

Stady rate of oxygen in sanganeh formation from Ghareh – soo section basis of palynological data

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Abstract

Sangameh formation is one of the lower Cretacrus formations in kopet- dagh sedimentary basin, NE of iran. It's name is gotten form a village in 70 the km NE of mashhad. The lithoagy of this formation is cinsist of dark grey to greenish shales. 150 sildes prepared. In studying of 3 main groups of polynologic elements (Thet in the primary parts of the formation, the oxygen conditions were low and the rate of deposition was high, but in the end parts of the formation inspite of low oxygen condition and also non-oxygen condition, the preservation of palynomorphs is low and turned to light soms. Because of the low rate of deposition. By the way, the low oxygen condition is so important in hydrocarbon creation and it must study as well.

Introduction

Sanganeh formation is the Lower Cretaceous formation in sedimentary basin kopet dagh in the North East of Iran. one of the face of the structures in Gharehsou section in the gharehsou beautiful waterfall located in 5 kilometers kalat nader which its litho logy included shale dark gray to green squash disposed between siltstone silt layers thickness is 219 meters(Fig1). the Study on the sanganeh structure Paelopalinology and report dinoflage species, sedimentary environment, palynofacies and oxygen levels at the time of sedimentation is the formation. the samples in the laboratory using acid HF, HCL and heavy material processing ZnCl₂, and 150 palinological slides were prepared.

Discussion

With review and statistical studies were done on 150 palynological slides in the cutting of these factors Lability, compared to SOM transparent dark, and the ratio of SOM to palynomorphs were measured and for to restore the oxygen environment changes and rhythm past sedimentation were used .

Figure 2: SOM ratio curve changes transparent to dark SOM in sanganeh formation samples Lability:

macerals according to Transparency divided two (OP) and brown (b) .fig3

the brown maseralls depend to land plants and show near shore environment APEC maseralls have dark color and semi-oxic environment - semi warm was shown. and in the remote offshore, are found ,increased with increasing factor Lability Palynomorpha abundance and diversity and reduce marine preserve Shdgy SOM shows high organic material is the lability Tvrkly obtained in this formation indicate a low oxygen environment and in the end, make no oxygen the ratio of light SOM to darkSOM:

Anaerobic bacteria in the environment without oxygen, a little below the sediment surface SOM to create transparency in terms of organic matter to Ahyayy nitrate and sulfate decomposition and as a result, nitrogen, carbon dioxide, water and methane production must.

When the bacteria is high sedimentation rate in limited time can not decay and destruction of organic matter, so more chances Shdgy organic materials are preserved in conditions without oxygen and low sedimentation rhythms of other elements Palynvmrf clear SOM is produced, Aerobic bacteria in water, oxygen and organic matter to parse, if the amount of organic material decomposition is above all the oxygen and hydrogen to lose and only a small amount of carbon remains and therefore should be dark SOM.

As the amount of SOM transparent conditions shows no oxygen and oxygen conditions corroborated SOM is dark, than these two measurements can estimate the amount of oxygen is in the past, if this ratio is more than a lack of oxygen and conditions If is less than one. Terms of oxygen in the formation Snganh this factor in all samples and confirmed more than one environment without oxygen.

Ratio of SOM to Marine Palynomorph:

Most maintain Shdgy Palynomorph Dinoflagellate especially in conditions without oxygen and high sedimentation, if sedimentation and low oxygen level is low, because not maintain their Shdgy Palynvmrfha into SOM is clear, but if sedimentation is low and oxygen high, Palynomorph sea, to SOM changes can be made by dark, so to increase transparency SOM Palynomorph marine conditions and lack of oxygen in the low sedimentation makes visible. Marine Palynomorph high ratio indicates high sedimentation rate in the formation Snganh more than one of these factors and conditions without oxygen and in some areas shows low oxygen

Conclusion

Review and determine the percentage of 3 main groups elements Palynomorph, PM, SOM and the review of protection factors than organic materials SOM clear dark Lability than clear and dark with SOM Palynomorph marine shows low oxygen conditions and lack of oxygen environment sedimentary ruling is.

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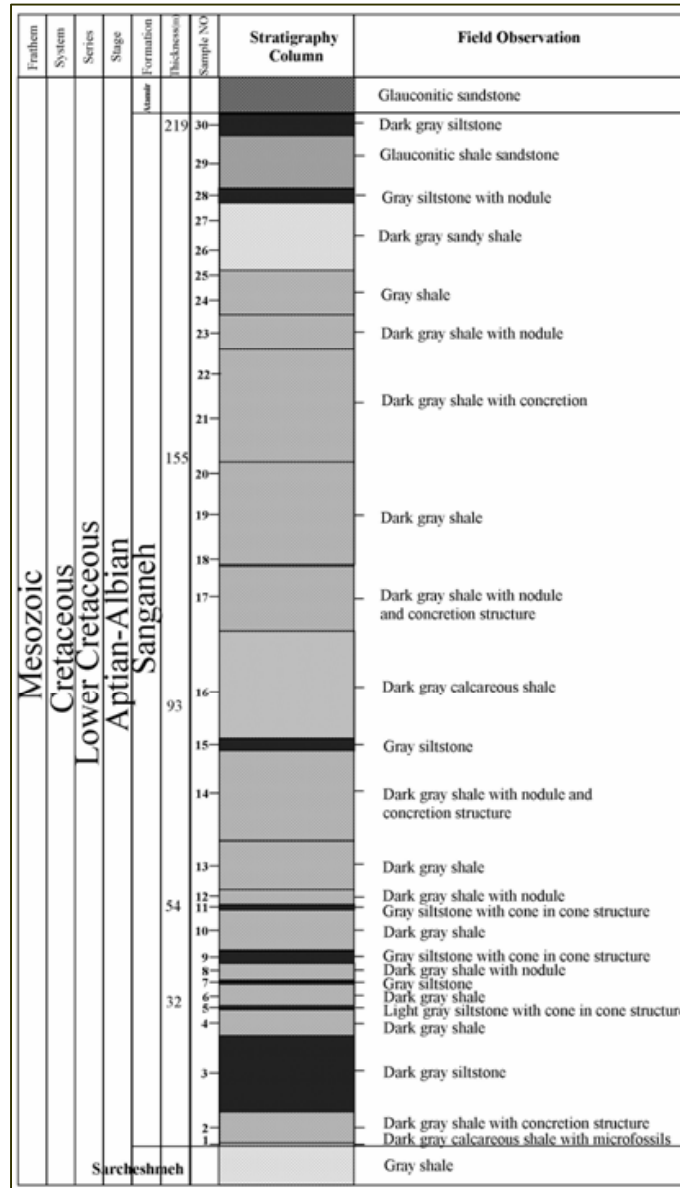


Fig1:diagram of stratigraphy column

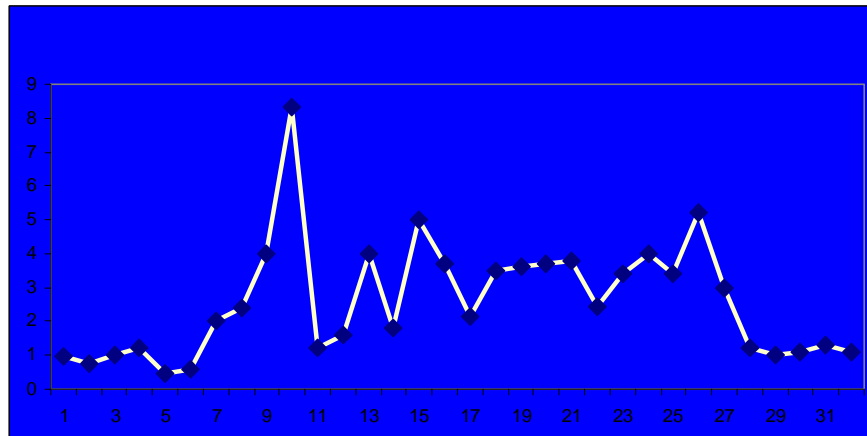


Fig 2: SOM ratio curve changes transparent to dark SOM in sanganeh formation samples

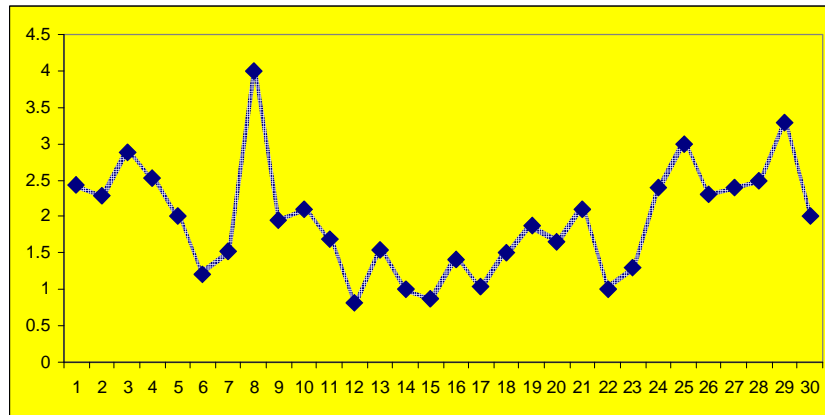


Fig3:ratio of Lability changes