

## عنوان مقاله:

Evaluation of maturity and depositional environment of bitumen shale of Asmari reservoir's caprock in Pazanan oil field with use of GC-MS and Isotopic ( $\delta^{13}C$ ) & ( $\delta^{34}S$ ) methods

## محل انتشار:

دوفصلنامه زمین شناسی ژئوتکنیک، دوره 4، شماره 3 (سال: 1387)

تعداد صفحات اصل مقاله: 8

## نویسندگان:

Amirsasan Zarvani - *Department of Geology, Faculty of Earth Science, Shahid Chamran University Ahvaz, Ahvaz, Iran*

Bahman Soleimani - *Department of Geology, Faculty of Earth Science, Shahid Chamran University Ahvaz, Ahvaz, Iran*

Hassan Amiri Bakhtiar - *National Iranian South Oil Company, Ahwaz, Iran*

## خلاصه مقاله:

The study of each part of petroleum system is necessary. However, recently, petroleum geologists focused their attention on the study of source rock, migration and accumulation with use of different geochemical methods. Of these, carbon isotope and biomarkers or chemical fossils are new scopes in petroleum geology especially in correlation. The member 1 of Gachsaran formation divided can be into 6 keybeds that B keybed is very important specially in drilling of Pazanan oil wells. The aim of this study is the evaluation of the cap rock in the Pazanan oil field in view of lithology, isotope and chemical variations. Bituminous shale sample was analysed geochemically. The analytical data of Bitumen's biomarkers belong to member 1 of Gachsaran Formation applied to evaluate sedimentary basin and maturity evaluation of probable source rocks in the caprock. The presence of tricyclic terpanes, bisnorhopane and low quantity of Gammacrane index is subsidiary of low salinity. Some organic geochemical indicators of caprock are also indicating lagoonal environment. Maturity analyses showed that bituminous shale of keybed B is immature.  $\delta^{13}C$  in extracted saturate and aromatic parts of bitumen is measured  $-25.1$  and  $-22.8\%$  respectively. Carbon isotope value ( $\delta^{13}C$ ) of carbonate samples is  $-20.7$ . The value  $\delta^{34}S$  of anhydrite in mudstone is  $16.6-16.8\%$ , but it increased in anhydrite samples ( $20.8-21.1\%$ ). These values reflects the presence of two fluids, diagenetic (brackish) and primary sea water. This measurements indicating non-marine source. These data and lithological variations verify a Sabkha-lagoonal environment. The hot-wet and hot-dry climate can be concluded

## کلمات کلیدی:

biomarker, Bitumen Shale, Caprock, Key-bed

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1320723>



