

GEOLOGY

*OCD Case Nos. 14673 & 14674
Burnett Application Filed 5/24/2011*

CASE NO: 14673
& 14674
EXHIBIT 6

Oil Conservation Division
Case No. 6
Exhibit No. 6

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STRATIGRAPHIC CHART - NW Shelf Area -

(b)

System	Epoch/ Series/ Stage	Time (m.y.)	Delaware Basin	NW Shelf New Mexico	NW Shelf Texas	Central Basin Platform	Midland Basin
PERMIAN	Ochoan	25-1	Dewey Lake	Dewey Lake	Dewey Lake	Dewey Lake	Dewey Lake
			Rustler	Rustler	Rustler	Rustler	Rustler
			Salado	Salado	Salado	Salado	Salado
			Castle	Castle	Castle		
	Guadalupian		Bell Canyon	Tansill	Tansill	Tansill	Tansill
				Yates	Yates	Yates	Yates
			Cherry Canyon	Seven Rivers	Seven Rivers	Seven Rivers	Seven Rivers
				Queen	Queen	Queen	Queen
			Brushy Canyon	Grayburg	Grayburg	Grayburg	Grayburg
				Upper San Andres	Upper San Andres	Upper San Andres	San Andres
	Leonardian		Culiff	Lower San Andres	Lower San Andres	Lower San Andres	Brushy Canyon
					Holt		
			Bone Spring	Glorieta	Glorieta	Glorieta	Spraberry
				Paddock	Upper Clear Fork	Upper Clear Fork	
				Blinberry	Middle Clear Fork	Middle Clear Fork	
				Tubb	Tubb	Tubb	
Wolfcampian			Wolfcamp	Drinkard	Lower Clear Fork	Lower Clear Fork	Dean
				Abn	Abn	Abn	Wolfcamp

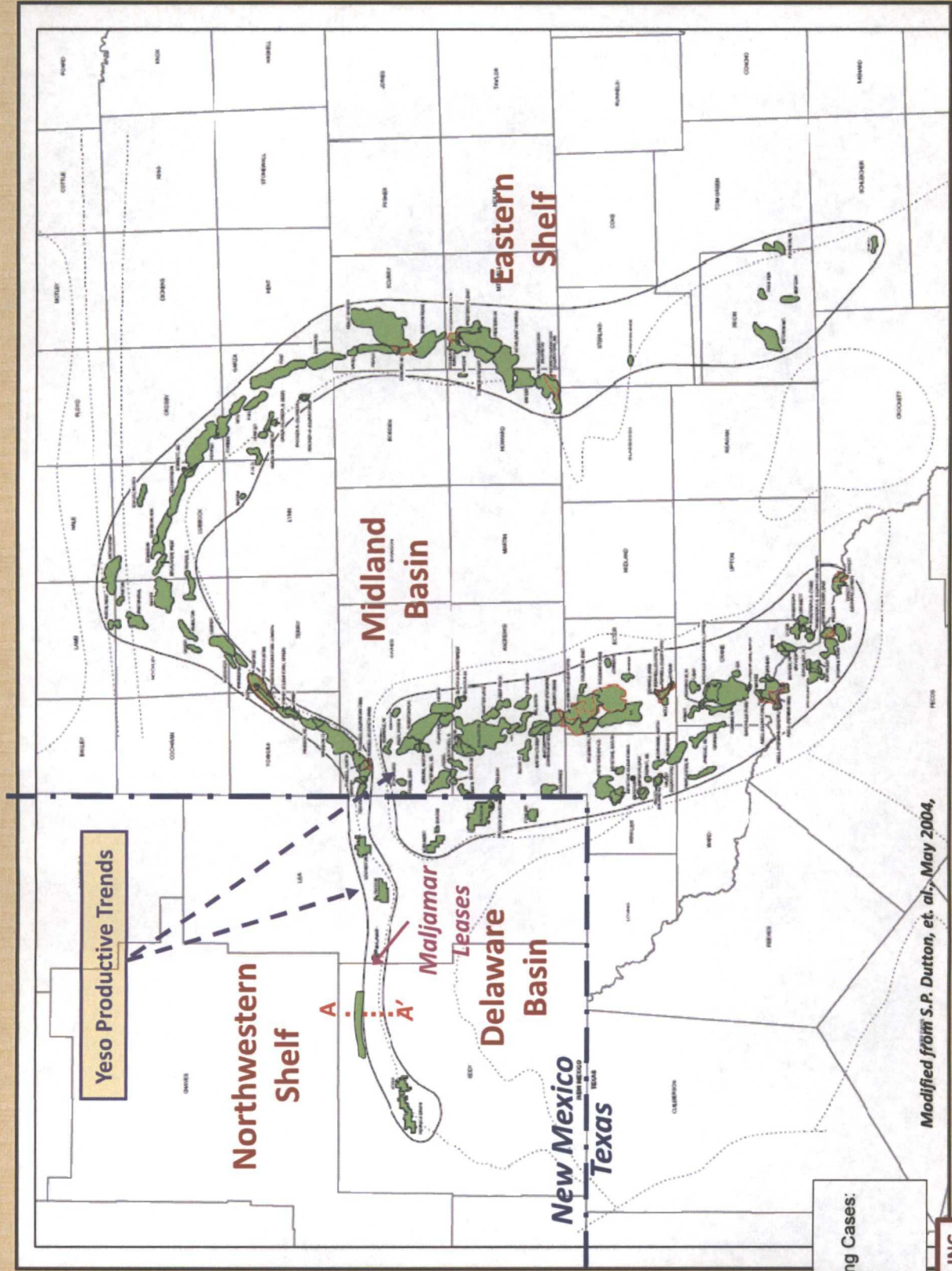
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Yeso/Clearfork Productive Trends Permian Basin



Modified from S.P. Dutton, et al., May 2004,

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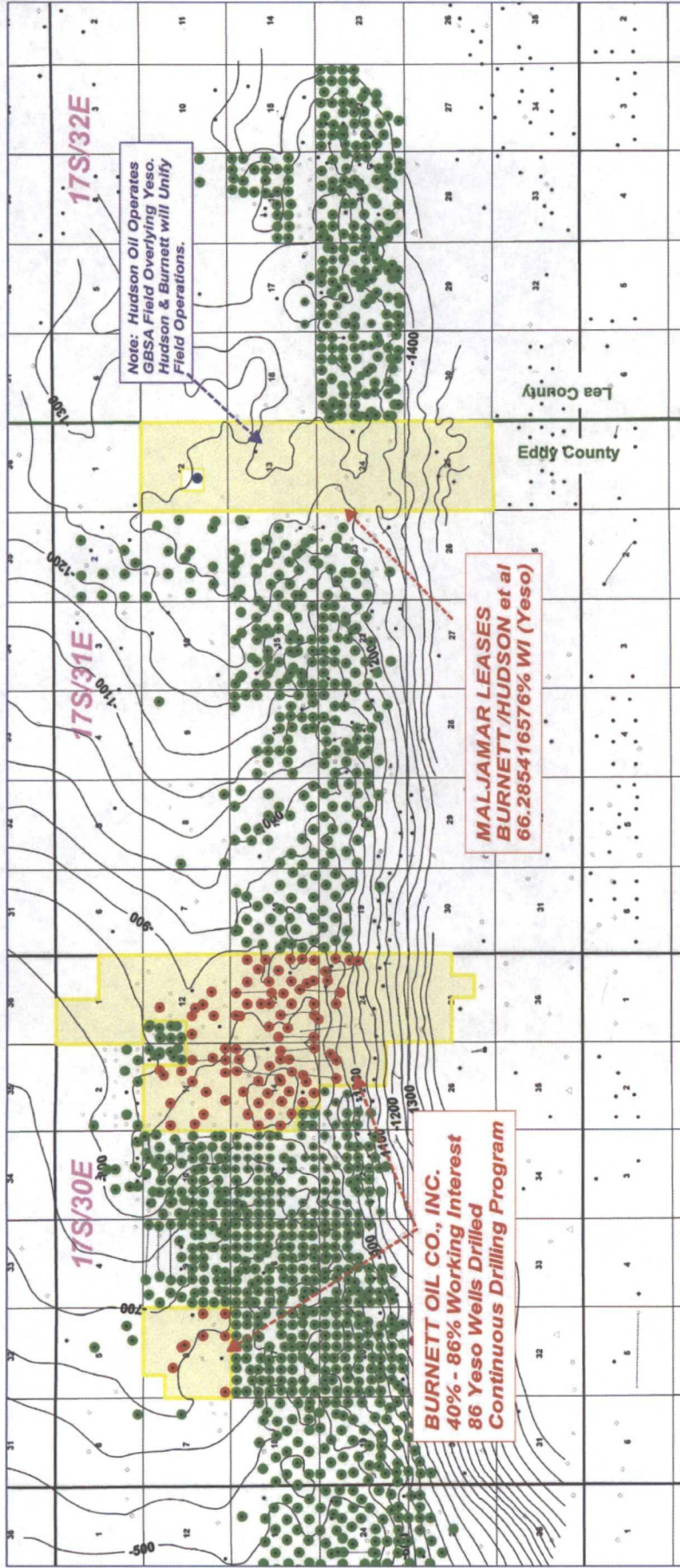
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YESO STRUCTURE MAP With YESO PRODUCERS



YESO PRODUCER

- BURNETT OIL CO INC
- HUDSON OIL COMPANY OF TEXAS
- Other Operator

BURNETT LEASES



* Only Wells with Total Depth below 4,800' Shown

Burnett Oil Co., Inc.
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NORTH WEST SHELF AREA
YESO STRUCTURE MAP
With YESO PRODUCERS

Geol: J. H. Wadsworth, Jr.	Clin: S. E. Felt	Drawn: J. H. Wadsworth, Jr.
E. G. Galt		Updated: 2011 Aug 22

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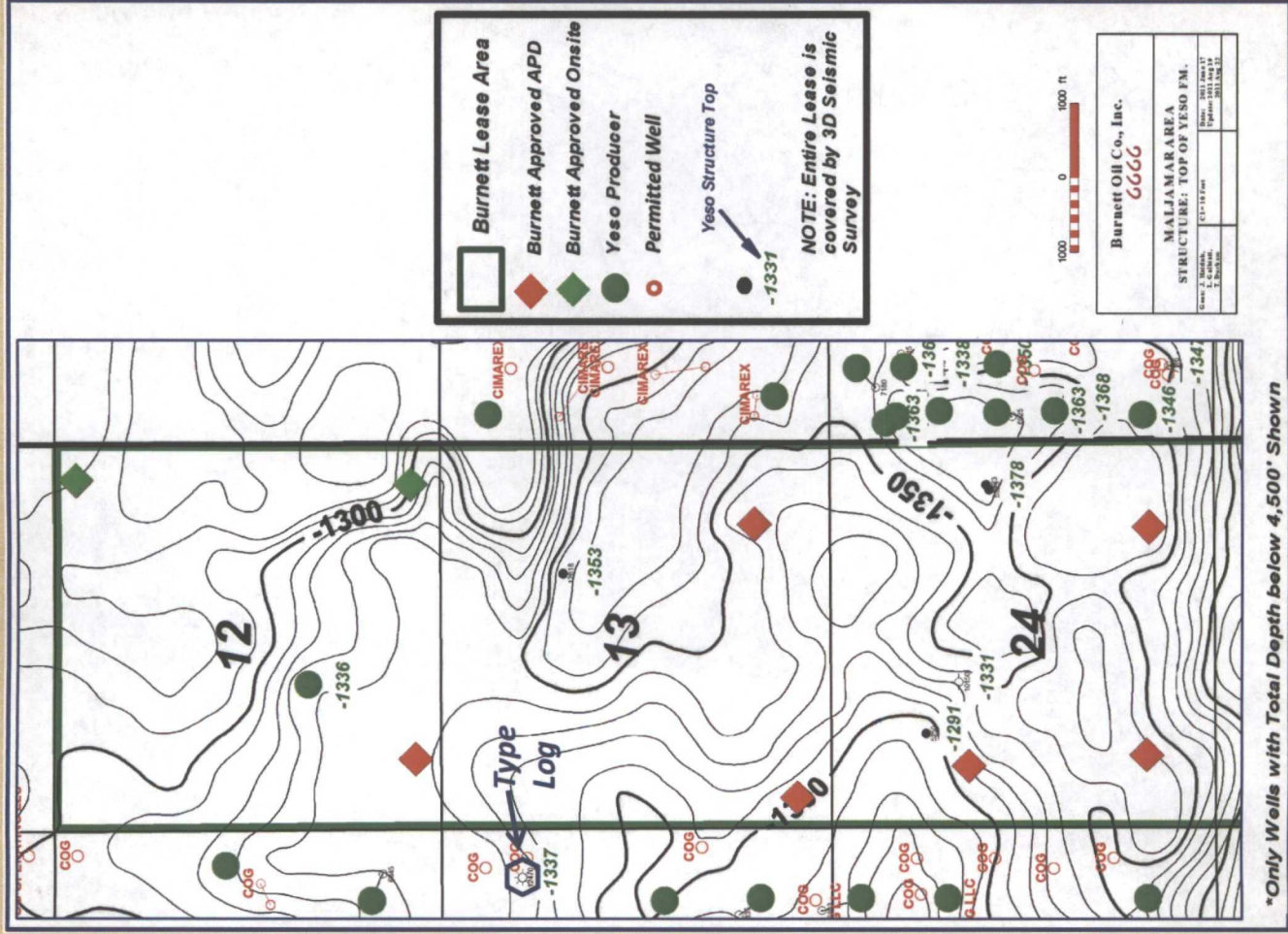
Burnett Oil Co., Inc currently Operates 97 Yeso Wells

MALJAMAR AREA

Structure: Top Yeso
C.I. = 10 ft

NOTE: Entire Lease is covered by 3D Seismic Survey

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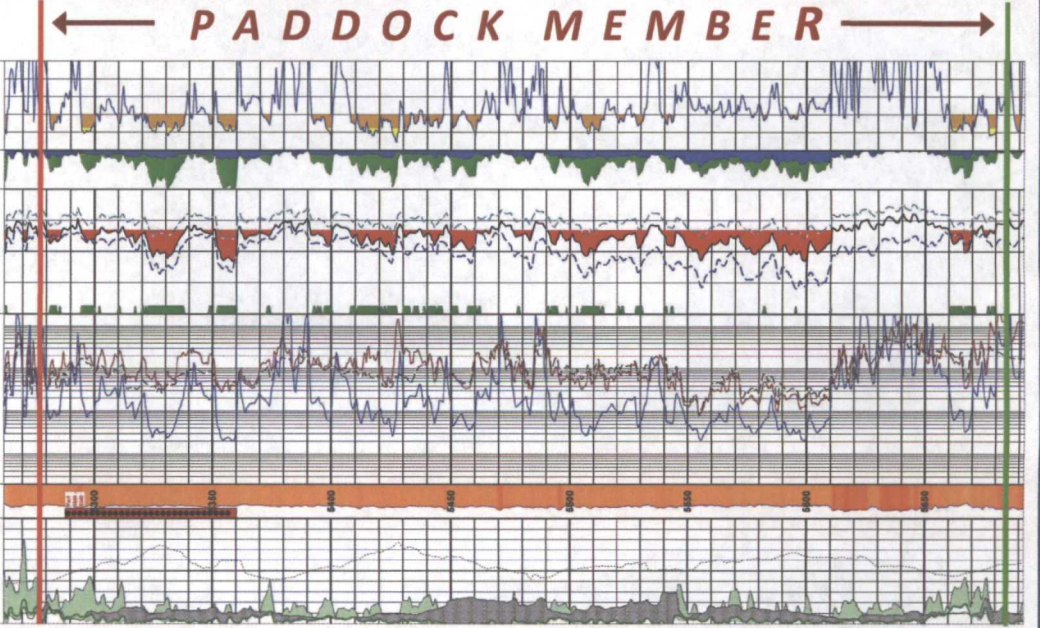
BURNETT OIL CO., INC.



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CHEVRON U S A INCORPORATED
SKELLY UNIT 905
S2 NE NE
TWP: 17 S - Range: 31 E - Sec. 14
TD=12470

Correlation	Depth	Resistivity	Porosity Calculated	Net Pay	Archie Sw
1	100	100	100	100	100
2	100	100	100	100	100
3	100	100	100	100	100
4	100	100	100	100	100
5	100	100	100	100	100
6	100	100	100	100	100
7	100	100	100	100	100
8	100	100	100	100	100
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100	100	100	100	100	100



YESO TYPE LOG & LOG ANALYSIS EXAMPLE - Paddock Member -

PADDOCK:

Net Pay: 120'
Avg. Density Porosity: 7.2%*
Avg. Water Saturation: 27%*
SoPhiH: 6.3*

WATER SATURATION (SW) & NET PAY CALCULATION METHODS

Paddock & Blinbry Members - Yeso Formation

Archie Water Saturation (Sw)

$$SwA = \sqrt[3]{Rw * F / (RT)}$$

Net Pay (h)

$$NETPAY = (PHID > PHICutoff \text{ and } SwA < SwCutoff) * \text{Step}$$

Density Porosity

$$PHID = (RHOB - RhoM) / (RHOB - RhoF)$$

Formation Factor

$$F = 1 / PHID^2$$

Formation & Net Pay Parameters

- Rw = .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

*Net Pay Used as Qualifier

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YESO TYPE LOG & LOG ANALYSIS EXAMPLE

- Blinebry Member -

BLINEBRY:

Net Pay: 105'

Avg. Density Porosity: 5.6%*

Avg. Water Saturation: 26%*

SoPhiH: 4.4*

WATER SATURATION (SW) & NET PAY CALCULATION METHODS

Paddock & Blinebry Members - Yeso Formation

Archie Water Saturation (Sw)

$$SWA = \sqrt[3]{RW * F / (RT)}$$

Net Pay (h)

$$NETPAY = (PHID > PHICutoff \text{ and } SWA < SWCutoff) * \text{Step}$$

Density Porosity

$$PHID = (RHOB - RhoM) / (RHOB - RhoF)$$

Formation Factor

$$F = 1 / PHID^2$$

Formation & Net Pay Parameters

• RW = .095 ohmm

• Density Matrix = 2.84 g/cc (RHOB)

• Density Fluid = 1.0 (RhoF)

• Measured Formation Matrix (RhoM)

• Deep Resistivity = RT

• SW Cut off < 40%

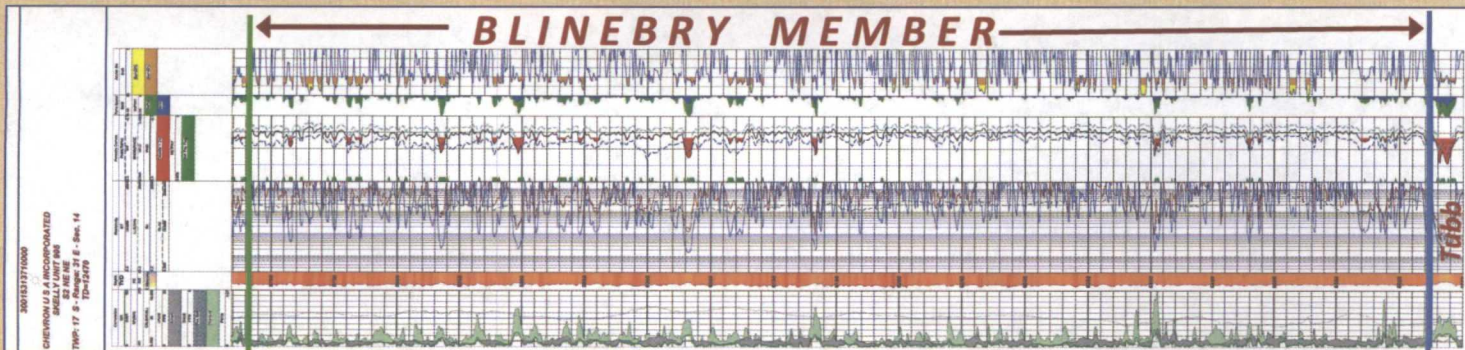
• Porosity (f) Cut off > 3% (generated from Bulk Density Curve)

• Archie "a" (tortuosity factor) = 1

• Archie "m" (cementation exponent) = 2

• Archie "n" (saturation exponent) = 2

*Net Pay Used as Qualifier



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Vertical Well Testing

- **Advanced Open-Hole Logging**
 - Image Log (FMI, XRFMI)
 - Fracture Orientation
 - Fracture Type (Open, Healed, Drilling Induced)
 - Fracture Frequency
 - Dipole Sonic or Sonic Scanner
 - Determination of Stress Field Orientation
 - Key Information for Orienting Horizontal Wells
- **Coring**
 - Initially Drill Rotary Sidewall Cores
 - After Analysis of Full Log Suite & Production Testing will Select Targets for Conventional Coring
- **Microseismic**
 - Aids in Determining Stress Field Orientation & Effective Stimulations
 - Aids in Determining Optimum Spacing between Laterals (Vert. & Hz.)
- **Production Testing**
 - Test Intervals Individually
 - Another Key Factor in Selecting Horizontal Targets