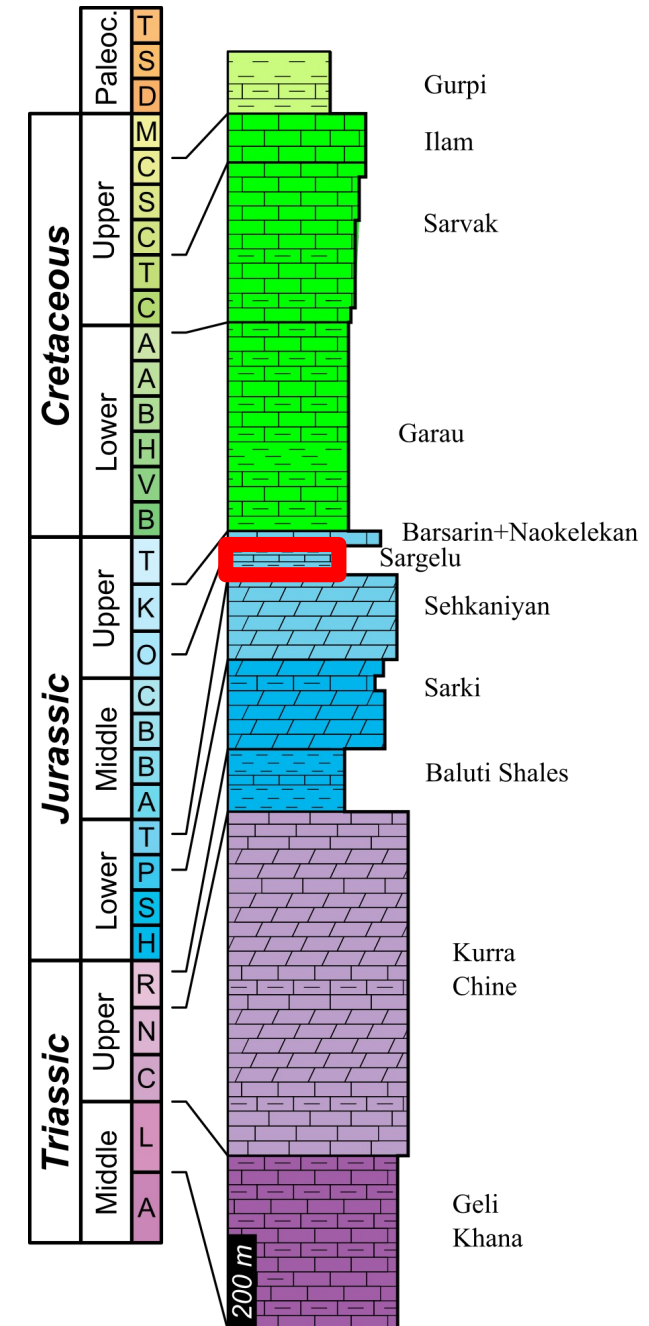


**Sehkaniyan Formation:** Laminated stromatolitic dolostone in the lower part of the Sehkaniyan Fm.

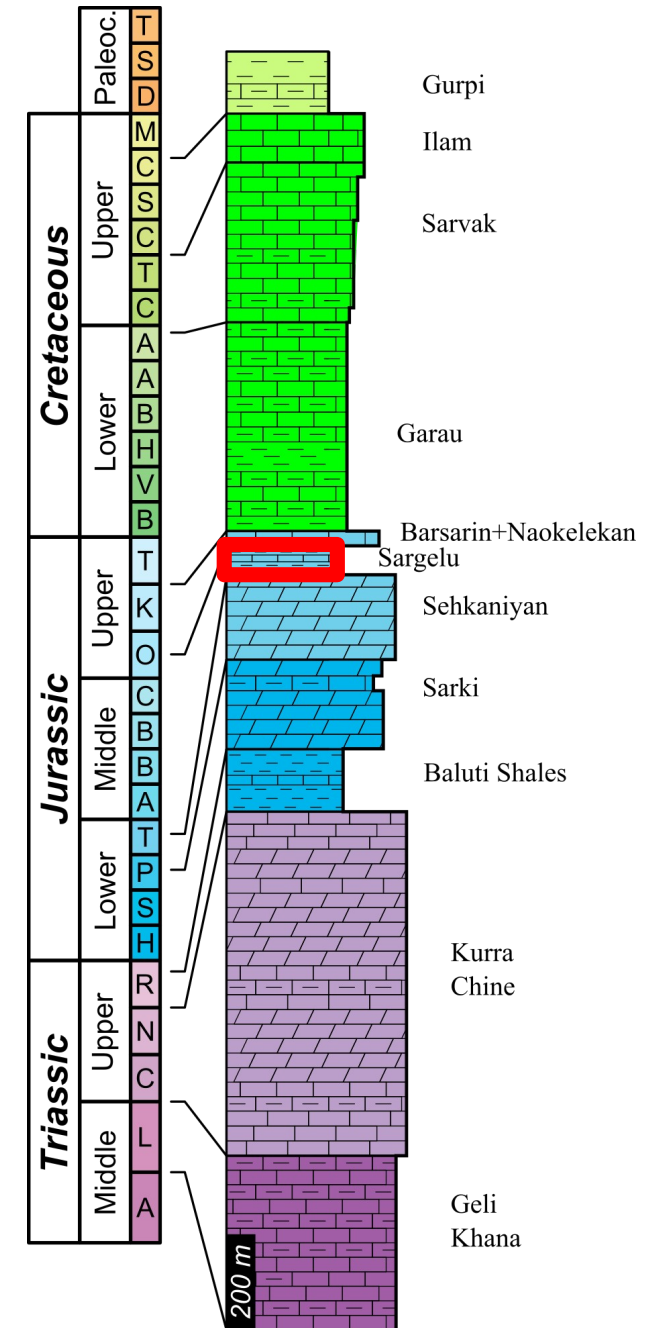


## Sargelu Formation

The Sargelu Fm. consists of thin to medium-bedded limestones alternating with black shales and marls. It makes a recessive interval between the cliff-forming massive dolostones of the Sehkaniyan Fm. and the overlying (on the right in the photo) contorted beds of thin to medium-bedded dolostones of the Naokelekan and Barsarin fms., which make a small cliff. The base of the Naokelekan Fm. is marked by a m-thick bed of bituminous shale

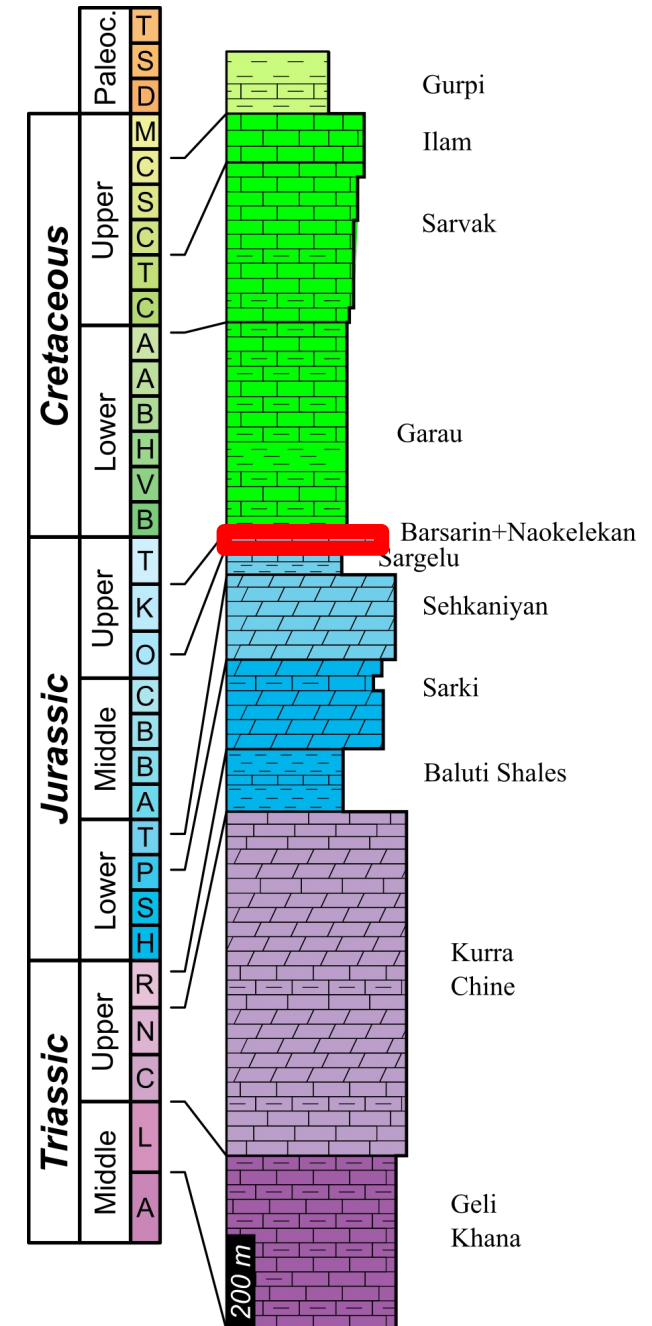


# **Sargelu Formation:** Alternating marly limestones and black shales in the Sargelu Fm-



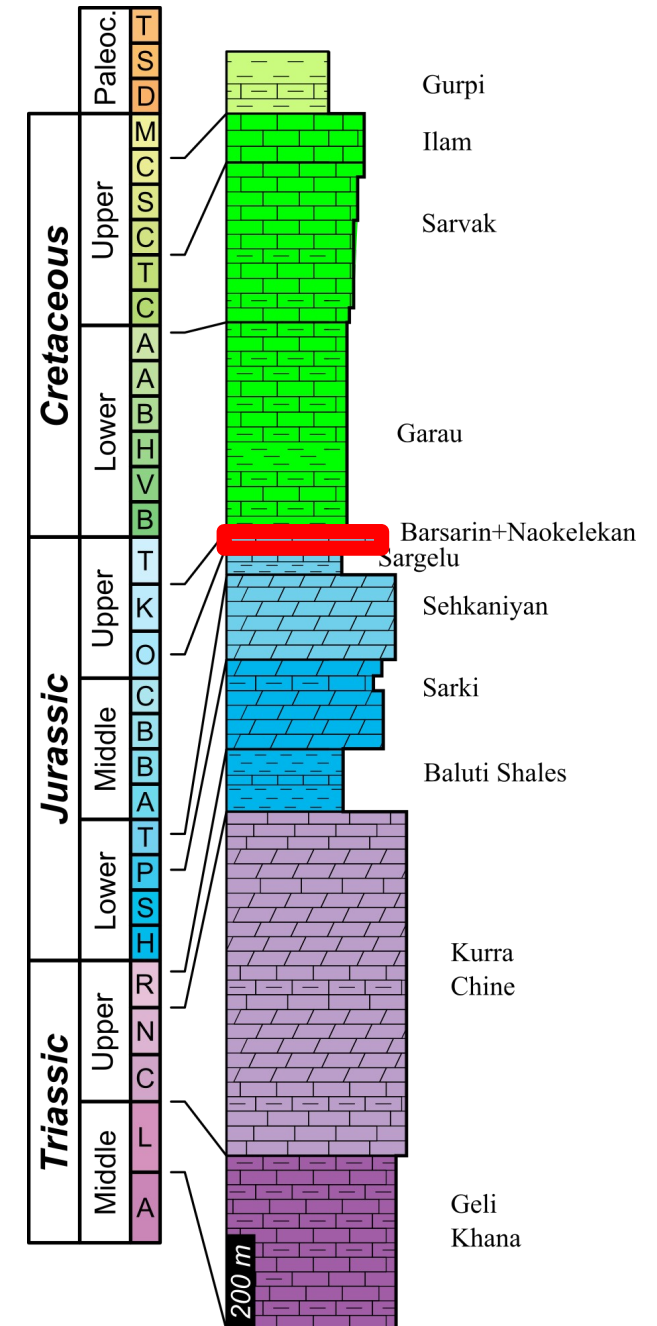
## Naokelekan Formation

The Naokelekan Fm. is clearly identified as a thin (max 10 m thick) interval of cliff-forming contorted beds of limestones and dolostones overlying the recessive interval of the Sargelu Fm. and bracketed by dark brown to black bituminous shales



## Barsarin Formation

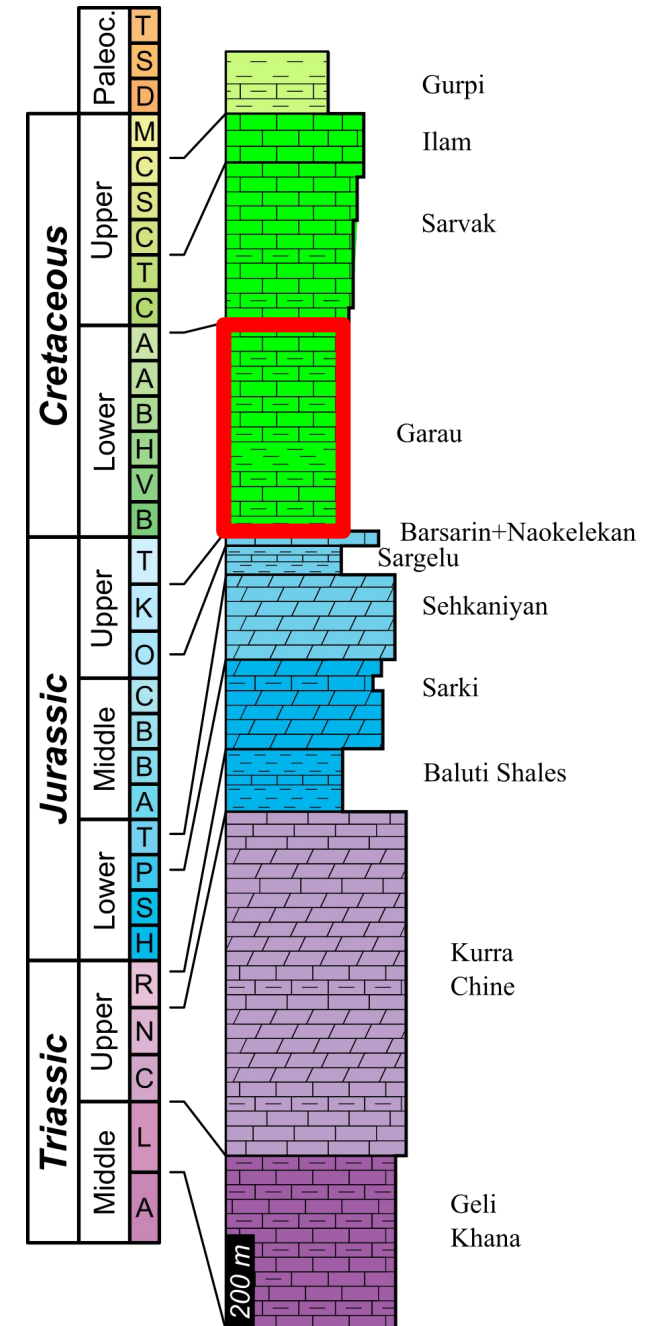
The Barsarin Fm. is a 20 m thick interval of stromatolitic and brecciated dolostones.





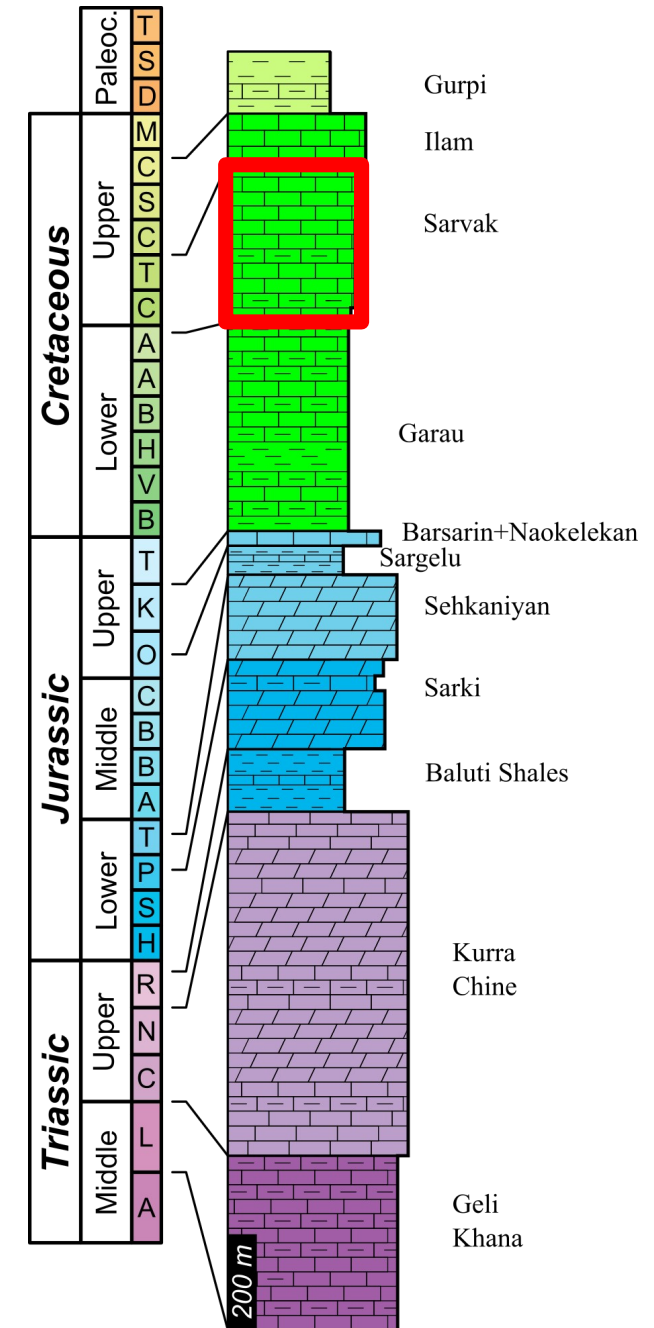
## Garau Formation

Thin-bedded limestones with argillaceous interlayers and black shale intercalations.



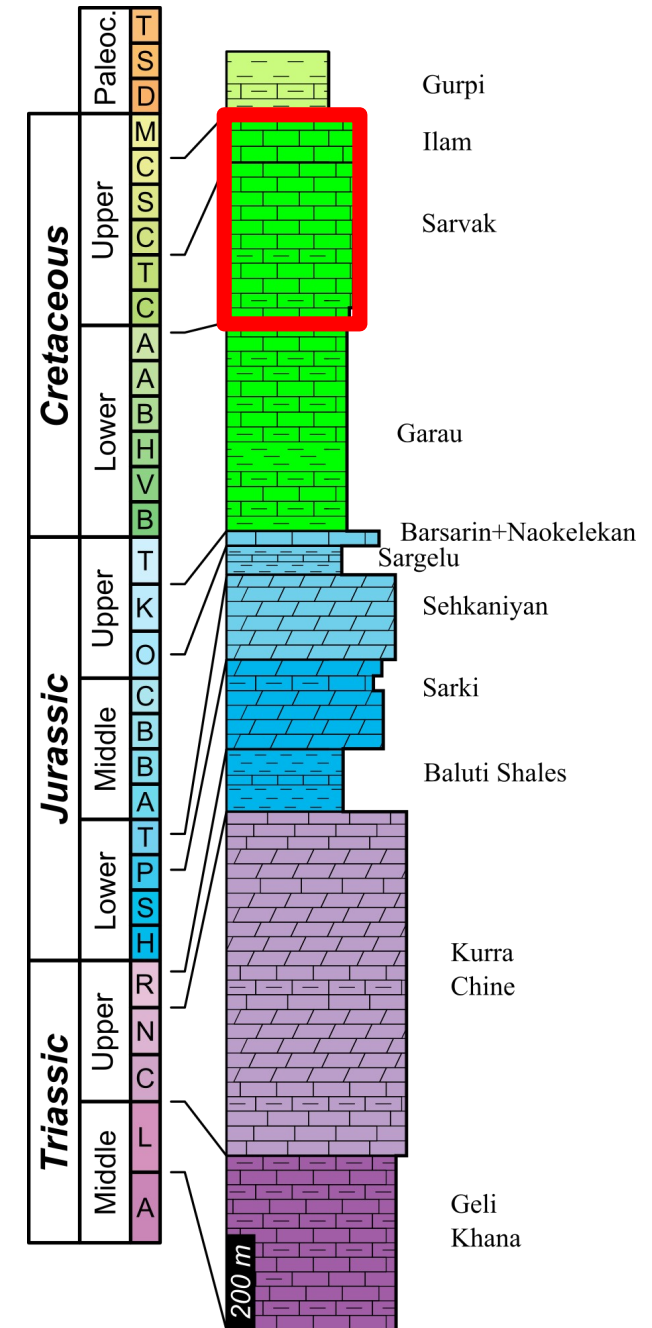
# Sarvak Formation

The Sarvak Fm. in Lurestan is made mainly of medium to thick-bedded limestones with planktonic foraminifers and calcispheres.



## Ilam Formation

The Ilam Fm. in Lorestan consists of medium to thick-bedded limestones with argillaceous interlayers. The limestones contains rich associations of planktonic foraminifers (globotruncanids).



## Gurpi Formation

The Gurpi Fm. in Lurestan consists of grey marls and shales with intercalations of thin beds of argillaceous limestones

