Supplementary Materials

Pore Structure Characterization and Single-Phase Flow Analysis of Glutenite and Pebbly Sandstone Reservoir Samples from the D84 Block Using CT Digital Cores

Figure S1.

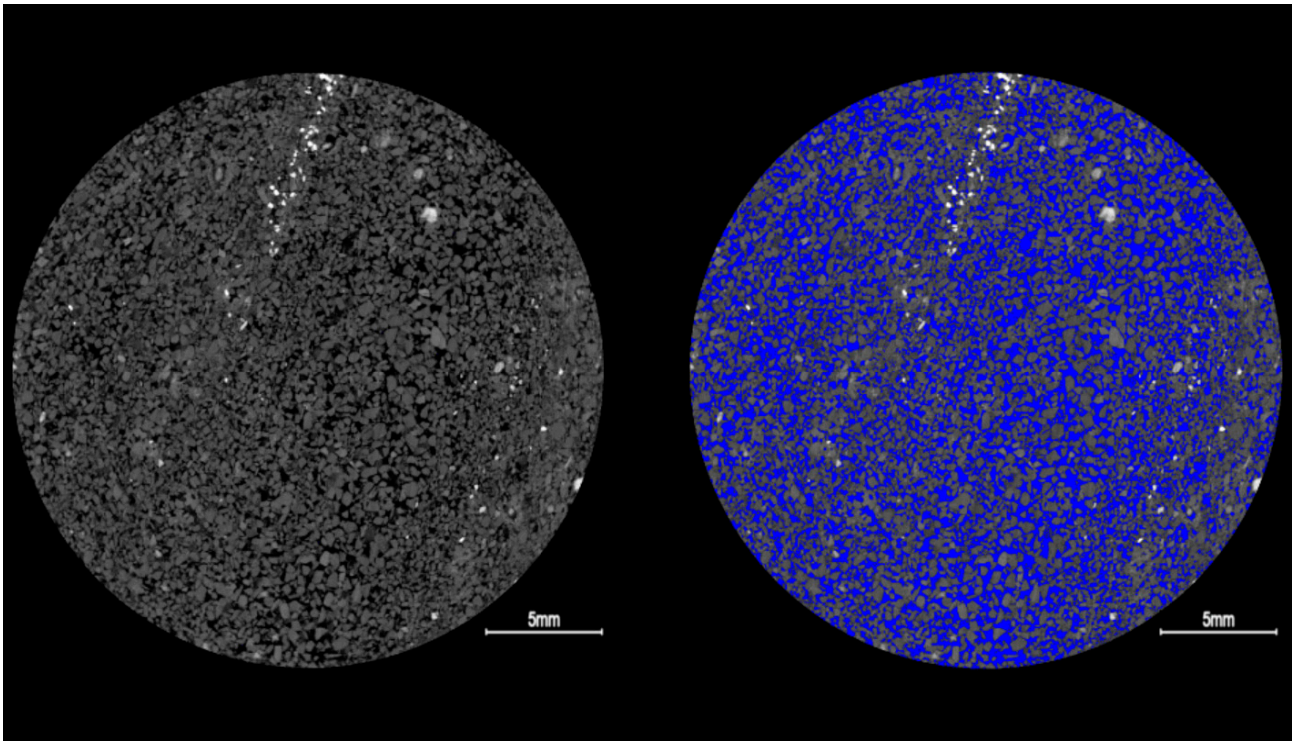


Figure S1. Segmentation overlay for sample ZS-2: (left) original grayscale CT section; (right) the same section with the segmented pore space overlaid in blue. The 5 mm scale bar applies to both panels.

Table S1.

Table S1. Threshold sensitivity of (a) CT-derived porosity (seven threshold levels) and (b) simulated absolute permeability (±5% threshold levels).

(a) CT-derived porosity at seven threshold levels.

Sample	Threshold change	Grayscale threshold	CT porosity (%)	Difference (percentage points)
ZS-1	−5%	3325	25.36	-2.01
ZS-1	−3%	3395	25.96	-1.41
ZS-1	−1%	3465	26.55	-0.82
ZS-1	Baseline	3500	27.37	0.00
ZS-1	+1%	3535	27.95	+0.58
ZS-1	+3%	3605	28.73	+1.36
ZS-1	+5%	3675	29.34	+1.97
ZS-2	−5%	4807	29.97	-2.95
ZS-2	−3%	4908	31.13	-1.79
ZS-2	−1%	5009	32.31	-0.61
ZS-2	Baseline	5060	32.92	0.00
ZS-2	+1%	5111	33.54	+0.62
ZS-2	+3%	5212	34.78	+1.86
ZS-2	+5%	5313	36.05	+3.13
ZS-3	−5%	4655	29.43	-3.09
ZS-3	−3%	4753	30.64	-1.88
ZS-3	−1%	4851	31.89	-0.63
ZS-3	Baseline	4900	32.52	0.00
ZS-3	+1%	4949	33.17	+0.65
ZS-3	+3%	5047	34.48	+1.96
ZS-3	+5%	5145	35.82	+3.30
ZS-4	−5%	4190	25.58	-2.42
ZS-4	−3%	4279	26.47	-1.53
ZS-4	−1%	4367	27.36	-0.64
ZS-4	Baseline	4411	28.00	0.00
ZS-4	+1%	4455	28.56	+0.56
ZS-4	+3%	4543	29.16	+1.16
ZS-4	+5%	4632	30.08	+2.08

(b) Simulated absolute permeability at the baseline and ±5% threshold levels.

Sample	Threshold change	Grayscale threshold	Simulated permeability (mD)	Difference (%)
ZS-1	−5%	3325	1458	-1.29
ZS-1	Baseline	3500	1477	0.00
ZS-1	+5%	3675	1490	+0.88
ZS-2	−5%	4807	1159	-2.03
ZS-2	Baseline	5060	1183	0.00
ZS-2	+5%	5313	1192	+0.76
ZS-3	−5%	4655	1162	-1.19
ZS-3	Baseline	4900	1176	0.00
ZS-3	+5%	5145	1186	+0.85
ZS-4	−5%	4190	985	-2.38
ZS-4	Baseline	4411	1009	0.00
ZS-4	+5%	4632	1015	+0.59