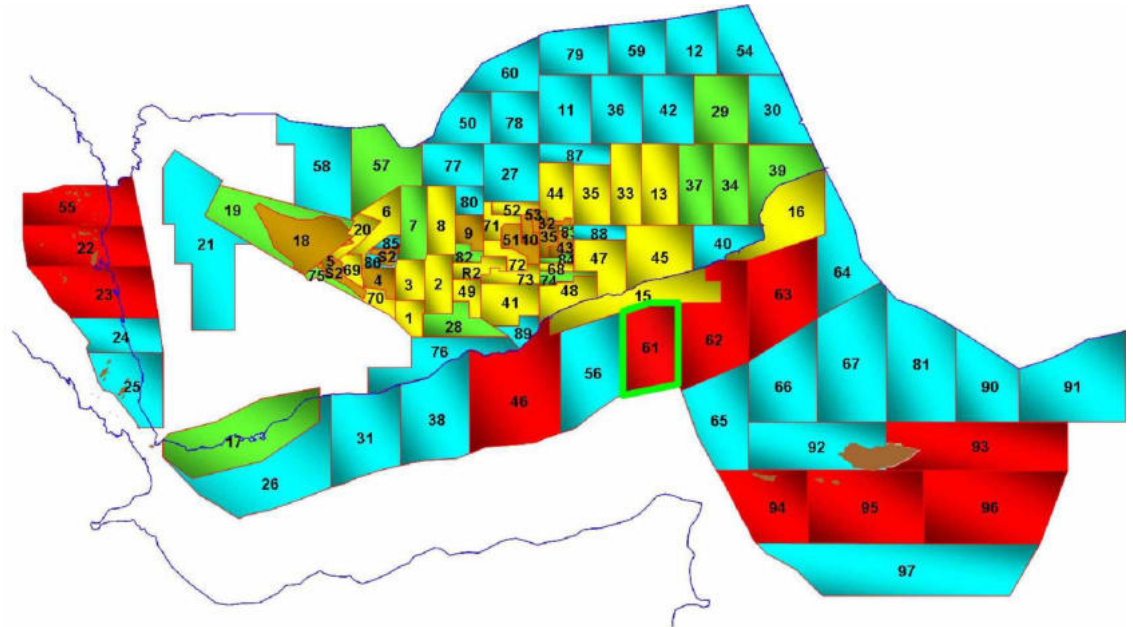
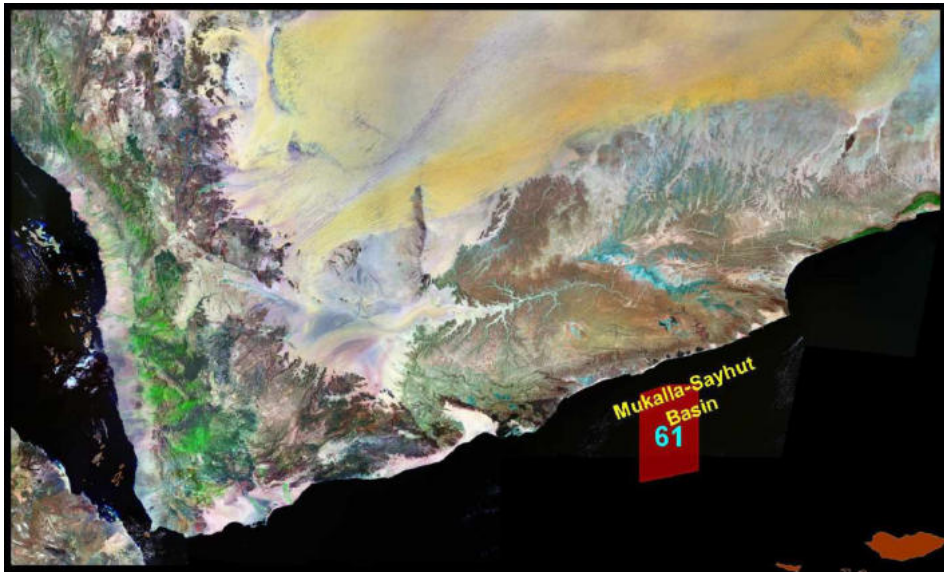




# Block 61 (S Musina'ah)

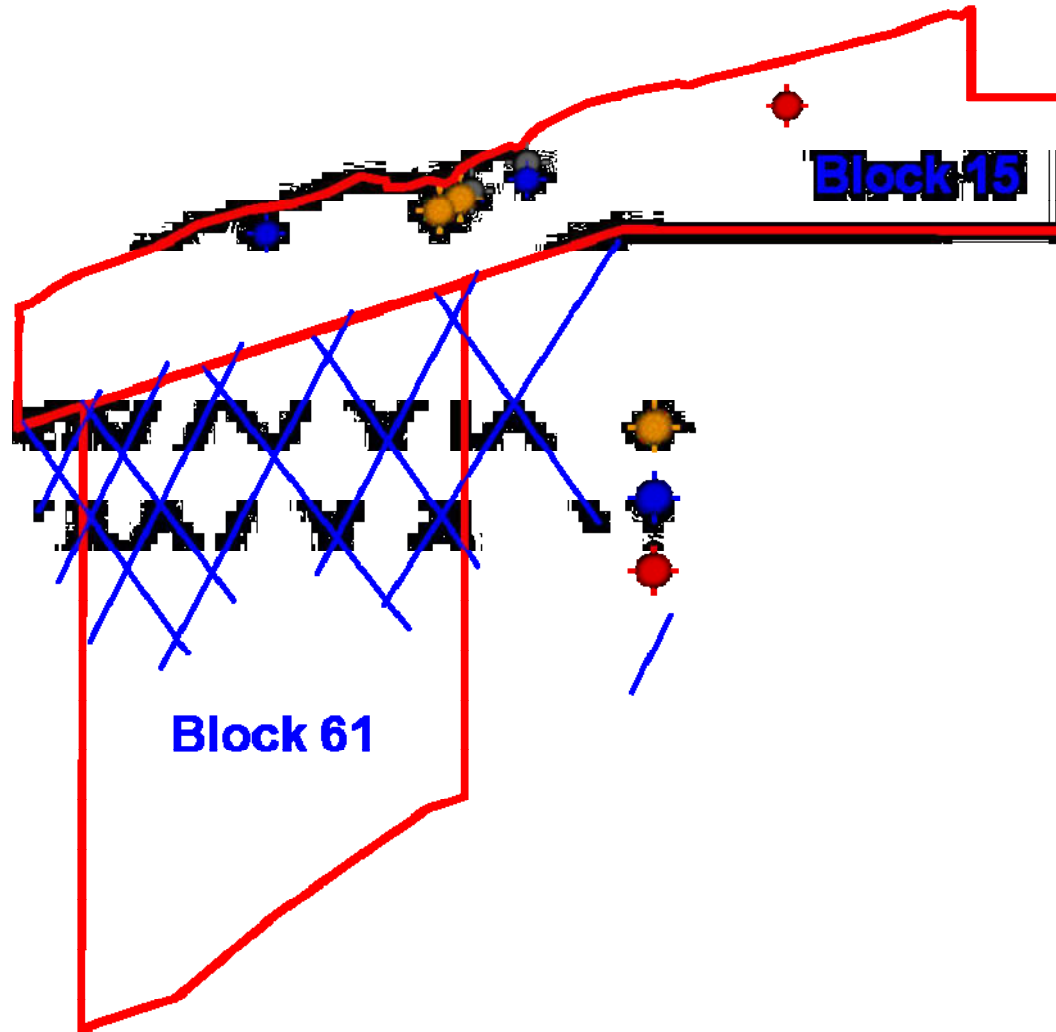


- The South Musina'ah Block (61) occupies an area of 11,664 km<sup>2</sup> on the Mukalla – Sayhut Basin near the southern coast of Yemen.
- Block (61) lies on the offshore area. It is bordered on:
  - ⊕ The north by Exploration Block (15).
  - ⊕ The west and east by the Blocks (56 & 62) respectively.



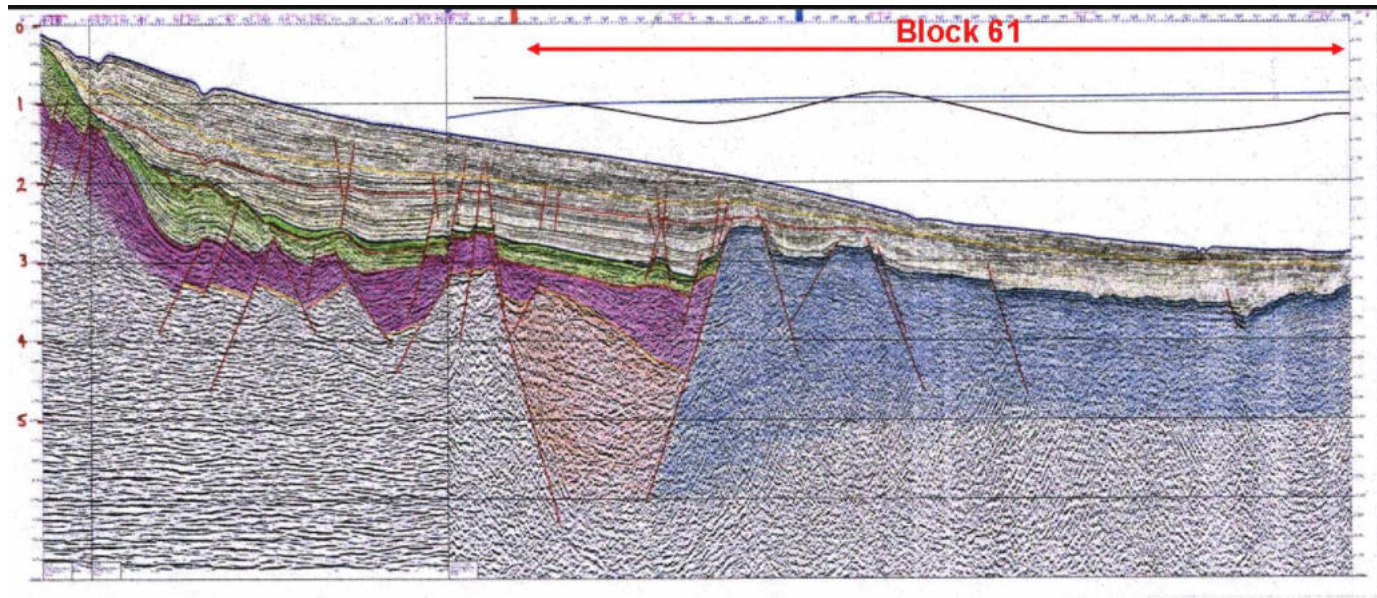
### PREVIOUS EXPLORATION ACTIVITIES

Company	Period	Activities
WesternGeco	2000	Seismic (2D)



Previous Exploration Works



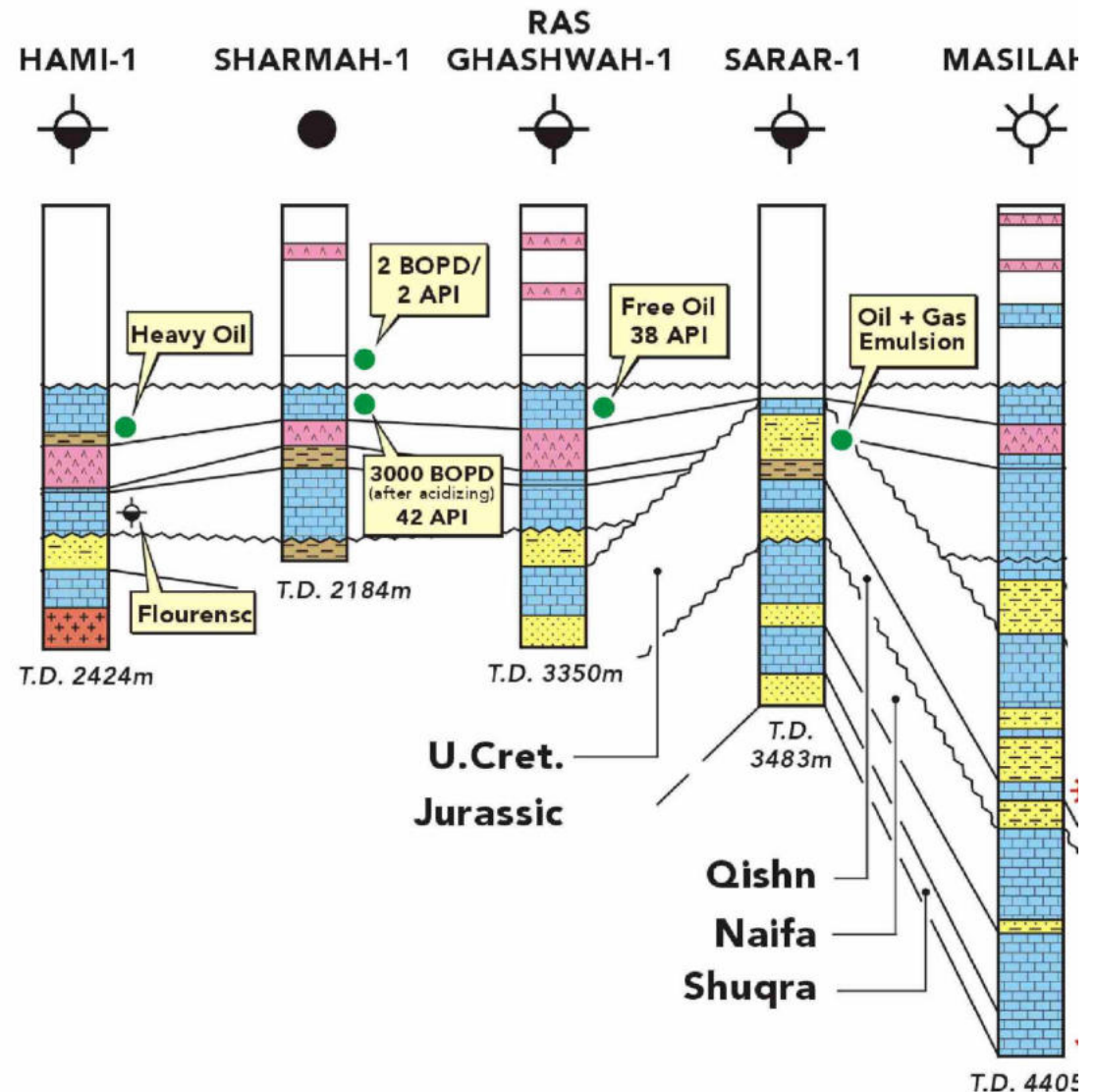


The Block (61) lies on the Mukalla – Sayhut sedimentary basin and would have the petroleum systems for this basin.

⊕ Analysis of a recent deep water 2-D seismic data acquired in previously unexplored acreage in the Gulf of Aden together with the results of potential field modeling indicate the presence of a pre-rift section in offshore Yemen. This pre-rift section is considered important for hydrocarbon prospectivity as it contains numerous oil discoveries that range from the onshore Maslia Field (Qishn Cretaceous sandstones) to the offshore Sharmah-1 discovery (Eocene carbonates). Cretaceous source rocks are considered to be ubiquitous in this region and are composed mostly of type II kerogen while reservoirs (Nubian sandstones) are developed throughout most of the stratigraphic sequence. The prerift section is considered to be some 2-3 km thick in places and demonstrates trapping mechanisms associated with rifting, such as rotated fault blocks. The post rift is also remarkably well developed in places reaching some 3500 m in thickness, sufficient to allow the maturation of any post rift source rocks. The post rift is less heavily faulted than the prerift and so therefore trapping mechanisms are likely to be slightly different in character and include rollover anticlines, amplitude anomalies, together with basin floor sands and others. Further hydrocarbon traps are associated with the highly conspicuous transpressional/flower structures located at the basin boundaries that could form low-risk fold closures. Also the presence of hydrocarbons in Eocene carbonates subcropping the breakup unconformity indicates the validity of stratigraphic trapping.



- The Sharmarh-1, Hami-1 and ras Ghashwah-1 wells are situated in the block (15) directly to the north of the Block 61 and illustrate the strong presence of hydrocarbons beneath the break-up unconformity at Eocene level and gas shows deeper down at well Masilah-1 indicating a valid hydrocarbon system.



Drilled wells in the surrounding blocks



## PETROLEUM SYSTEM

### SOURCE ROCKS

- In the Mukalla – sayhut Basin, potential source rocks were encountered in the Tertiary (Ghaydah, Habshiyah, Rus and Umm Er Radhuma) Cretaceous (Mukalla, Harshiyat and Qishn) and Jurassic (Naifa and Madbi) sections.

### RESERVOIRS

- Clastic of the Kohlan, Qishn, Harshiyat, Mukalla, Ghaydah, Hami and Sarar Formations.
- Carbonate reservoirs of the Shuqra, Madbi, Naifa, Qishn, Fartaq, Jiza, Rus and Habshiyah Formations.

