

WATER SATURATION (SW) & NET PAY CALCULATION METHODS

Paddock & Blinebry Members – Yeso Formation

Archie Water Saturation (Sw)

$$SwA = \sqrt[4]{R_w * F / (RT)}$$

Net Pay (h)

$$NETPAY = (PHID > \Phi_{iCutoff} \text{ and } SwA < Sw_{Cutoff}) * \Delta Step$$

Density Porosity (f)

$$PHID = (RHOB - \rho_{hoF}) / (RHOB - \rho_{hoM})$$

Formation Factor

$$F = 1/PHID^2$$

Formation & Net Pay Parameters

- $R_w = .035$ ohmm
- Density Matrix = 2.84 g/cc (RHOB)
- Density Fluid = 1.0 (RhoF)
- Measured Formation Matrix (RhoM) =
- Deep Resistivity = RT
- Sw Cut off < 40%
- Porosity (f) Cut off > 3% (generated from Bulk Density Curve)
- Archie "a" (tortuosity factor) = 1
- Archie "m" (cementation exponent) = 2
- Archie "n" (saturation exponent) = 2

New Mexico OCD
Consolidated Hearing Cases:
14613 & 14647
Burnett Oil Co., Inc./
Hudson Oil Company of Texas
Exhibit # 23

BURNETT OIL CO., INC.

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