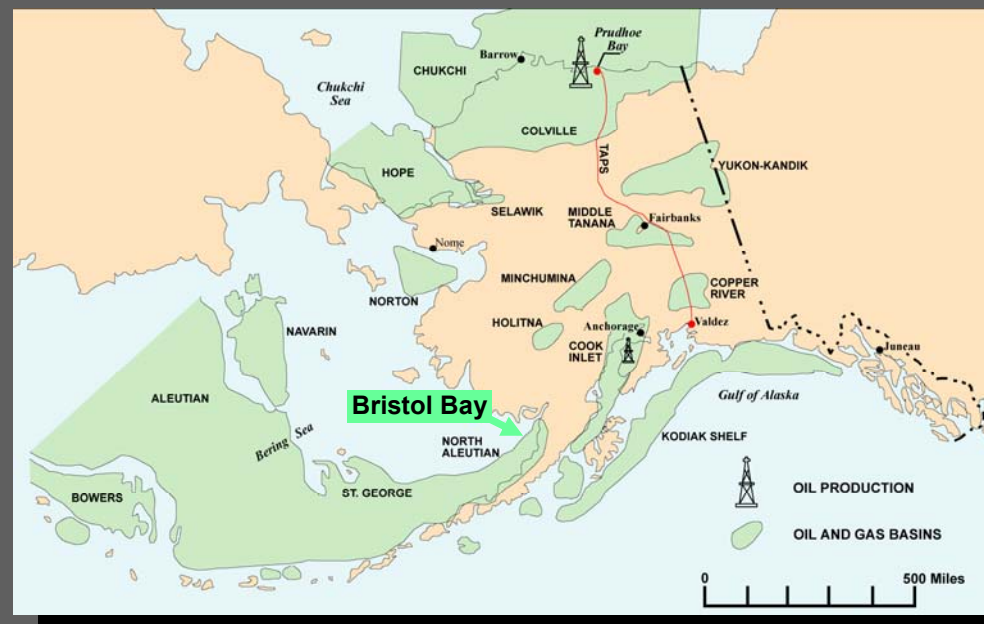
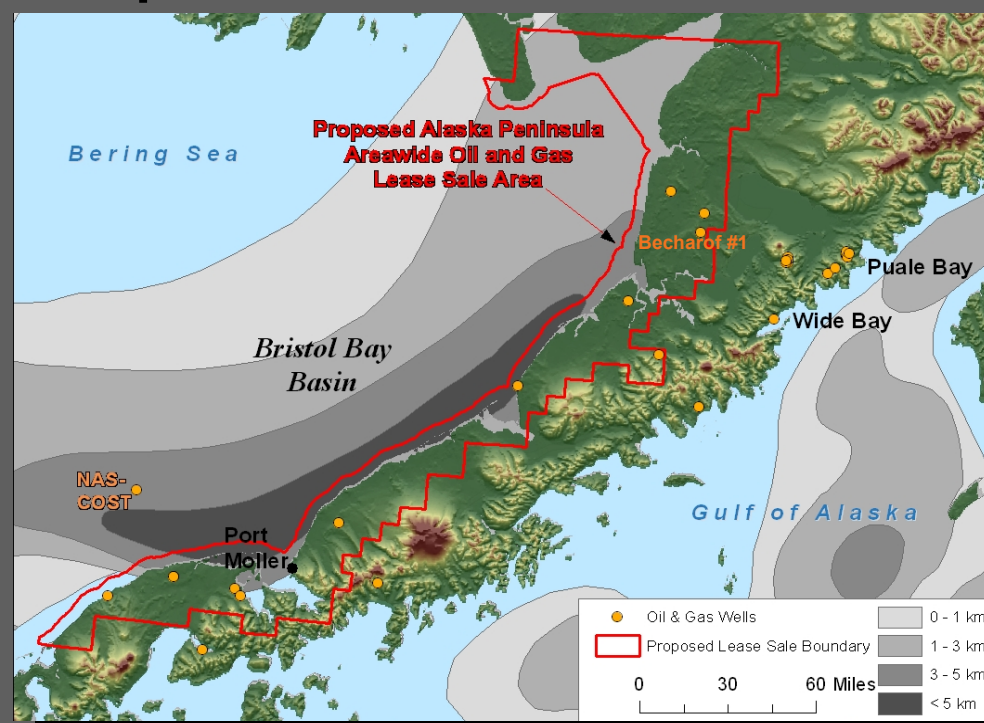


Reservoir Quality of Tertiary & Mesozoic Sandstones, Bristol Bay Basin, Alaska

Sedimentary Basins of Alaska



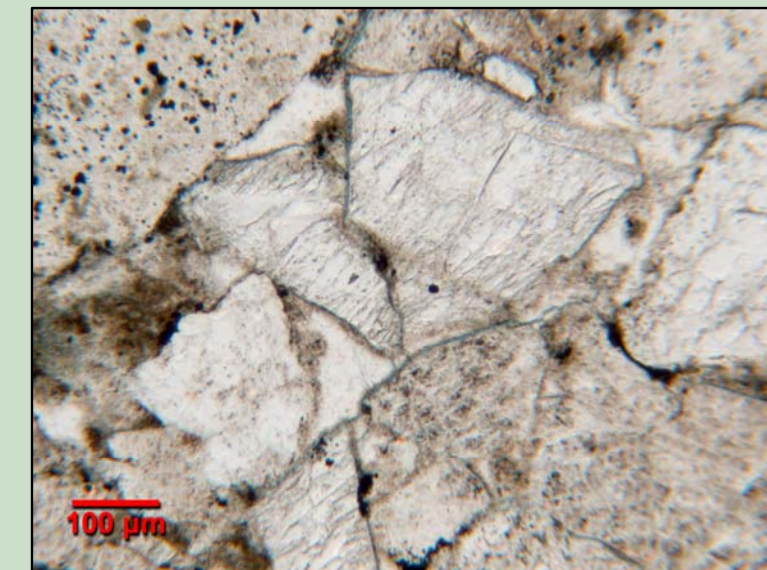
Proposed Area of 2005 Lease Sale



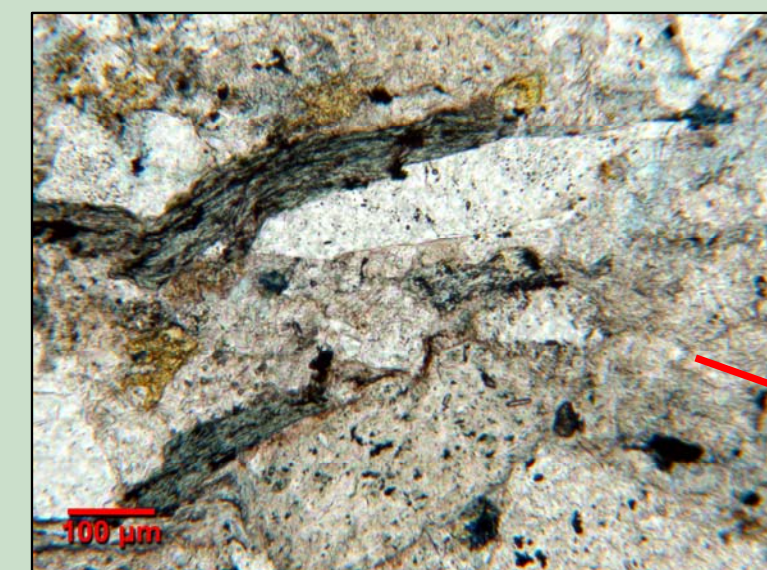
Tertiary and Mesozoic Stratigraphy

Ma	PERIOD	AGE	EPOCH	FORMATION	SOURCE OR RESERVOIR ROCKS
0	TERTIARY	PLIOCENE	MIOCENE	BEAR LAKE	R
10				UNGA Cgl.	R S
20		OLIGOCENE	STEOVAK	S (R)	
30			MESHIK	S (R)	
40		Eocene	TOLSTOI	S (R)	
60	CRETACEOUS	PALEOCENE	HERENDEEN		(R)
70				STANIUKOVICH	(R)
80		MAASTRICHTIAN	KIALAGVIK		S
90				CHUKCHIK	S
100		CAMPANIAN	KIALAGVIK		S
110				CHUKCHIK	S
120		ALBANY	KIALAGVIK		S
130				CHUKCHIK	S
140		APTIAN	KIALAGVIK		S
150				CHUKCHIK	S
160	JURASSIC	TITHONIAN	NAKNEK		R
170				CHUKCHIK	R
180		BATHONIAN	KIALAGVIK		S
190				CHUKCHIK	S
200		TALKEETNA		S	
210	TRIASSIC	KAMISHAK		S	
220			CHUKCHIK	S	
230			CHUKCHIK	S	

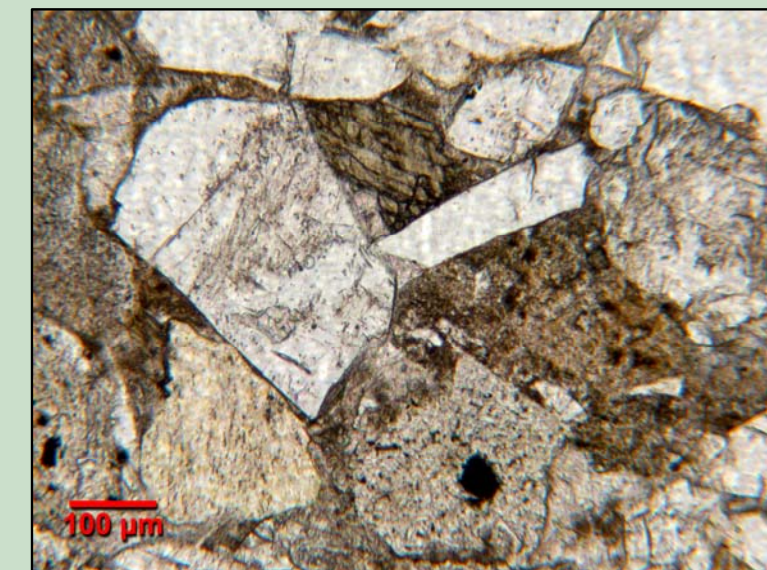
Non-reservoir Sandstones



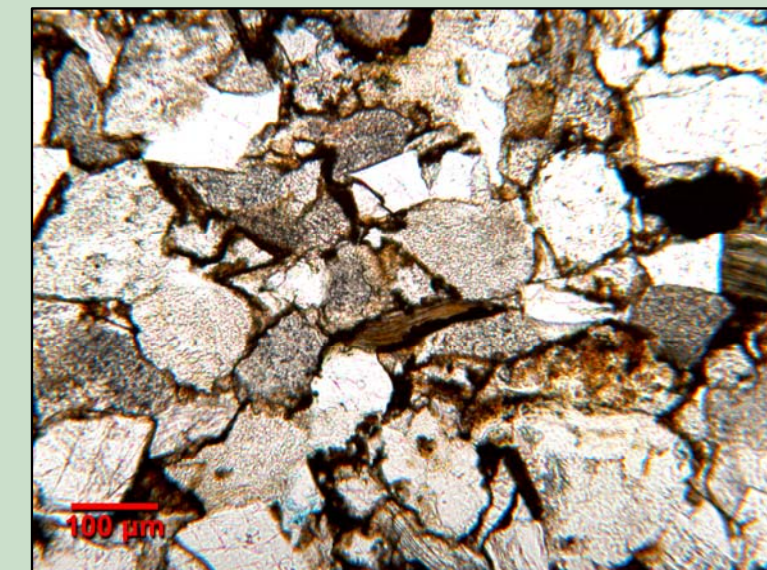
Outcrop Naknek Fm. $\Phi = 6.3\%$; $K = 3.38$ md



Amoco Becharof State #1 7915.0' MD; Stepovak Fm. $\Phi = 7.1\%$; $K = 0.12$ md



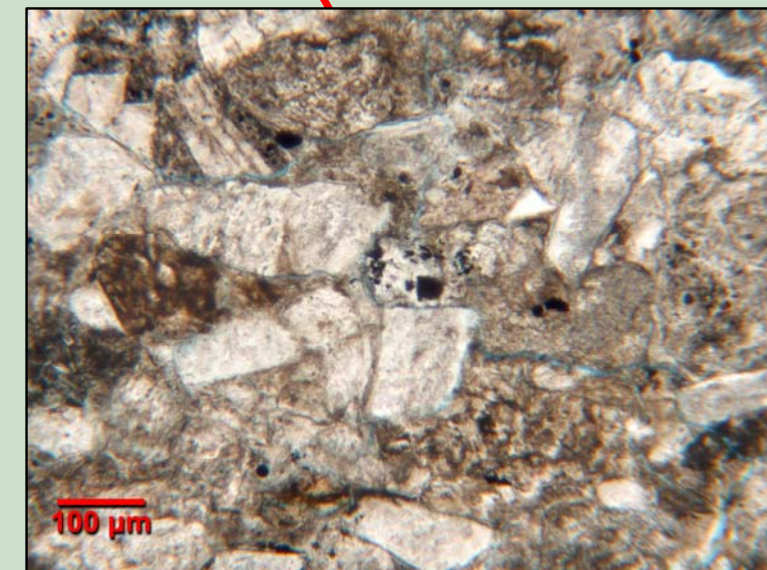
Outcrop Shelikof Fm. $\Phi = 3.6\%$; $K = 0.01$ md



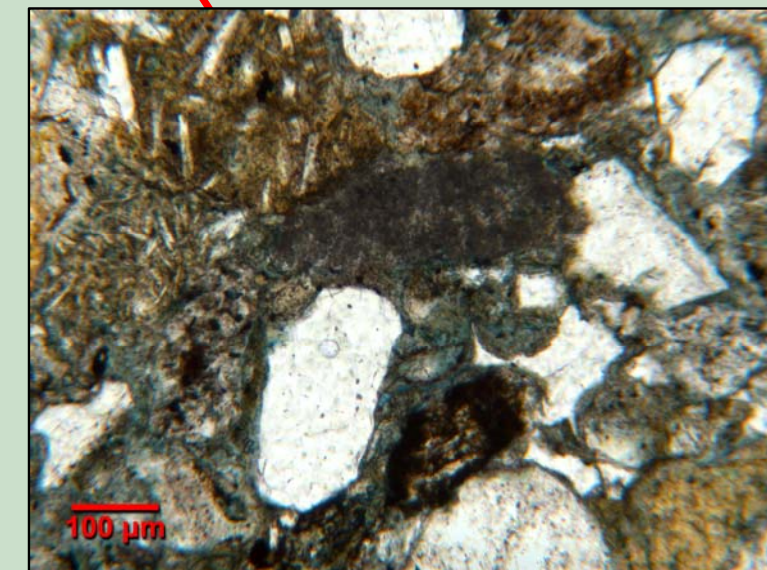
Outcrop Herendeen Fm. $\Phi = 4.6\%$; $K = 0.004$ md



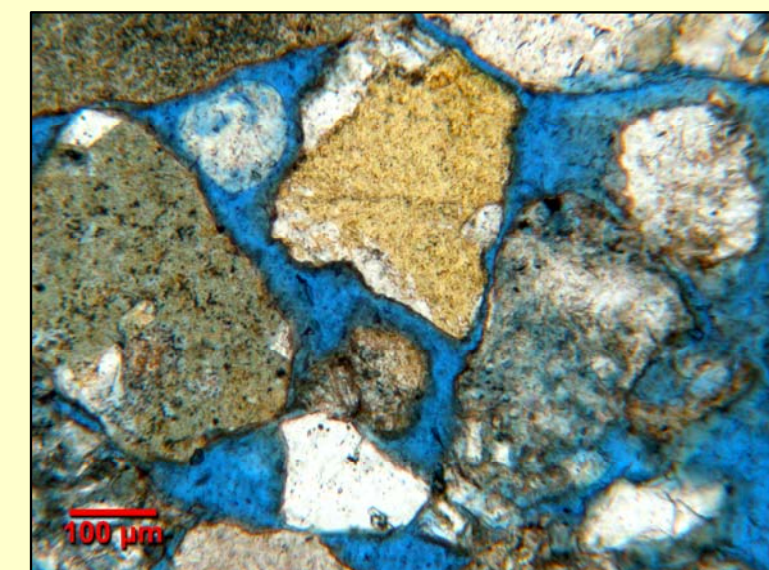
Outcrop Tolstoi Fm. $\Phi = 7.0\%$; $K = 0.005$ md



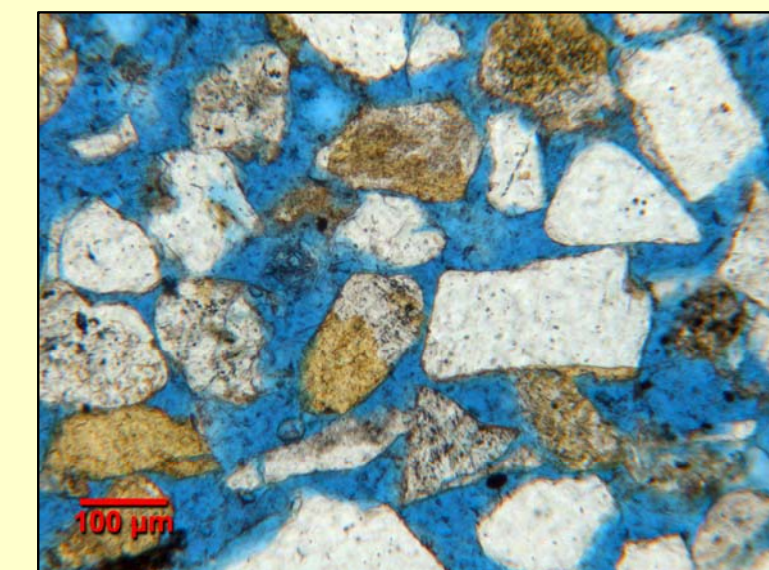
Outcrop Kialagvik Fm. $\Phi = 9.7\%$; $K = 0.005$ md



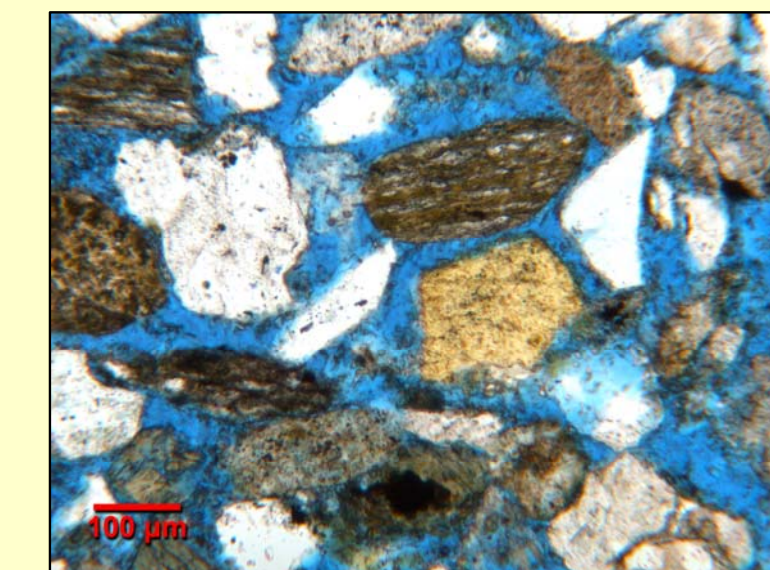
ARCO N. Aleutian COST #1 9957.5' MD; Stepovak Fm. $\Phi = 17.2\%$; $K = 0.87$ md



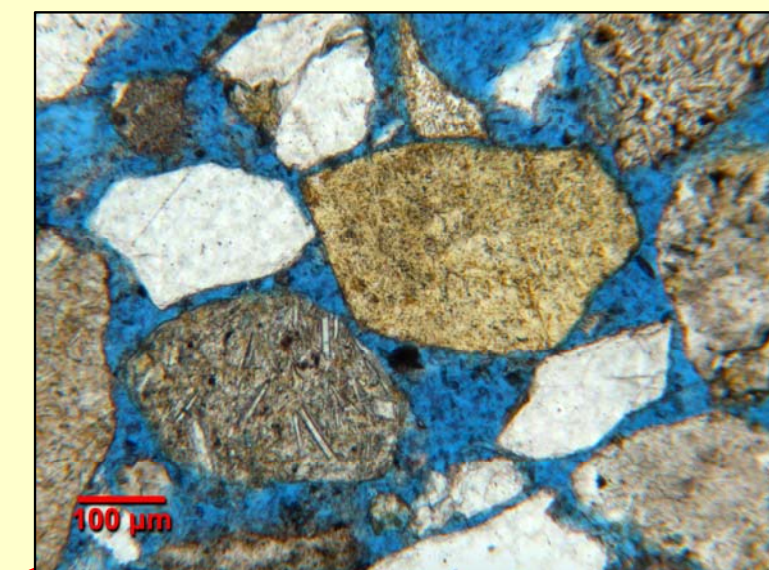
ARCO N. Aleutian COST #1 8635.0' MD; Stepovak Fm. $\Phi = 31.4\%$; $K = 709$ md



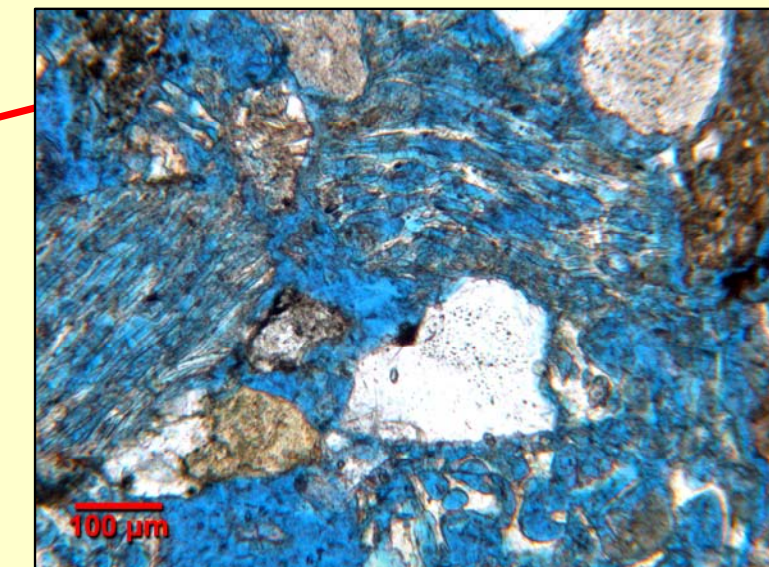
ARCO N. Aleutian COST #1 8087.0' MD; Stepovak Fm. $\Phi = 32.9\%$; $K = 2358$ md



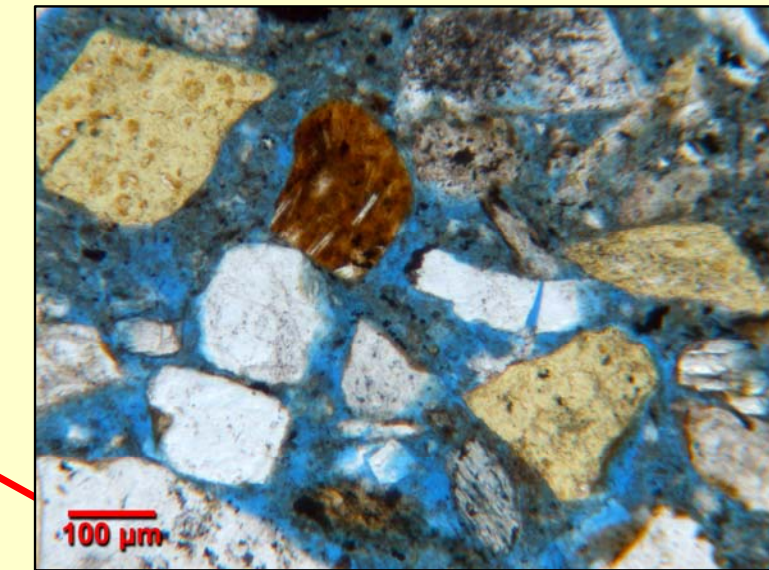
ARCO N. Aleutian COST #1 5234.0' MD; Unga Fm. $\Phi = 34.2\%$; $K = 1607$ md



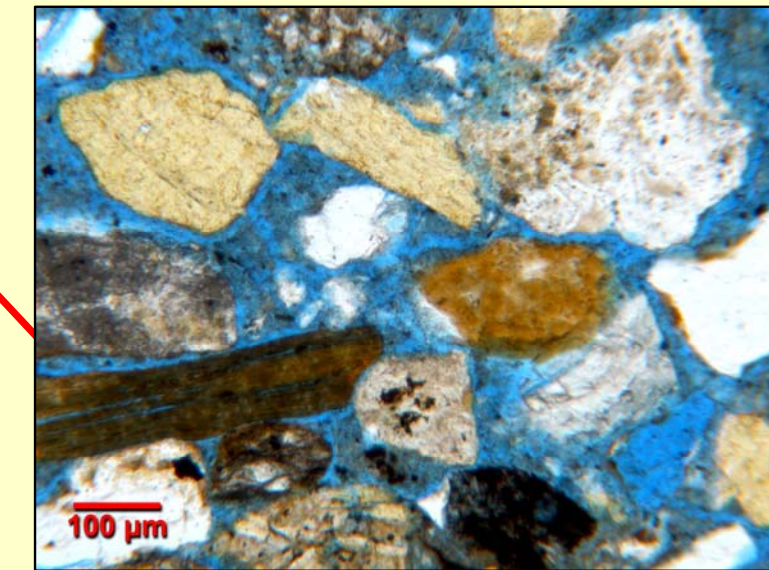
Amoco Becharof State #1 2734.5' MD; Milky River Fm. $\Phi = 36.9\%$; $K = 3470$ md



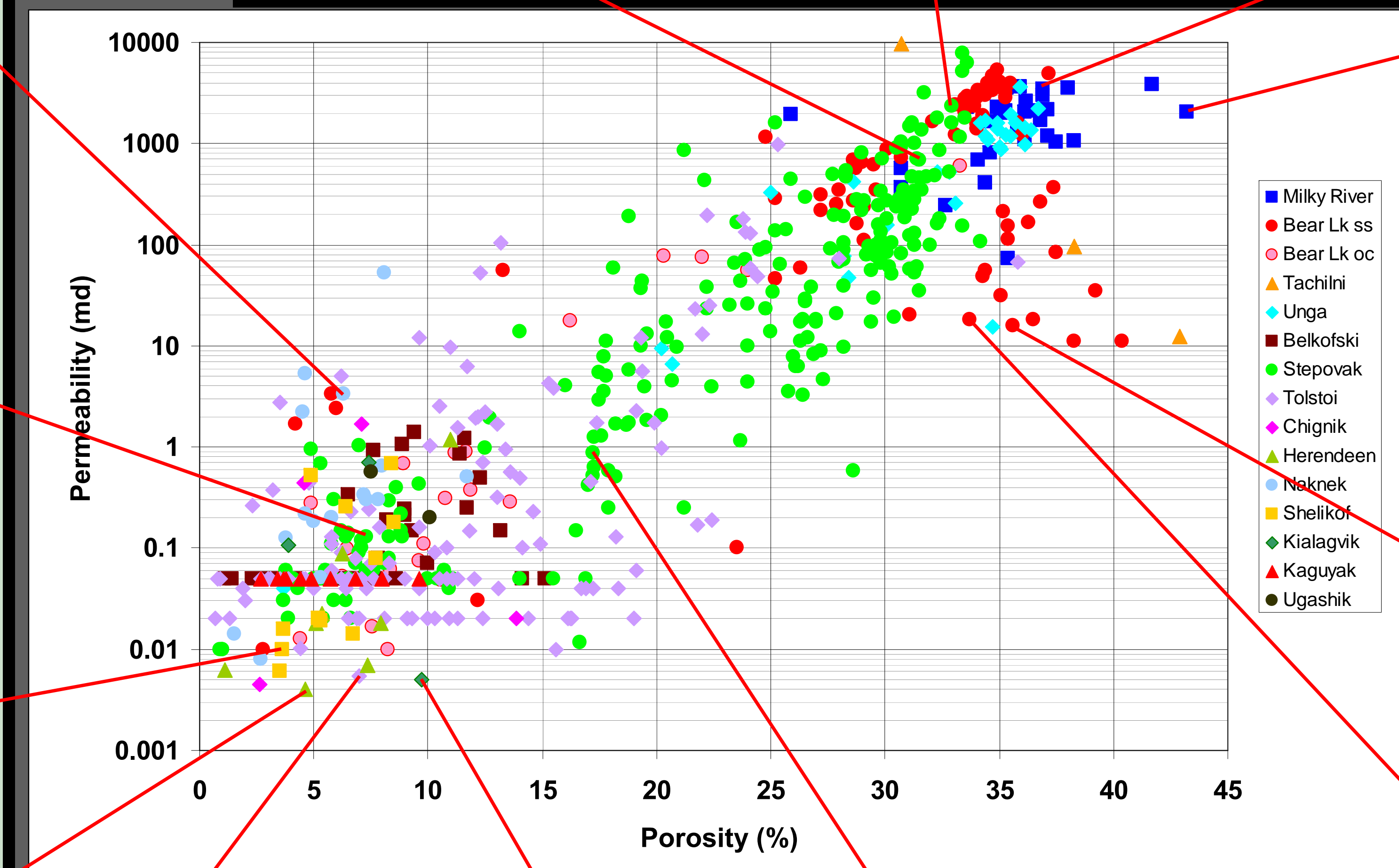
Amoco Becharof State #1 2726.5' MD; Milky River Fm. $\Phi = 43.2\%$; $K = 2040$ md



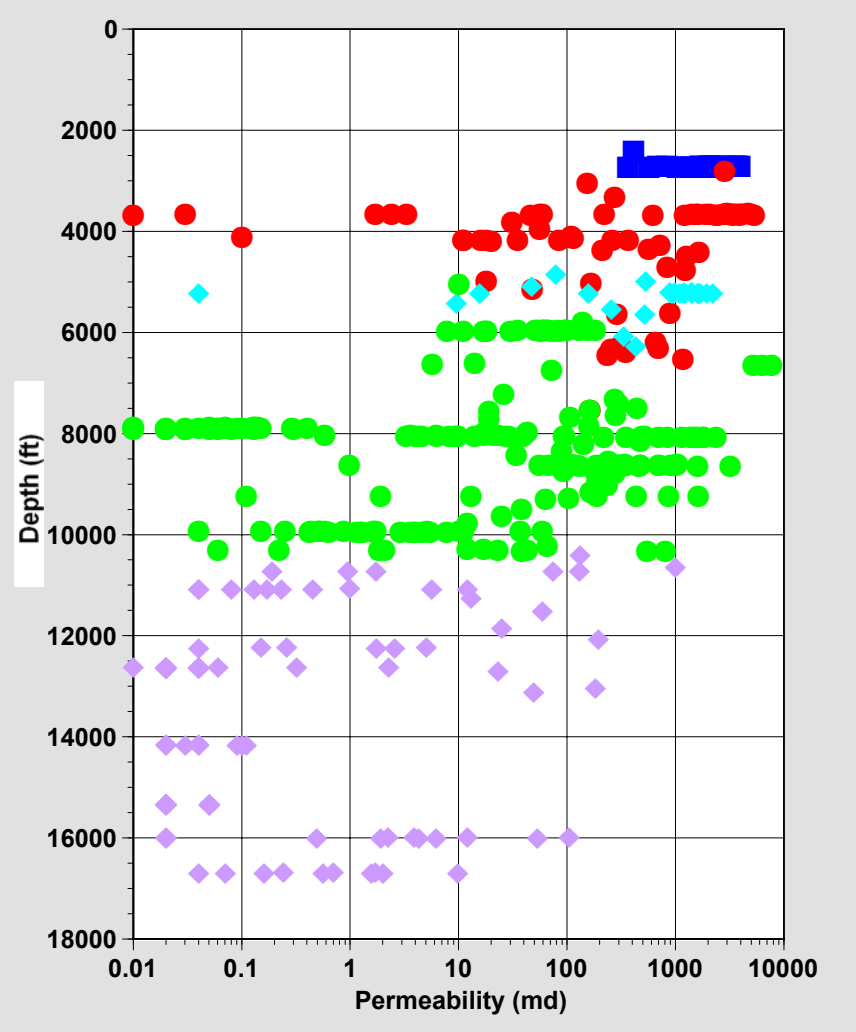
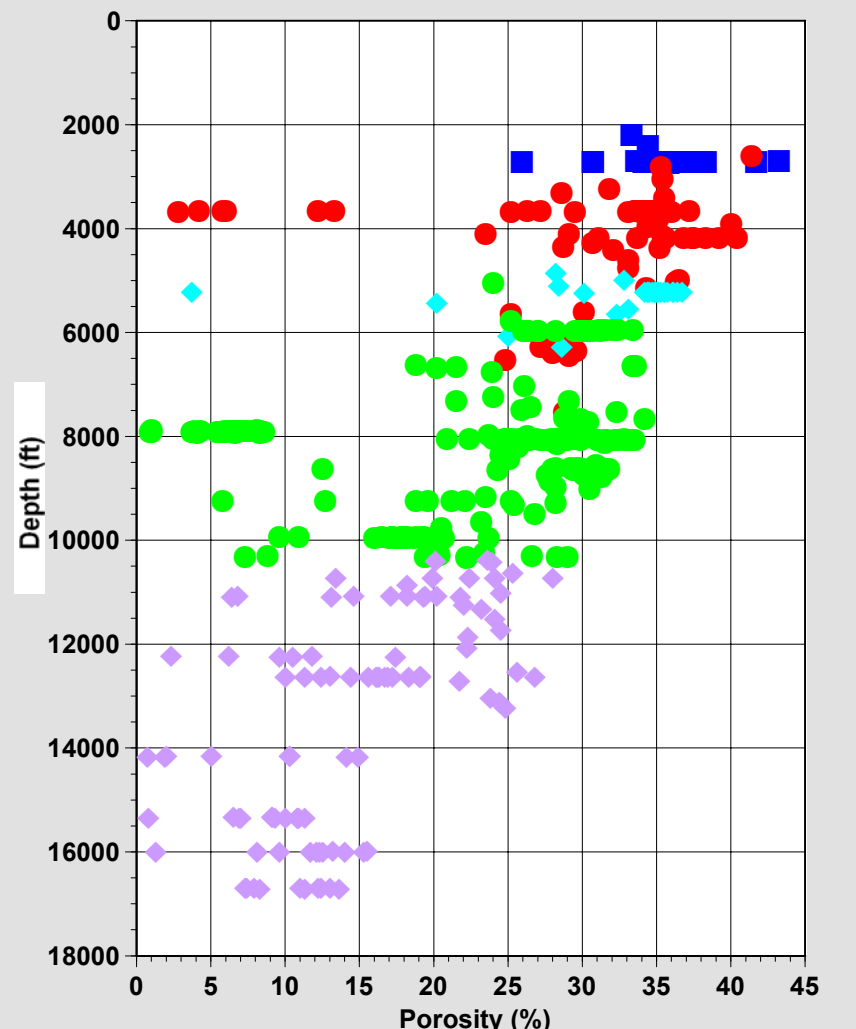
ARCO N. Aleutian COST #1 4197.0' MD; Bear Lake Fm. $\Phi = 35.6\%$; $K = 16$ md



ARCO N. Aleutian COST #1 4198.0' MD; Bear Lake Fm. $\Phi = 33.7\%$; $K = 18$ md



Porosity/Permeability vs Depth



Reservoir Sandstones

- High quality in Mio/Pliocene
- Minor cementation and compaction
- Fine grained to conglomeratic
- High to moderate quartz component
- Low Dmax

- Mostly Eocene and older
- High volcanic component
- Arkosic composition
- Zeolite cementation
- Severe compaction
- High Dmax



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