

أجب عن جميع الأسئلة الآتية

عدد أوراق الأسئلة 7

ملاحظة: الاجابة في نفس الورقة

1- What is logging ?

2 Mark

2- Complete: Gamma ray logs.....

1Mark.

3- What is types of logs ?

2 Mark

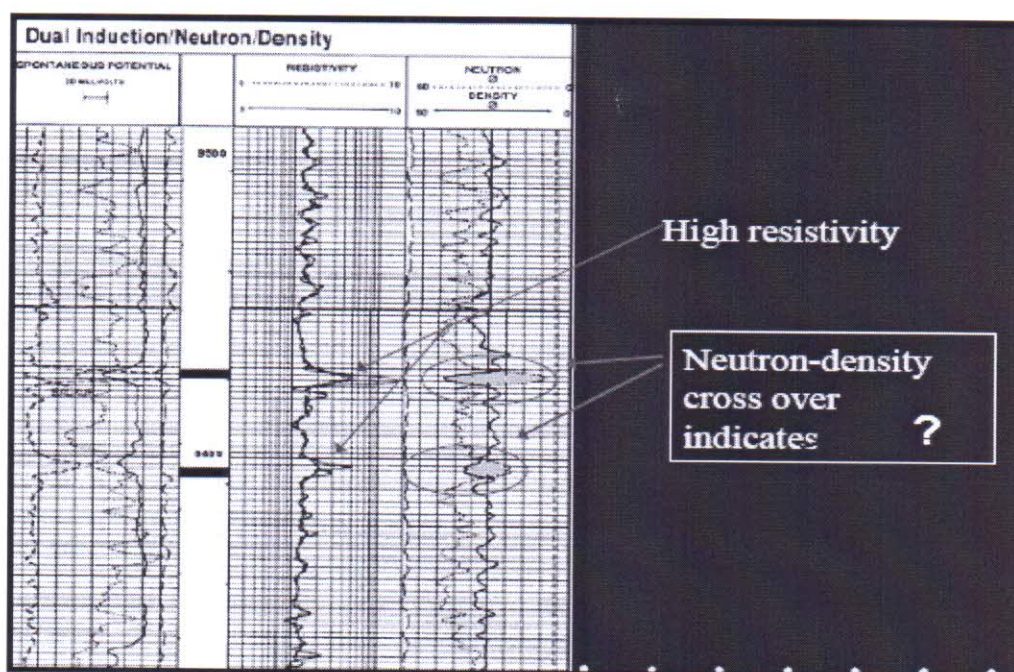
4- What can we measure?

3 Mark

- Electrical Properties
- Natural radioactivity
- Induced radioactivity
- Acoustic Properties (velocity)
- Shape of hole
- Depth.

5- Complete: indicates:.....

2 Mark



6- Nuclear Logs three type of logs:.....

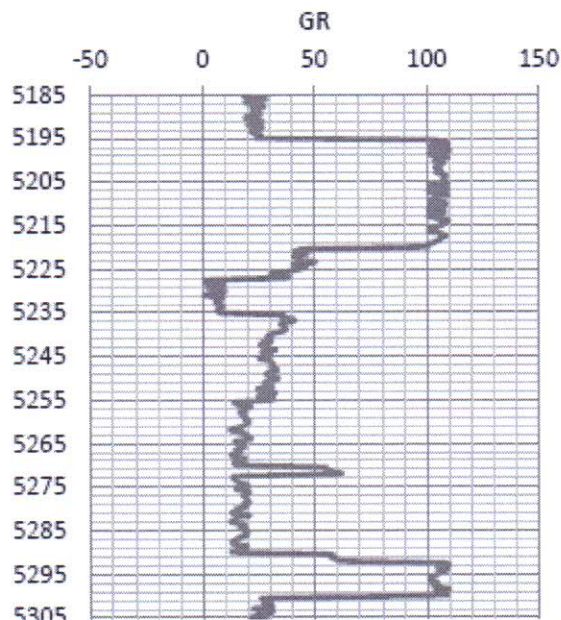
.....
..... 1 Mark

7- How many arms that calibre log has, and which the main accurate and why? 2 Mark

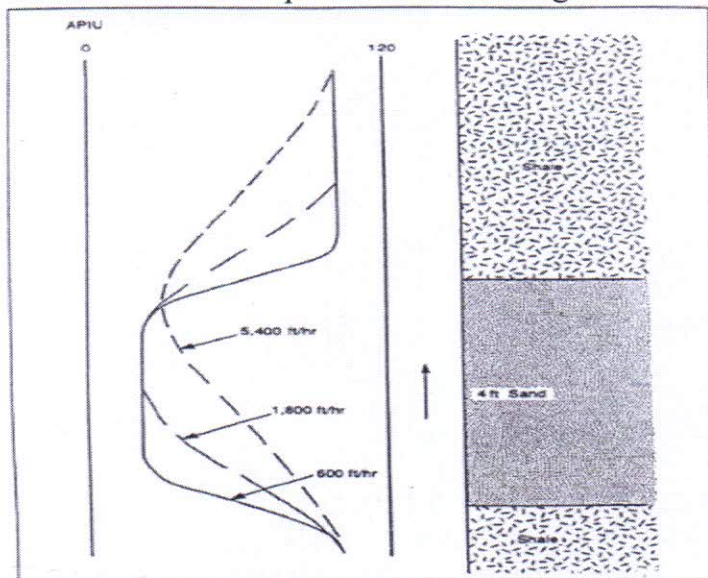
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8- Low porosity rocks are characterized byvelocity of sound wave. 1 Mark

9- Interpretation logs: from 5195 ft to 5235. 3 Mark



10- What is the interpretation of this Logs? 2 Mark



11-Mention the average shale content of radioactive minerals? 1 Mark

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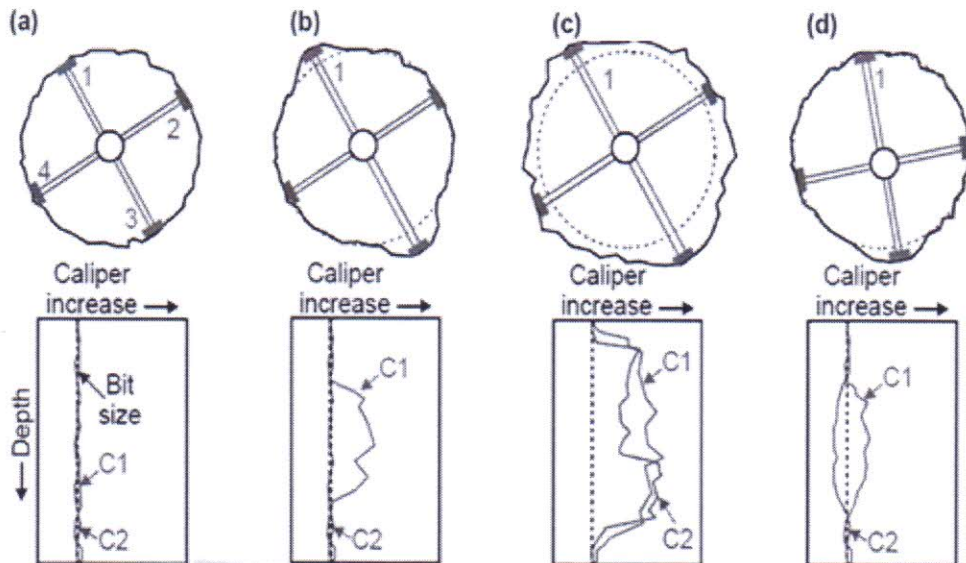
12-What are the common uses of calibre? 1 Mark

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13- Compare: 2 Mark
Gamma Ray Log **Spectral gamma ray**

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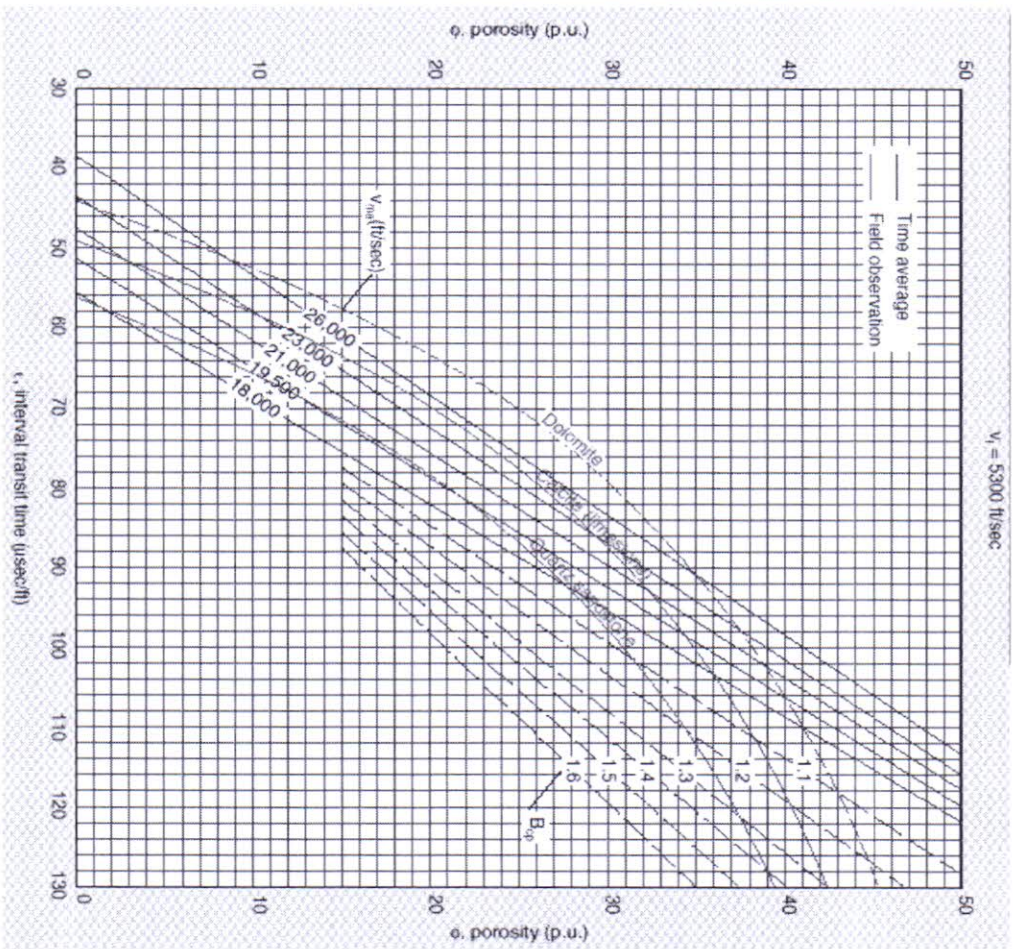
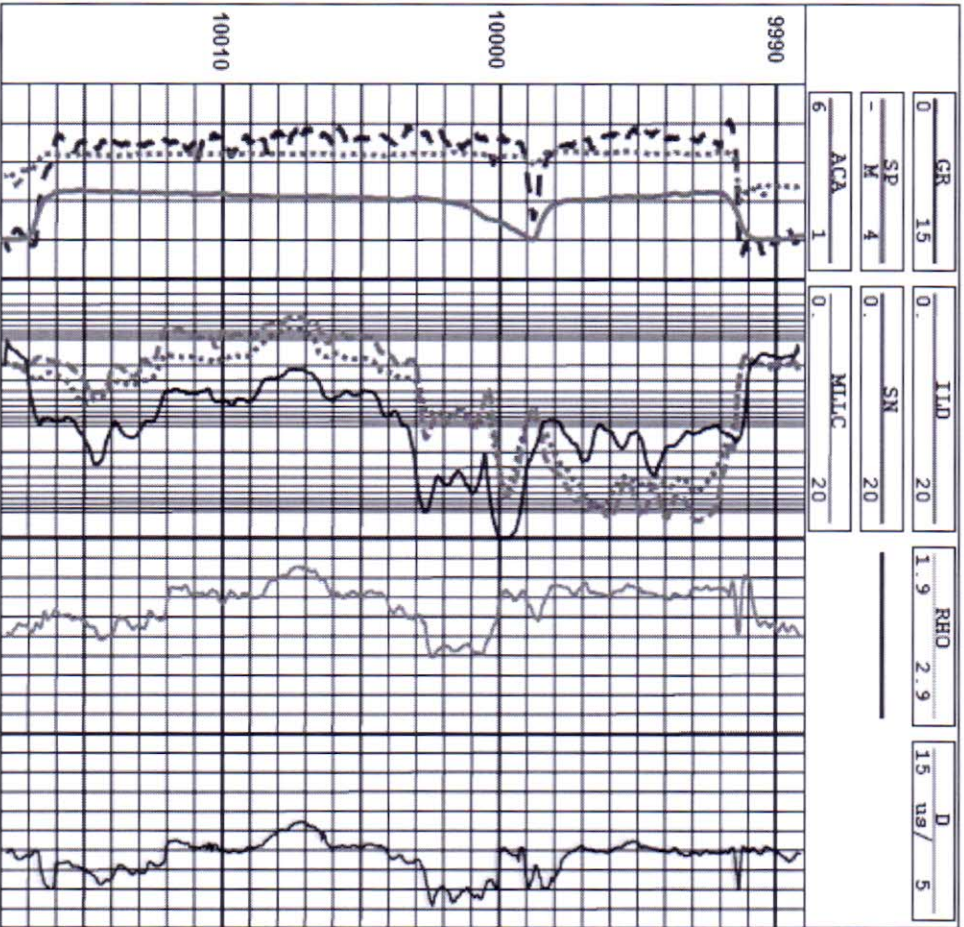
14.Complete: 2 Mark



15. Calculate the average porosity from depth 10000 – 10010ft

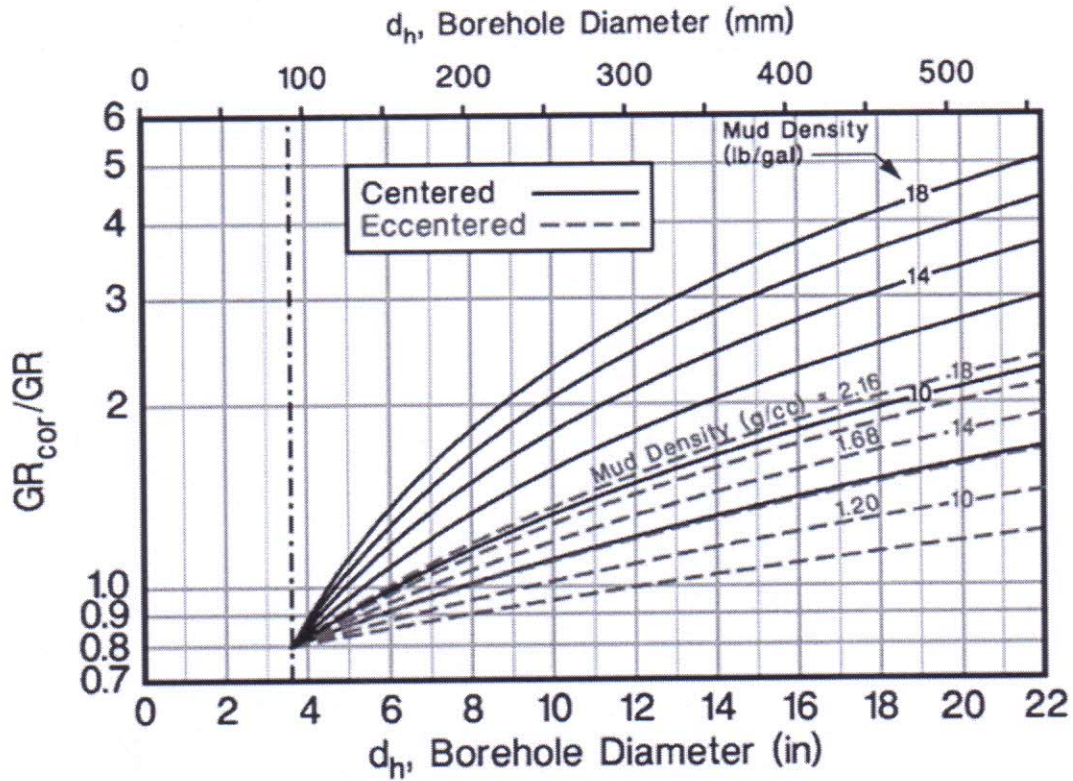
- a) Density Log using. Where: $\rho_{ma} = 2.87 \text{ gm/cc}$
- b) Sonic Log. Where: $\Delta T_{ma} = 43.5 \mu\text{s/ft}$
- c) If the Velocity 23,000 Ft/sec, Calculate porosity at depth 10010ft. And Compare with the previous result in paragraph (b)

9 Mark



16- From log in paragraph (15) at depth 9991.5 ft and Diameter bore hole 16in and mud density 18PPG (lb/gal) Estimate GR Corrected. 5 Mark

Tool Diameter = 3 5/8 in (92 mm)



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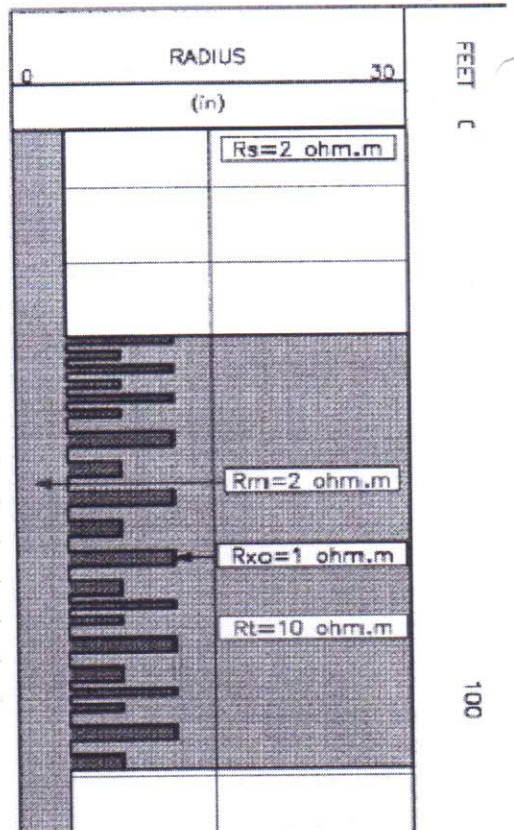
17) A cylindrical core sample of a well consolidated sand is completely saturated with a synthetic brine of 50,000 ppm salinity. At 200°F the resistance of the core is 1000 ohms. The core is 3 1/2 in. in diameter and the formation factor 20 .

6 Mark

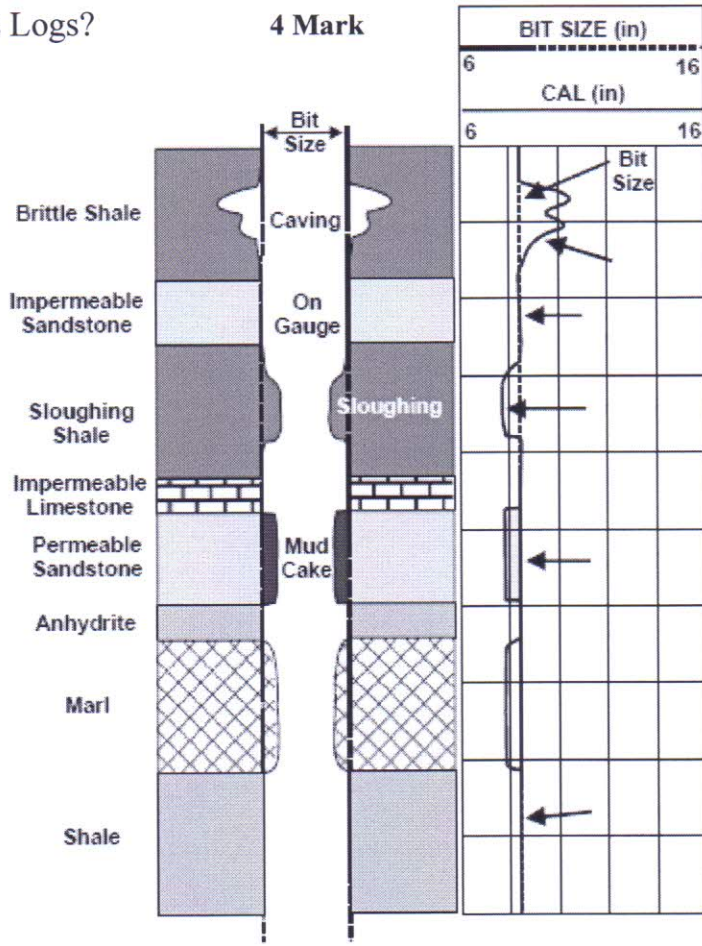
Calculate : 1) Porosity. 2) Water Saturation.

$$S_w = \frac{(R_{xo}/R_t)^{5/8}}{(R_{mf}/R_w)}$$

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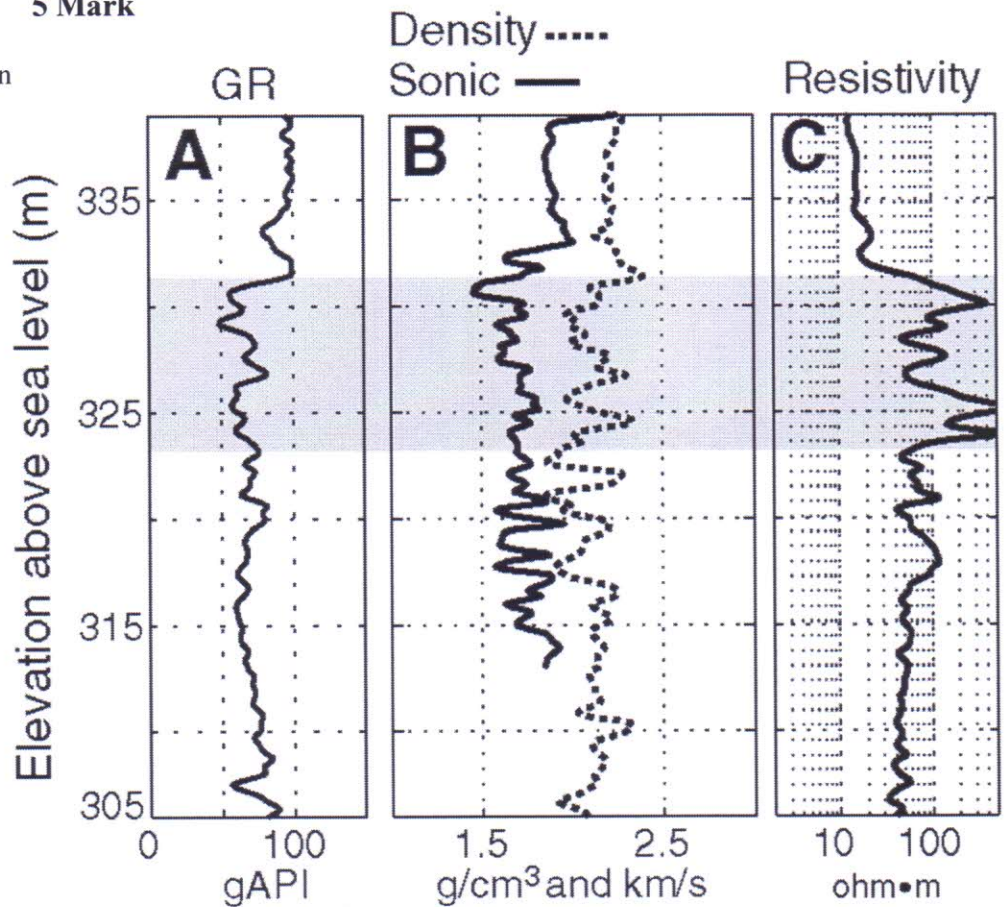


18- What is the interpretation of this Logs? 4 Mark



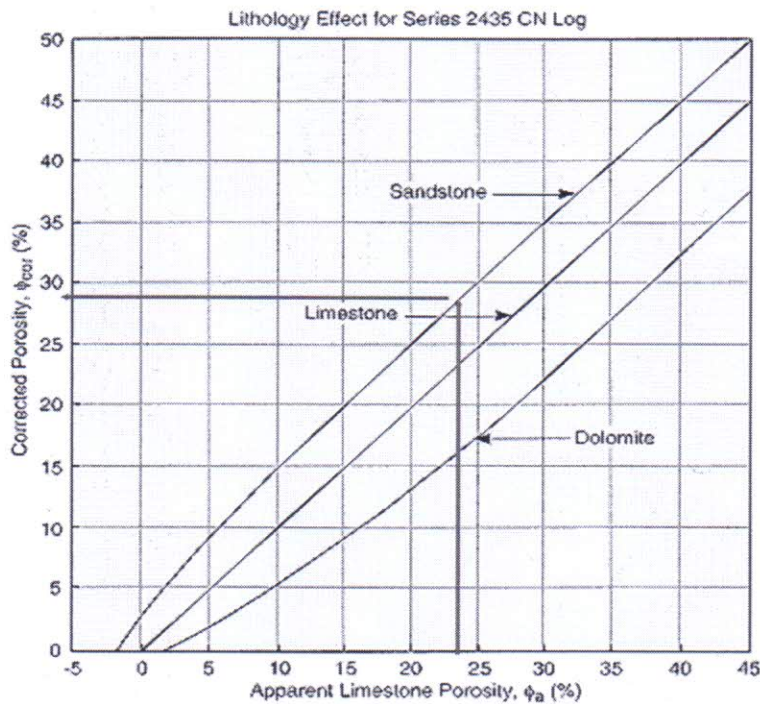
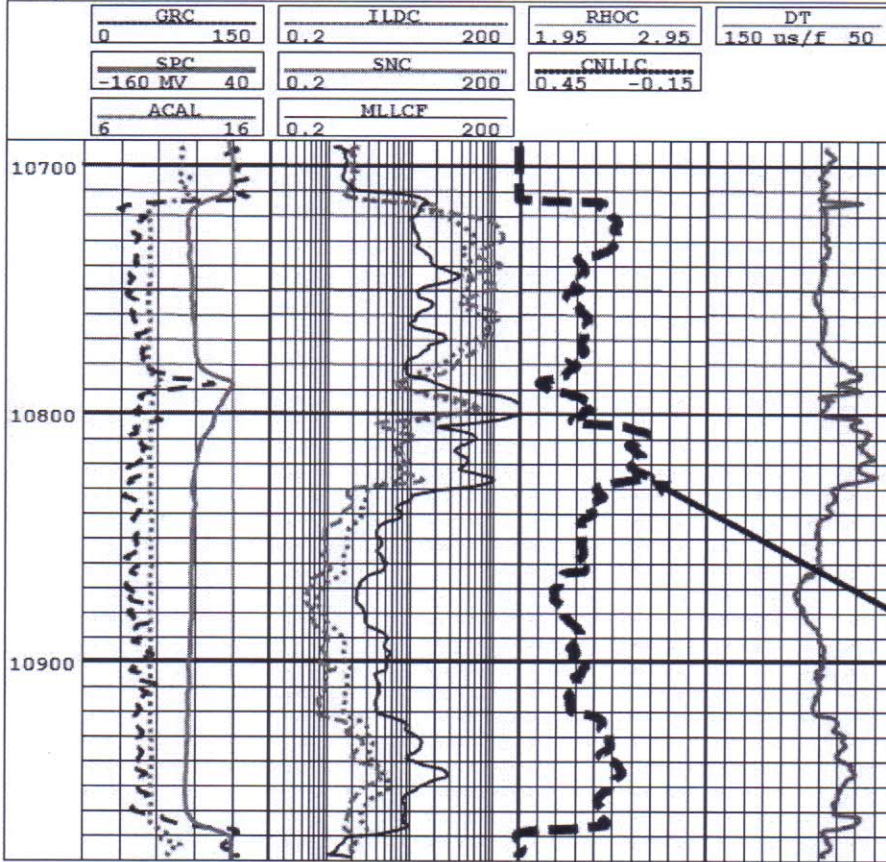
Typical caliper responses to various lithologies.

19- From Resistivity Logs? 5 Mark
at depth 325m,
Calculate the Water saturation



20- From Neutron Logs at depth 10800ft , Calculate Porosity and corrected for Dolomite Rock.6 Mark

001) BONANZA 1



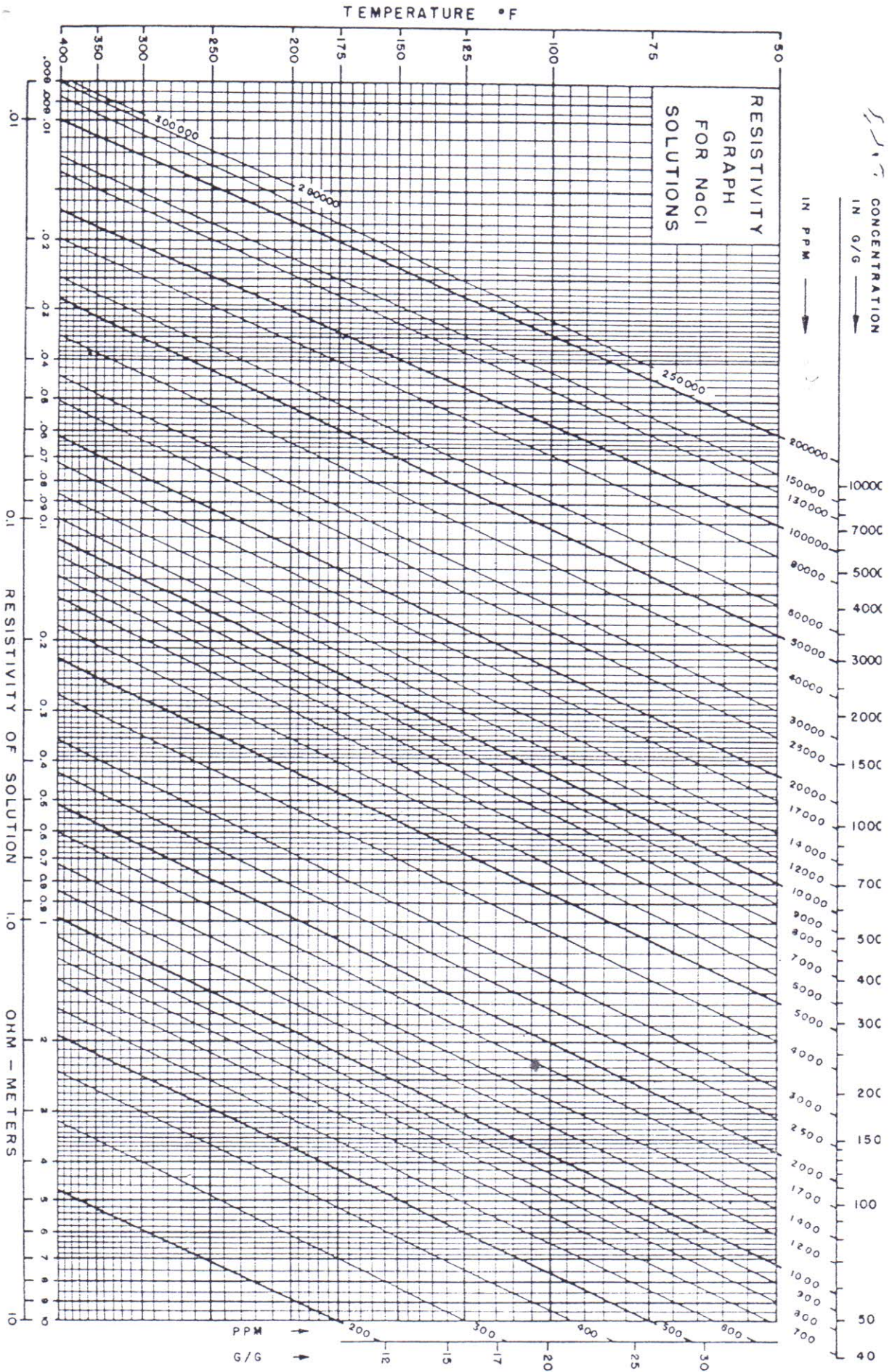


Fig. 11.3. Resistivity of water as a function of salinity and temperature. Salinities are in terms of NaCl concentration. Courtesy Schlumberger Well Surveying Corporation.