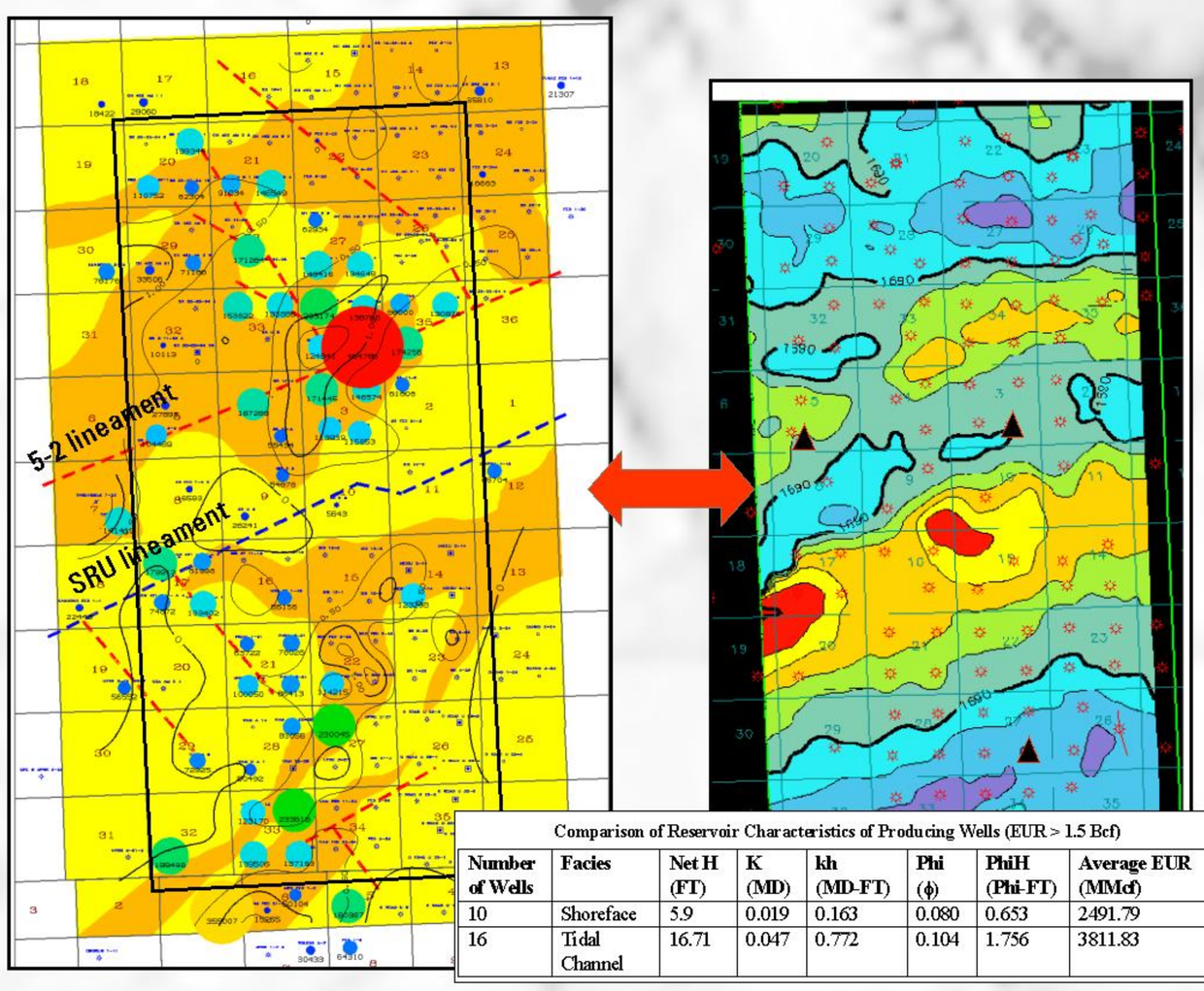
Click here to go to ninth poster.

Conclusions

Reservoir Quality (Matrix)

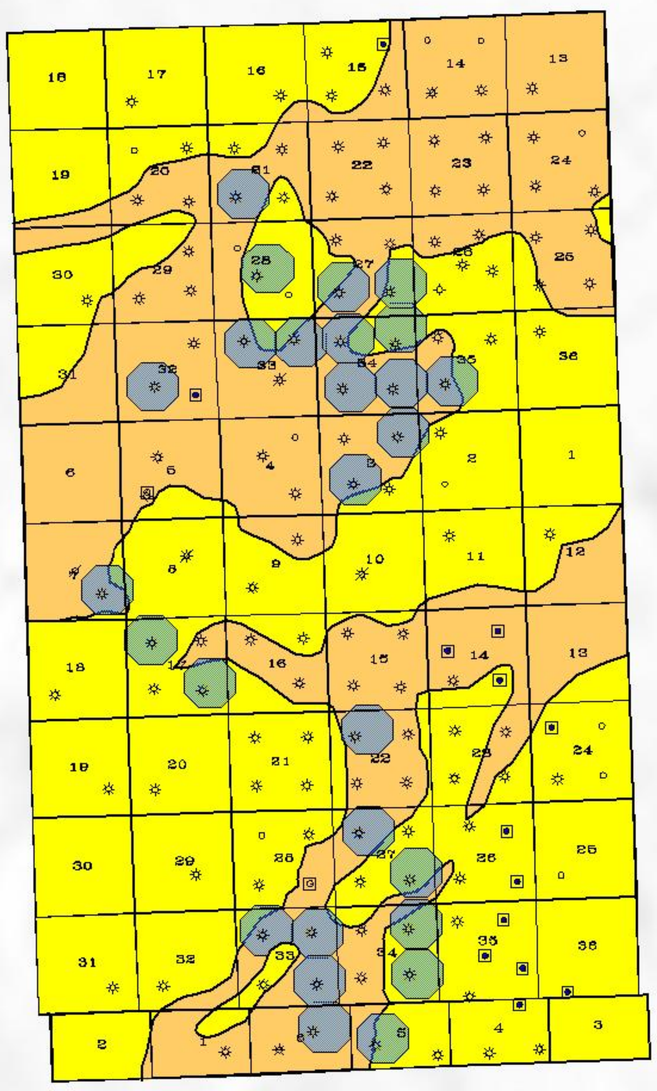
1. Linear features delineate paleo-lows, where better reservoir quality sands were deposited in channels.
2. Mapped areas of higher matrix quality are generally areas of higher productivity.
3. Roughly 90% of produced gas is from the Almond Bar.



Comparison of Reservoir Characteristics of Producing Wells (EUR > 1.5 Bcf)

Number of Wells	Facies	Net H (FT)	K (MD)	kh (MD-FT)	Phi (ϕ)	PhiH (Phi-FT)	Average EUR (MMcf)
10	Shoreface	5.9	0.019	0.163	0.080	0.653	2491.79
16	Tidal Channel	16.71	0.047	0.772	0.104	1.756	3811.83

Comparison of the Upper Almond facies and production map (left) to the Almond – Madison isochron (right). The drainage divide separating the two northeast-trending channel complexes is believed to be a syndepositional feature related to inherited Paleozoic structural features. The SRU Lineament defines the hinge of the paleostructure and Upper Almond drainage divide. The 5-2 Lineament forms the approximate southern boundary of the northern channel complex. Bubbles of cumulative gas production (normalized for the 1st 180 days) are displayed on the facies map.



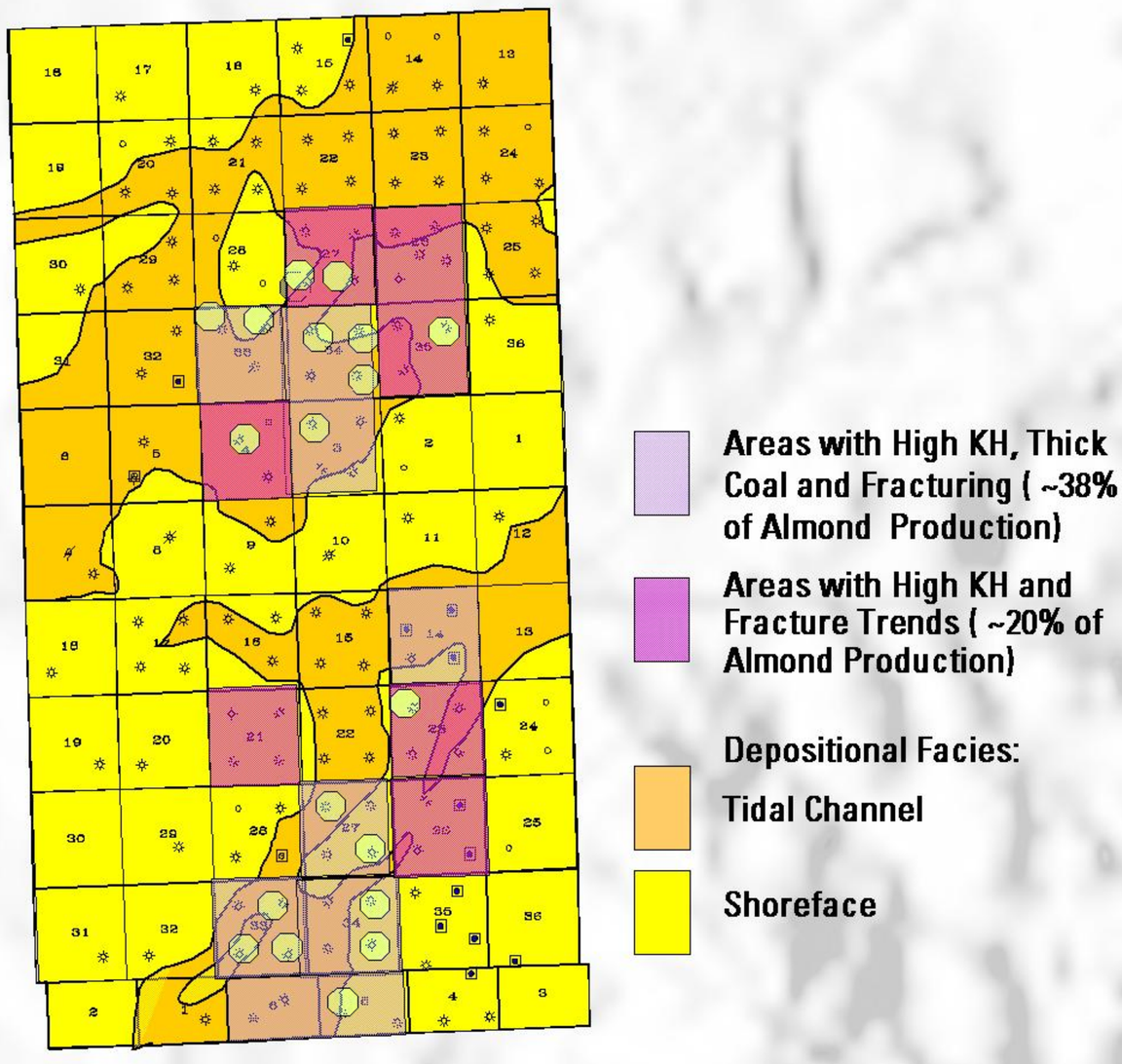
Facies Control on Production
27 Upper Quartile Wells (blue circles) produce 50% of the total gas (EUR) . 84% of these wells are within the tidal channel facies (orange area) of the Upper Almond.

Natural Fractures

1. Fracture density depends mostly on lithology.
2. Wellbore deviation effectively increases fracture density (permeability) more than lineament proximity.
3. Water production in the SRU #27-4 and SRU #5-2 is from highly fractured intervals.

Reservoir Management

1. Decline curves from Upper Almond Bar wells are flatter than Main Almond reservoirs due to the difference in reservoir size.
2. Tidal channel reservoirs have a better EUR than shoreface reservoirs due to matrix quality.
3. Hydraulic stimulations stages should access less than 100 feet per treatment. Single reservoirs should be targeted.



Combinations of matrix and mechanical (natural fracturing) attributes were compared to initial 180 days of production. These areas of up-scaled attributes (kh, coal, fractures) account for approximately 60% of the Almond gas.

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