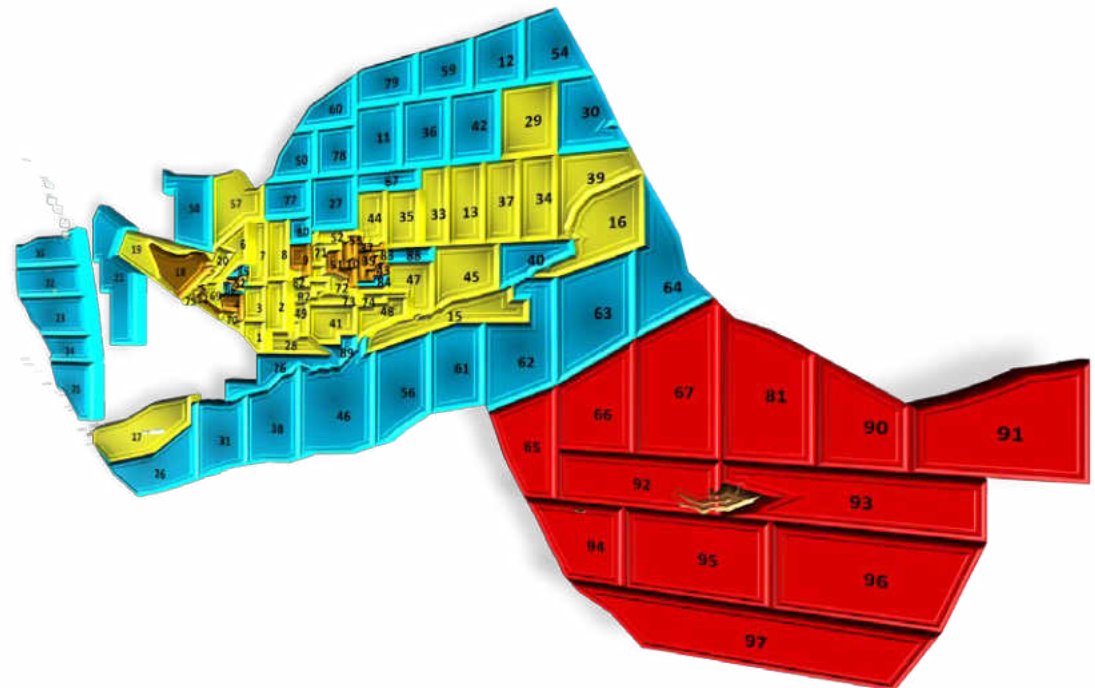
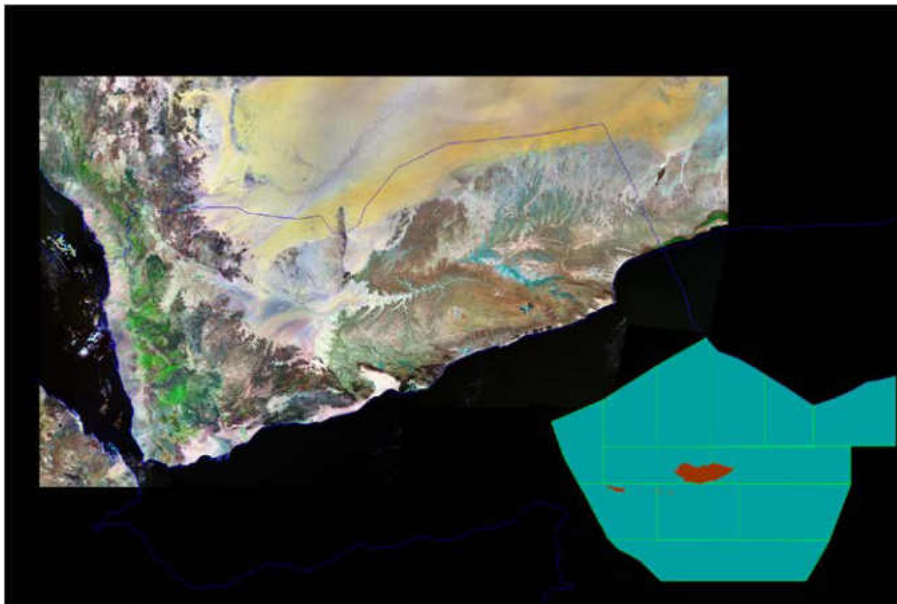




SOCOTRA BASIN'S BLOCKS

- ☞ The Socotra Blocks lies in the Socotra Basin in the Gulf of Aden offshore.
- ☞ The Socotran Platform is located at the eastern limit of the Gulf of Aden. Part of the platform is dominated by the Socotran Archipelago (Socotra, Darsah, Samhah and Abd al Kuri).
- ☞ In the northern part of the block lies the Abd Al Kuri Island.
- ☞ Water depths are generally less than 250m for a distance of some 70km towards the south.

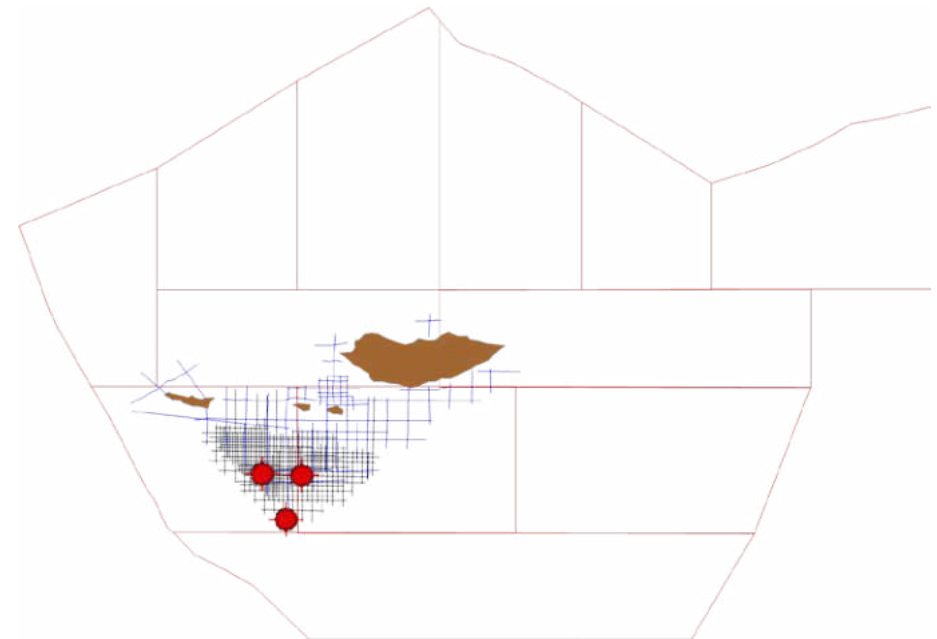


PREVIOUS EXPLORATION ACTIVITIES

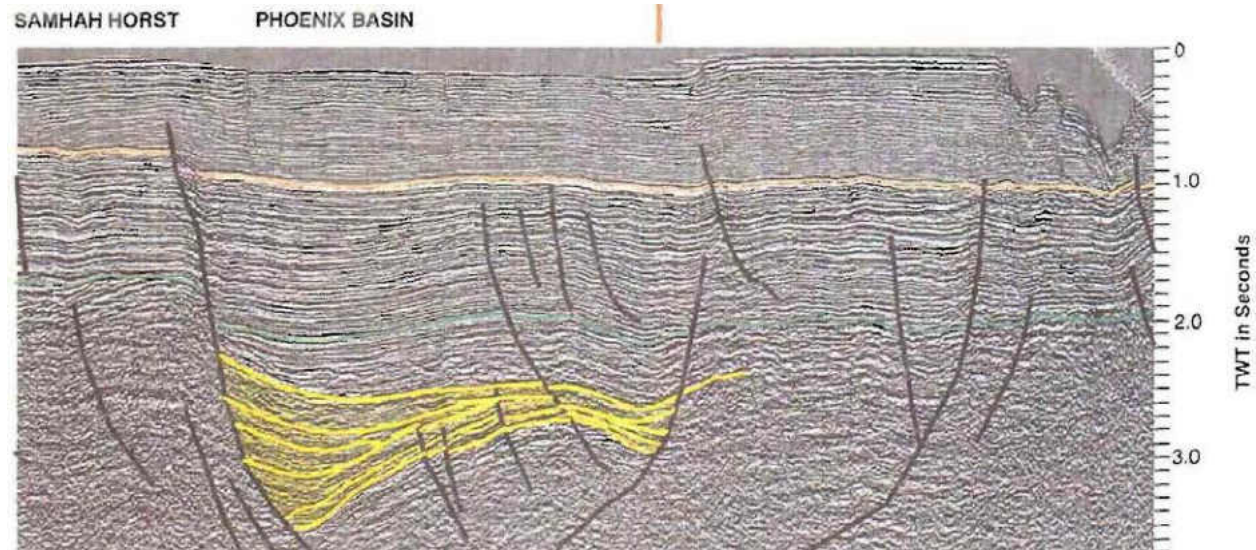
Company	Period	Activities
Siebens	75-79	<ul style="list-style-type: none"> ▣ Magnetic & 2D seismic ▣ Drilling (1) well
British Gas	92-96	<ul style="list-style-type: none"> ▣ Gravity and Magnetic ▣ 2D seismic ▣ Drilling (2) well

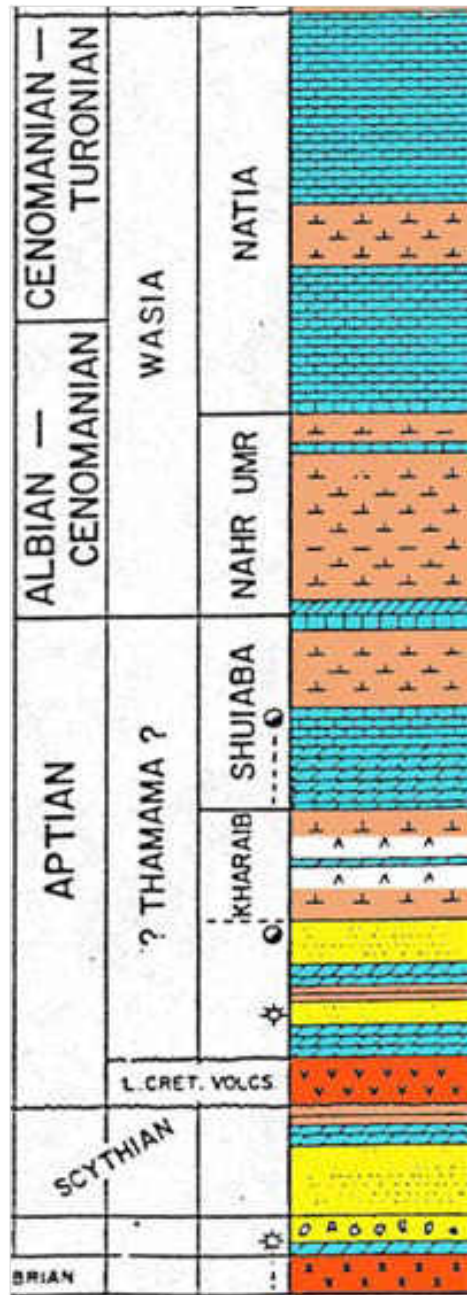
DRILLED WELLS

WELL NAME	COMPANY	DATE	TD	SHOWS
			TD FM	STATUS
Samhah#1	Siebens	77-78	2619 m	Oil & Gas shows
			Triassic	P & A
Rukh#1	British Gas	1996	3202 m	Gas shows
			Triassic	P & A
Phoenix#1	British Gas	1996	3476 m	Dry
			Triassic	P & A



Previous Work





SAMHAH-1 Well

- Triassic and Jurassic strata are preserved in easternmost parts of Socotra where they reach thicknesses in excess of 400m. The predominance of carbonate platform facies within much of the Triassic and Jurassic suggests that these successions were originally deposited over a large area.
- Most of the strata believed to be of Jurassic age has been classified as syn-rift on seismic reflection data profiles, and was deposited in a number of half grabens. The Cretaceous and Tertiary post-rift section however, was deposited across most of the Socotran Platform and can be seen to thicken on seismic lines from approximately 500m in the north, adjacent to, and on the islands, to in excess of 2700 m in the post-rift thermal sag depocentres evident in the centre and south of the platform.
- Two major sequences can be recognised in the Qishn Formation, and can be further subdivided into systems tracts. An Upper Qishn highstand systems tract has been identified on a north-south seismic line with coastline-parallel facies belts.
- Three major sequences can be recognised in the Fartaq Formation and one in the Sharwayn Formation.

PETROLEUM SYSTEM

SOURCE ROCKS

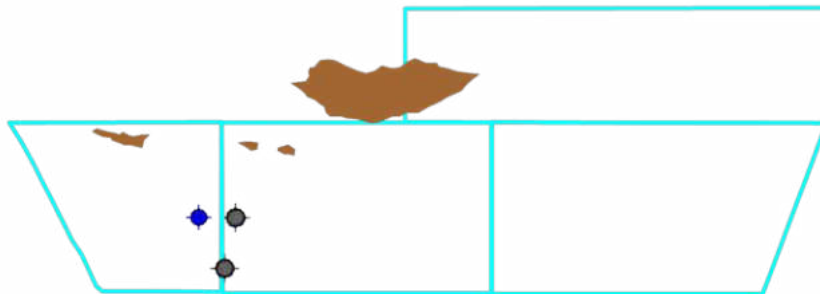
- Penetrated in the Lower Cretaceous, Jurassic and Triassic sections
- Total Organic Carbon reached 1.4%

RESERVOIR ROCKS

- Reservoir quality penetrated in the Triassic Sudair with net average porosity = 17%.
- About 122m of Naifa/Saar carbonate reservoirs had net average porosity = 17%.
- Qishn carbonate reservoirs had net average porosity = 15%, 230m of Qishn clastic reservoirs had net average porosity = 17%.
- Good reservoirs were penetrated in Mukalla/Fartaq carbonate sequence with porosity reached 28%.

● The fair oil shows in the drilled well **(Samhah#1)** confirm the presence of the good source rock horizons in the Socotra Basin.

Oil Shows 



STRATIGRAPHY		LITHOLOGY	Formation	HC System		
				Res.	Seal	Source
TERTIARY	NEOGENE		Undifferentiated Neogene			
	PALAE-OGENE		Rus & Umm Er Radhuma			
CRETACEOUS	UPPER		Sharwayn Formation			
			Fartaq Formation			
	LOWER		Qishn Formation			
			Saar Formation			
JURASSIC		Naifa Formation				
		Madbi Formation				
		Shuqra Formation				
		Kohlan Formation				

- Rich organic shales were found in the Lower Cretaceous section of Samhah with 399 ppm of C15+ hydrocarbons and good potential for oil although immature at outcrop.
- The shales in the lower Cretaceous sequence contain 1% organic carbon and fair to good active oil-source rating, but are only marginally mature at the Samhah well location (which drilled on high structural area).
- Source rocks have to be mature in the deep parts of the basin.
- Rukh#1 penetrated (in the Triassic Sudair) reservoir quality with net average porosity = 17%.
- Phoenix#1 penetrated dolomitic reservoir with poor to good porosity.
- The siliciclastic horizon at the base of Triassic succession at Ras Momi Island well sorted and up to 15% porosity.
- Naifa/Saar sandstones has poor to fair porosity (in Phoenix#1 well).
- About 122m of Naifa/Saar carbonate reservoirs had net average porosity = 17% (in Rukh#1 well).
- Jurassic sandstone section outcropping on Socotra Island has porosities exceed 25%.
- The sandstones reservoirs of the Qishn range from arkosic through to near quartz arenitic in composition with porosities up to 28%.
- 230m of Qishn clastic reservoirs had net average porosity = 17% (in Rukh#1 well).
- Qishn carbonate reservoirs had net average porosity = 15%, Qishn clastic reservoirs had net average porosity = 13% (in Phoenix#1 well).
- Thick good reservoirs in Mukalla/Fartaq carbonate sequence with porosity reached 28% (in Rukh#1 well).
- 314m of carbonate reservoir in Fartaq with porosity up to 38% (in Phoenix#1 well).
- In the Samhah-1 well:
 - Oil stains recovered from the Qishn Carbonate and Qishn Clastics.
 - Dolomitic beds within the 'granite wash' displayed moderate gas shows. These shows increased within the basement and were interpreted as fracture production.
 - Log analysis indicates the Permian section is gas saturated with SW range of 10 – 20%.
- Oil seeps were founded in Samhah Island.
- The fair oil shows in the drilled well (Samhah#1) confirm the presence of the good source rock horizons in the Socotra Basin.