



## Research Article

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**The Oil and Gas Province of the Persian Gulf, Vendian and Cambrian Oil with Underlying Deposit and Transition of Metals in Oil**Trinh Quoc Vinh<sup>\*1</sup>, Dinh Tran Ngoc Huy<sup>2</sup>, & Sergey Yakutseny<sup>3</sup><sup>1</sup>Gubkin Russian State University of Oil and Gas: Moscow, RU<sup>2</sup>Banking University HCMC Ho Chi Minh city Vietnam – International University of Japan, Japan<sup>3</sup>Gubkin Russian State University of Oil and Gas: Moscow, RU**Article History**

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**Abstract:** The paper aims to figure out Analysis of the Yaregskaya oil with underlying deposit "lower placer with genetic unity, migration consequences and transition of metals in oil.

By using descriptive method for primary model, synthesis methods and process analysis and analysis of difficulties and discussion, the study of this problem point that, the periods of tectonomagmatic activity, especially extensive in the Triassic, when a huge territory of the platform was covered trap magmatism. In the Cenozoic, it experienced a powerful upward inversion.

Explored, and even then only slightly, only the south of the platform. Productive on the platform in general Vendian and Cambrian, and in the east in the Lena-Vilyui depression - the Mesozoic common to all this vast area is low in both sulfur and metals in oil.

**Keywords:** Persian Gulf, Vendian and Cambrian, Oil, Underlying Deposit, Metals in Oil, Composition, Oil and gas fields.

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**INTRODUCTION**

In general, the bulk of the oil reserves in the region, confined to the Khanty-Mansi Autonomous Okrug according to vanadium content, on average - 30-50 g / t, slightly inferior to the main deposits of Timano Pechora province. But unlike the latter, in Western Siberia there are no large accumulations of high-metal heavy oil and natural bitumen. This is related to our point of view, with the prevailing mode of lowering the productive strata of the Mesozoic in the Western Siberia, while in the Chamber of Commerce and Industry repeated periods of inversions brought out many oil deposits into zones of hypergenesis and even completely destroyed them, preserving their remains in the form of large accumulations of bitumen - Ust-Voisky, Izhemsky, Kozhe-Kamensky, etc.

This can be confirmed by the data on the content of vanadium in the resins of oil from Western Siberia, shown in table 58. As can be seen from it, the content of vanadium in them in no way is not inferior to its content in the bitumen of the Chamber of Commerce and Industry.

The paper presents related studies and Analysis of The oil and gas province of the Persian Gulf,

Vendian and Cambrian oil with underlying deposit and transition of metals in oil

**Research Questions**

**Question 1:** What are related researches and Analysis of The oil and gas province of the Persian Gulf, Vendian and Cambrian oil with underlying deposit and transition of metals in oil?

**METHODOLOGY**

Authors have used qualitative and analytical methods, descriptive method for primary model, synthesis and discussion methods in this paper.

We also used historical materialism method.

**MAIN FINDINGS****Analysis of problem****Persian Gulf NGP**

The oil and gas province of the Persian Gulf, Figure below, is the planetary leader in the field of concentration of resources, reserves and scales of oil production. Particularly rich in oil Saudi Arabia, Iran, Iraq, UAE and Kuwait.



**Figure 1:** OGP of the Persian Gulf [24]

The Persian Gulf basin geotectonically belongs to the boundary type, occupies deep - up to 15 km and extended - 2.5 thousand km depression - the Mesopotamian trough, located between the alpine orogen Zagros from the east, Taurus from the north and monoclinial slope of the ancient Arabian shield in the west. Oil and gas productive almost the entire section of the cover is from the lower Paleozoic to the Miocene, but approximately 75% of the reserves accounts for the Mesozoic, heavy oils also represent a significant share among the reserves.

There is not much information about the metal content of oil in the Persian Gulf, but still they are. If a focus on the data shown in table 25, now from this region to the world the market receives oil with an average content of vanadium in light and medium oil approximately 40 and nickel 10 g/t, in heavy - 69 and 22 g/t, respectively. Especially a lot of zinc in them - 285-500 g/t and chromium - 40-160 g/t.

As can be seen from Table 61, in general, the content of V and Ni in the oil of the OGB of the Persian Gulf is quite moderately, especially considering that absolutely predominant in terms of reserves and production volumes in the basin are light and medium-density oils. The concentrations of V in them do not exceed 20-30, and Ni - 10-15 g/t. Of the total number of 28 fields for which we have data on the content of V and Ni in them, only four concentrations of V and Ni can be called high.

These are deposits of heavy oil in the fields Gechsaran - 123, Kiruk - 151 and Mond - 165 g / t for vanadium and nickel, respectively - 33.39 and 59 g / t,

and in Syria - Jibissa - 94 and 20 g / t for V and Ni. All these deposits are located within the Iranian Zagros, i.e. on the east side of the trough, foothill part.

Relatively calm vanadium metallogeny of Persian Gulf oil, with their simultaneous enrichment with zinc, is in good agreement with the general metallogeny of the region generally. There are few iron ore formations enriched in V, but there are many deposits of Zn, Pb and other polymetals.

Figure shows the layout of oil and ore deposits in the OGB of the Persian Gulf and framing of interest are studies of oil from the Mond field, located in the southwest Iran, Fars province. In the Permian-Triassic deposits of this deposit, large gas reservoir. Above, at depths of 500-1100 m, in the Cretaceous and Neogene, there are two deposits of heavy highly viscous oil, such as the Mond field in Zagros shown in Figure below.

Their formation is associated with the beginning of active tectogenesis in the early Miocene, which created the Zagros fold system. The most likely oil generator, according to A. Rabbani and EM. Galimov [25], who studied the carbon isotopic composition of oil and OM rocks, follows consider the Ordovician formation Gakhom. The base is the proximity of their isotopic

Country, deposit, year discoveries	—	—	—	E	Content, g/t		
					V	Ni	
Iraq	Kirkuk, 1927	2185	N, y, K	200-2007	0.845-0.874	1	17
	Zubair, 1948	1920	N, y	1800-2200	0.845-0.935	13	—
	Haramlak Bai,	1473	K	2200-3000	0.845-0.856	26-48	—
	Ghassan, 1953	300	N, y, K 1200	1974 K, T3	0.844-0.894	35	14-17
	Basra, 1959	—	—	1150-1262	0.850-0.87	—	—
Ain-Zaha, 1939	>25	—	1554-2500	0.800-0.870	95	—	
Saudi Arabia fields, 1957	Chawar, 1940 Abqah,	1200	—	2620-2750	0.871-0.893	12	—
	1949 Kharsena, 1957	1825	—	1550-2000	0.845-0.865	17	2
	Berry, 1964 Khassis, 1957	1420	—	1700-1900	0.835-0.848	48	7
	Ain Sufa, 1963 Khamit	1851	—	2790-2200	0.87-0.86	—	3
	Waha, 1953 Salsabi-Khawl,	784	—	2300	0.80-0.876	24	3
	1951	884	—	1550	—	—	5
	—	877	—	2607	—	32	12
El-Durgan (Baqun Ghawail), 1933 Iran	—	687	—	300-1800	0.904-0.908	49	1
	—	3267	—	1500-2000	0.87-0.893	63	12
Abasa,	10893	—	1000-1300	0.826-0.876	43	7	
Abasa,	1950 Jazat-Kel, 1927	1215	—	2070	0.876	23	—
	Alfa-Jel, 1938	351	—	600-1300	0.836	25	—
	Gachsaran, 1936	1203	—	2500	0.845	48	—
	Samsat, 1960 Khaw,	1405	—	1870-2135	0.869	123	33
1942 Qasr (Mashad)	178	—	1226-2054	0.817-0.894	16	1	

**Figure 2:** Characteristics of the largest oil and gas fields in the Persian Gulf

## DISCUSSION AND CONCLUSION

The periods of tectonomagmatic activity, especially extensive in the Triassic, when a huge territory of the platform was covered trap magmatism. In the Cenozoic, it experienced a powerful upward inversion.

Explored, and even then only slightly, only the south of the platform. Productive on the platform in general Vendian and Cambrian, and in the east in the Lena-Vilyui depression - the Mesozoic common to all this vast area is low in both sulfur and metals in oil, Last but not least, it can be concluded that there is no genetic, migratory and structural connection of the Yaregskaya oil with underlying deposit "lower placer".

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#### Conflicts of interest

There is no conflict of interest

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