

Rwf = free water resistivity = .053 ohm meters at 149 Deg. F. above  
2700 m  
 Rwf = free water resistivity = .067 ohm meters at 197 Deg. F. below  
2700 m  
 Rwb = bound water resistivity = .600 ohm meters at 149 Deg. F.  
 Rt = true resistivity  
 Phi = total porosity  
 M =  $1.87 + .019/\text{Phi}$

### SHALE PARAMETERS

Shale parameters used for calculations in Zones A and B are shown in Table 1.

Table 1 - Yolla-1  
Shale Parameters

Depth (m)	Zone	Rhob	Neut	Sonic	Rt	GRSH	GRCL
2065	A	2.45	0.30	90	6	50	10
2900	B	2.70	0.32	78	6	50	10

### DEFINITION OF TERMS

RHOB = Bulk Density  
 NEUT = Porosity of Neutron limestone matrix  
 SONIC = Interval Transit Time  
 RT = True Resistivity  
 GRSH = Gamma Ray Shale  
 GRCL = Gamma Ray Clean

RWB (Resistivity of the bound water) is calculated from the shale resistivity and the total porosity derived from the shale neutron and density values.

The bulk volume shale (VSH) is equal to the minimum amount calculated from all the shale indicators used.

$$\text{VSH} = \text{Minimum of VSHND, VSHSD, VSHGR}$$

Vsh = Bulk Volume shale  
 Vshnd = Bulk Volume shale from the Neutron Density crossplot  
 Vshsd = Bulk Volume shale from the Sonic Density crossplot  
 Vshgr = Bulk Volume shale from the Gamma Ray

The neutron is in limestone porosity units. The total porosity was derived from the crossplot of the neutron versus density. All porosities listed in the results summary are corrected for shale volume and are effective porosities. The interpretation assumes complex lithology plus shale.