

## CHAPTER FIVE

### Result and Recommendations

After well study in master log and comparing it with the well log that result from software, we can determine low resistivity pay zone.

#### 5.1 Result:

- **Low resistivity pay zone in Hadida N-8:**

First Interval of LRLC: 1849.65 - 1856.51

Resistivity RD= 22.08

Second Interval of LRLC 3094.47-3119.7

RD =15-16 ohm.m

- According to the planetology studies in core we can classified this interval of Bentiu Formation as Aptian-Cenomanian age.

- **low resistivity pay zone in Hadida N-2:**

Interval of LRLC 1948.5-1952.6

RD =15-16 ohm.m

- According to the planetology studies in core we can classified this interval of Abu Gabra Formation (Neocomian).
- Low Resistivity reading in Aredeiba reservoir not for Irreducible water (swi).
- Analysis results show medium grain sizes and moderate to well sorting in Bentiu reservoir
- Clay minerals distribution are the primary cause of the low resistivity in Bentiu pay sand and it can form during and after deposition. They are distributed in the formation as laminar shale.

## 5.2 Recommendations:

In light of the this study and to overcome the difficulties associated with the low Resistivity-low contrast zones in identification, evaluation as well as the causes of

The phenomenon, the following recommendations could assist:

- In LR/LC zones are expected it have to be good mud logging and geology Operation techniques.
- To minimize the effect of mud invasion on deep resistivity suitable logs in Order to have true resistivity ( $R_t$ ) as accurate as possible.
- Core analysis is invaluable source of data to calibrate and verify the Petrophysical results obtained from the wireline logging, especially in zones Of LR/LC.
- Shaly sand saturation models have to be used instead of Archie model as the shaly sand models better responded to main causes of the LR/LC Phenomenon (Fresh water formation, shaly sand zones, and thinly inter Bedded zones).
- For better estimates of water saturation, intrinsic  $m$  and  $n$  values should be used instead of default values.
- Sophisticated logging techniques such as NMR, advanced sonic and Resistivity scanners, and the latest dielectric scans, will solve many aspects Of LR/LC problems.
- Sedimentological studies are very important to know the causes of the LR/LC phenomena.