Tectenostratigraphic of the Qom Formation (Centeral Iran).

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Abstract:

In addition, Qom Formation is one of the most reservior rock in the Central Iran zone. General study of lithostratigraphic characteristic indicates different thickness with distinct lithostratigraphic boundary.

Toctonic activity which occur in the Eocne-Miocene is the main cause of discontormities in the upper and lower lithostigraphic limit of the Qom Formation through the Central Iran.

KEYWORDS: *Tectenostratigraphic, Qom Formation, Centeral Iran, reservior rock*

Introduction:

Qom Formation is a Carbonate unit of Ramp Which deposits in a shallow depth marine environments in a section of west cenral Iran (Qom, Makoo, Ta fresh, kashan Azarbayjan and…). In the , previous studies, Qom formation were called Miocene Oligocene, or Lower Neogene Formation and Lepidocyclina Aquitanian Marl, but at the upper most of lithostratigraphic limit Qom Formation replaced former name.

This formation in clued shallow depth Lime stones and marl with a alternation of Silty marl, sand stone, layer thin-bededed limestone, gray to reddish shale and evaporites. Laboratorial and field observations led to recognition of four sedimentary environment: shoal backreef, Lagoon and fourreef (Qodsi siab, Lasmi 1995).

History of Qom formation:

for the first time Loftoos (1855) and Abic (1859) Studied Qom formation at the oorumiye Lade, also Titz (1876) reported this formation from central Iran and E stall's Qom (1912). Rezai et al (1998) has been reported that there are 6 different sedimentary section. Daneshuyan and Bakhtiari (2002) have been studied foraminiferal constituents, Base on this study the age of Qom Formation is Upper Aquitanian- Lower Burdigalian. Qodsi siab and Lasmi (1995) distinct four sedimentary environment for Qom Formation at Soltan pond. Aghanabati et al (2004) with study on oily field of Seraje, Alborz and Aran in Qom

Formation have concluded that zagros Till Miocene- Eocene sea develop till west central Iran Margin.

Age changes Of Qom Formation on the basis of transgression and regression sea erosive circulation should be considered and so Qom Formation might introduce am or part of stages of Rupelian, Chattian Aquitanian, Burdigalian and even Tortonian till Holotian (Khosrotehrani, 1370).Also Bozorgnia laf (1966) believes that the presence of Nommolites intermedius and Eulcpidina in south of Kashan coutirm this possibility to knowe lower part of Qom Formation equivalent with lower part of Asmari Formation and knowe that Lower part of Qom Formation is Rupeliane, also upper Limestone of Qom Formation with the age of Burdigalian is synchronous with upper Asmari Formation.

Lower strtigraphic limit of Qom Formation is not similar facies everywhere but in most central Iran zone overlies on Lower Red Formation disconformable unconformity. Also upper lithostratigraphic limit is a erosive surface everywhere that usually is sharp and terminates to detrital row of Upper Red Formation and some times is accompanied by unconformity .

Stratigraphy:

with due attention to stratigraphy seetions that places that Qom Formation is reported in them, vertical section choose on general procedure of central Iran (north of west- south east). Location of geologic section are presented in fig 1. Each section include some stratigraphic section that point them at the continue. Stratigraphic column information of selective station provide from 26 reports and geology organization 27 , also from Dr saeedi,s article.

Research method:

In the view of the fact that sedimentary basins can record formation stages and effective tectonic episodes on thern in themselves duning their age, for reaching tectonic data and history of crust tectonic,s country of Iran, only can't use tectonic phenomenosn that exist on external crust because the episodes of one age might be deleted and faded by effect of structural changes and metamorphosis special in multi-phase metamorphic regins. Sometimes the intensity of Structural changes is to the extent that make hard and practically impossible episodes commentary and interpretation. Therefore one of the methods that by it. Can calculate episodes intensty and time and crust changes and finally different ages of tectonic episodes, is study (research) method of strtigraphy columns and the comparison of formation thickness change in adjacent regions.

For this purpose from different points of studing region are selected and examined sections because of Tec tonic denstiny determination and dominant system on it. In this research is tried that selected sections be in vertical direction on spread trend of studing region. Therefore with attention to the trend of central Iran's north western-south eastern. Sections have selected in direction of north-eastern-south- western.

For the study and analysis and inquiry of strural condition. Tectonic condition, and the state of sedimentary basin settlement is used methods that are as follows:

1- the preparation of report article and maps around region (Table 1).

2- sections determination on the basis of stratigraphy columns settlement (figure 1).

1- Jam, Garmab, Attari, Nakhlak, Anarak.

2- Yazdan, Yazdan, Soh.

3- Julfa, Soltanie, Karevansara sang, Nardaghi.

3- the preparation of Location map with 1:200000 seale and the determination of sections settlement place on it (figure 1).
4- the preparation of correlation Diagram and Making stratum columns correspondence of each section with each other on the basis of existing formations in every column (figures 3, 2, 4).

Conclusion:

After the upper Eosen event (pirnein event) Come into existence a erosion on Iran crust and products of this event settle in sedimentary environment , alluvial , and temporary lakes of tropical areas in oxid conditsons that include conglomera , san stone , gypsum , salt stone silt and clay that are from original maker of lower red formation. This formation settle in most of Iran arcas.
But This frontier is sudden and sometimes might accompanied whith slight unconformity but this unconformity is not reveal so mueh.
The advance of sea in the time of oligocen till upper miocen cause sedimentation of little depth lime- stone and marl in central Iran.
Regressive movement of upper Eocene causes the deposition of lower Red Formation which overlies by Qom Formation. Actually Qom Formation is an indication of transgressive of Oligocene movement.
However Qom Formation is the most transgressive sequence which is deposited in the main parts of Central Iran.
It is nececsary to note that, upper lithostigraphic limit of the Qom Formation show regressive movement. which is named upper Red Formation (URF).
Lithologic chovactevistic of URF, mainly consist of red bed red conglomerate which indicate as a continental sediments.
There fore URF is similar with LRF. Qom Formation is sandwiched between two continuted facics (LRF and URF).

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Tabel 1:

Section 1					
Region name	Thikness	Litology	Age	Up limit	Down limit
Gam	525m	Limestone	U.Oligocene-L.Miocene	.....	Lower Red.Fr
Garmab	310m	Limestone with Marn intercalation	U.Oligocene-L.Miocene	Upper Red.Fr	.....
Attari	90m	Limestone,Shail and Sand stone	U.Oligocene-L.Miocene	Upper Red.Fr	.....
Nakhlak	982m	Limestone with Sand intercalation	U.Oligocene-L.Miocene	Upper Red.Fr	.....
Anarak	200m	Limestone and Marn	U.Oligocene-L.Miocene	.....	Lower Red.Fr

Section 2					
Region name	Thikness	Litology	Age	Up limit	Down limit
Yazdan	1290m	Limestone with Sail intercalation	U.Oligocene-L.Miocene	Upper Red.Fr	Lower Red.Fr
Do Baradaran	780m	Limestone	U.Oligocene-	Upper Red.Fr	Lower Red.Fr
Soh	650m	Limestone with Shail and Sand stone intercalation	U.Oligocene-L.Miocene	.....	Lower Red.Fr

Section 3					
Region name	Thikness	Litology	Age	Up limit	Down limit
Julfa	600m	Limestone	U.Oligocene-L.Miocene	Upper Red.Fr	Lower Red.Fr
Soltanie	200m	Limestone	U.Oligocene-L.Miocene	Upper Red.Fr	Lower Red.Fr
Karevansara sang	1280m	Limestone with Shail intercalation	U.Oligocene-L.Miocene	Upper Red.Fr	Lower Red.Fr
Nardaghi	1340m	Limestone	U.Oligocene-L.Miocene	Upper Red.Fr	Lower Red.Fr

Arghoon	900m	Limestone with Conglomera and Sand stone	U.Oligocene-L.Miocene	.....	Lower Red.Fr

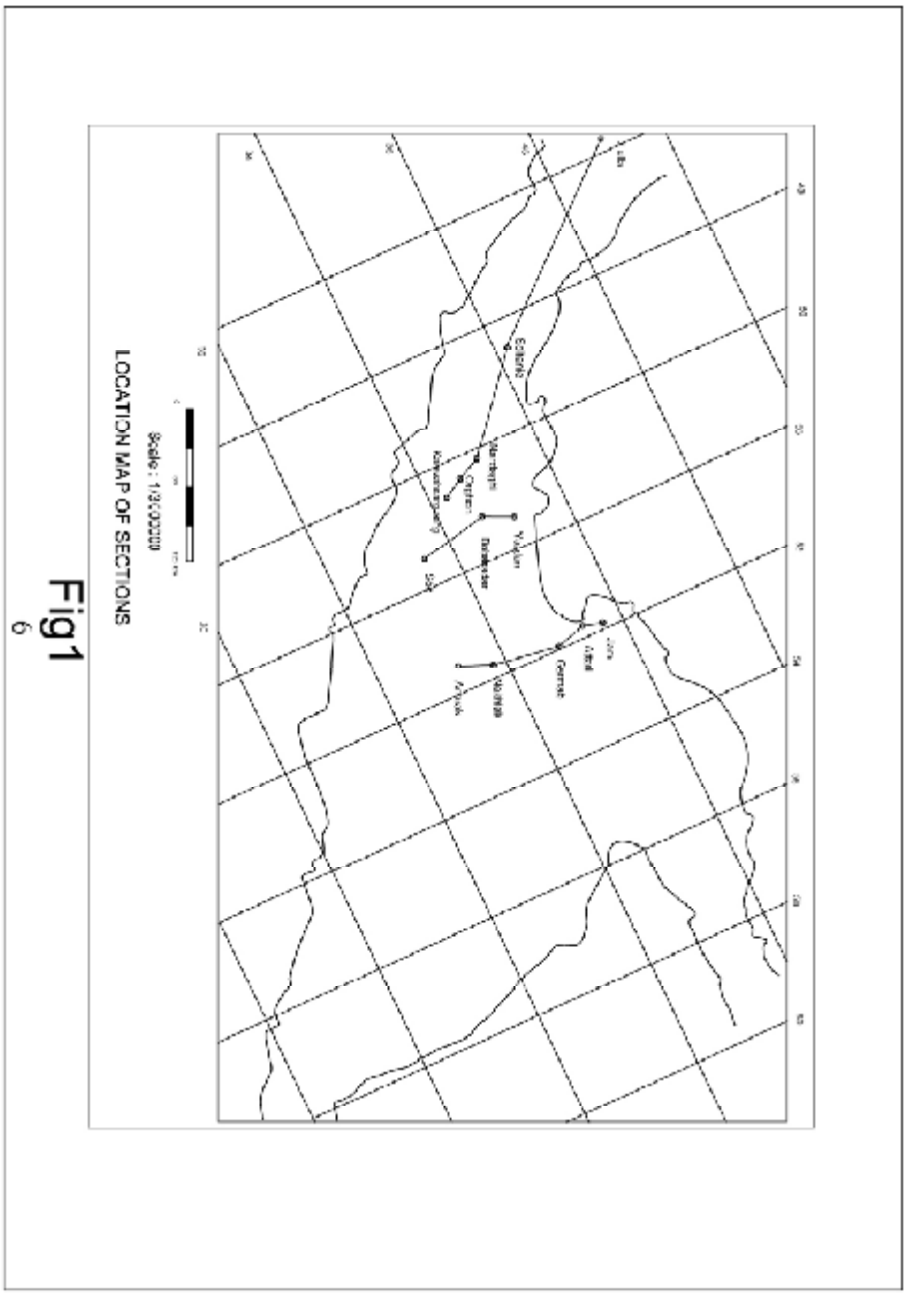

Fig1
6

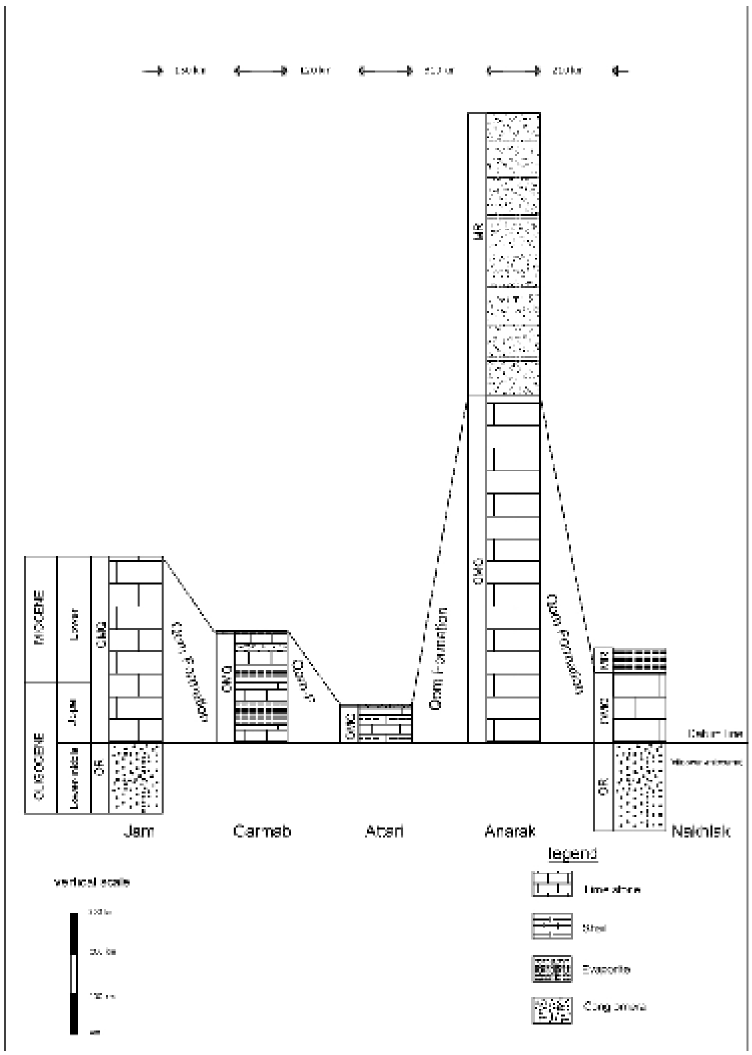
MIOCENE
OLIGOCENE
Lower
OMQ
OR
MR
Qom Formation
Jam
Carmab
Anarak
legend
vertical scale
Evaporite

Fig2

10

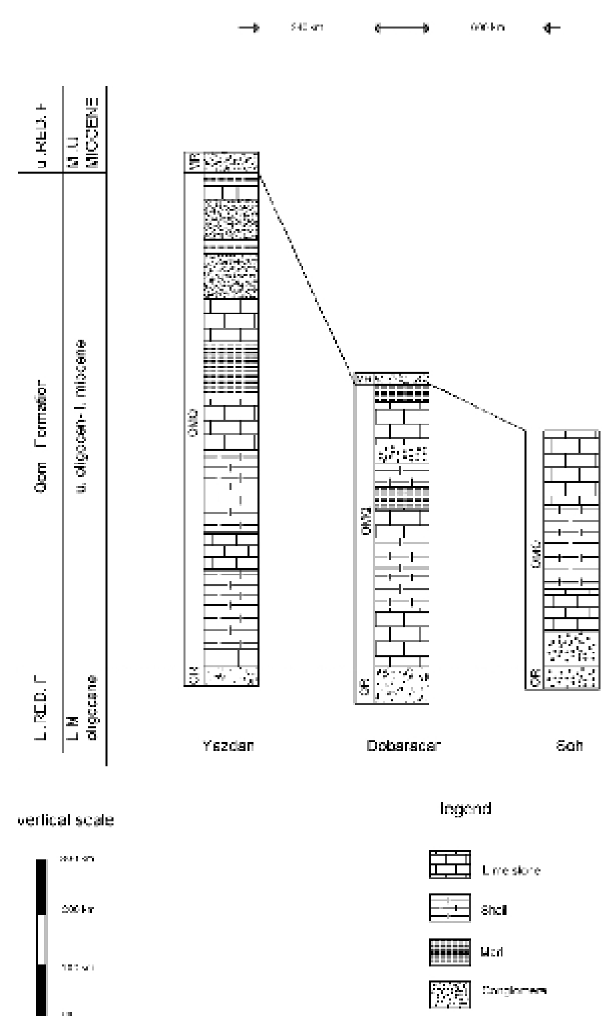
Qom Formation
u. oligocen-l. miocene
MIOCENE
Yazdan
vertical scale
Shell
Marl

Fig3

11

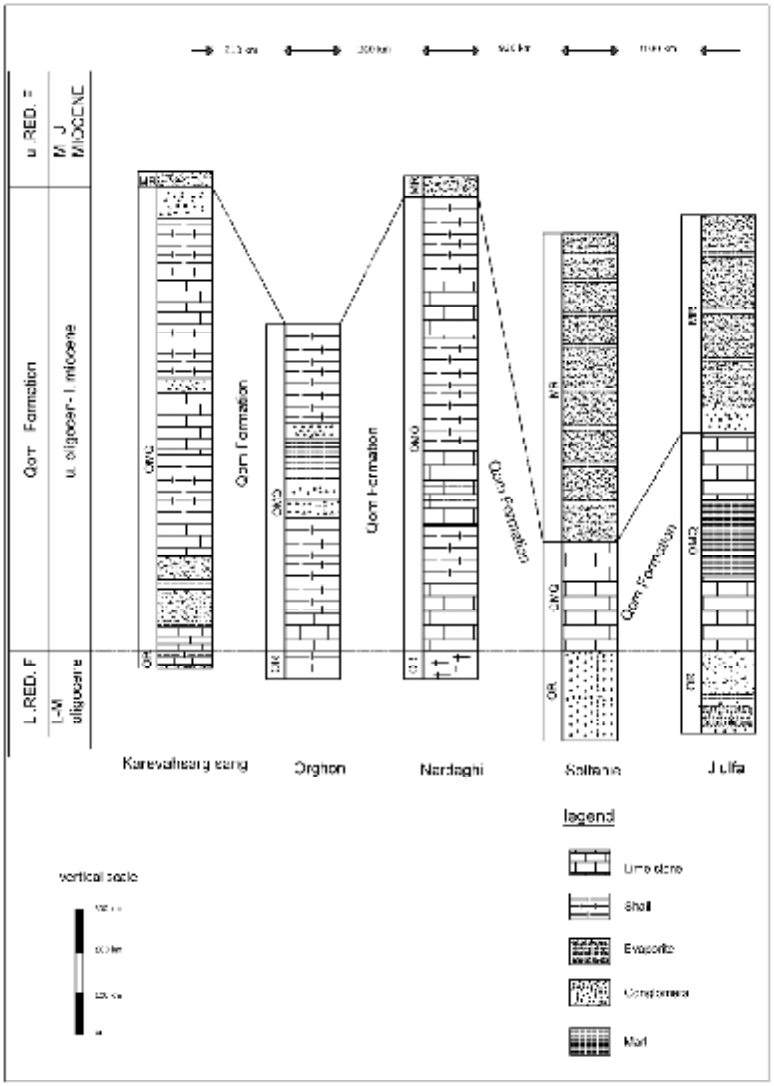
u. RED. F
M. J
MIOCENE
Qom Formation
u. oligocen- l. miocene
L.RED. F
l.-M oligocene
Qom Formation
Qom Formation
Qom Formation
Qom Formation
Karevalhesang sang
Orghon
Nardaghi
Soltanie
Julfa
legend
Limestone
Shale
Evaporite
Conglomerate
Marl
vertical scale

Fig4

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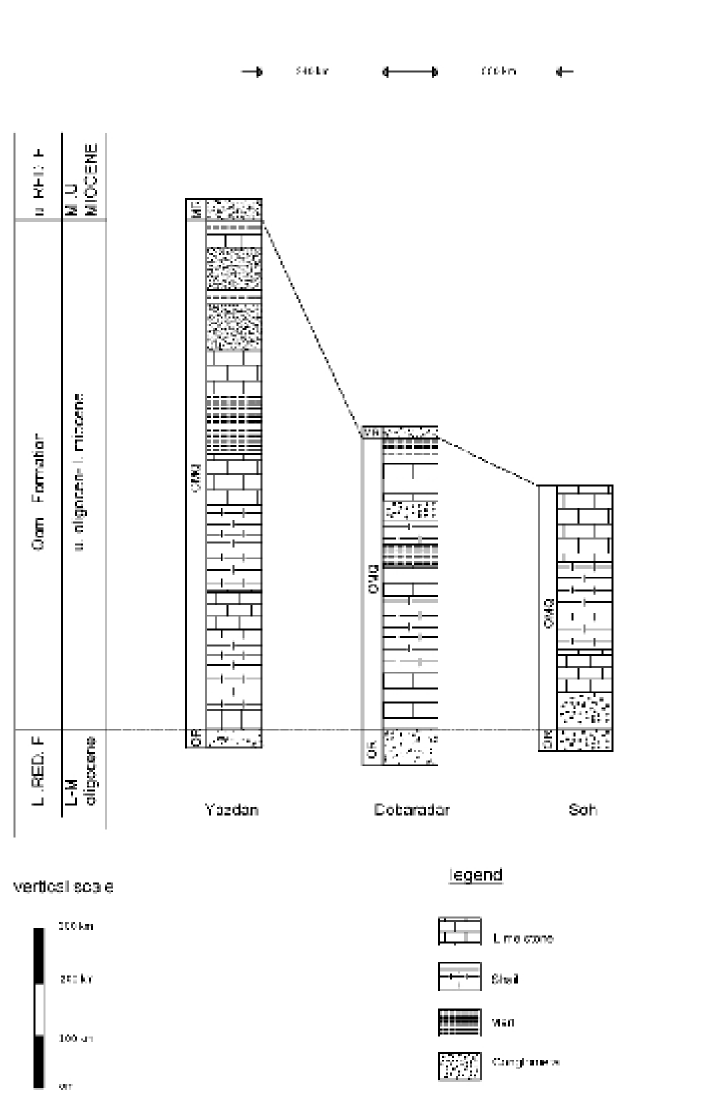
Qom Formation
L.RED. F
MIOCENE
oligocene
Yazdan
Dobaradar
Soh
vertical scale
legend

Fig3

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