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**Supporting Information for:**

**Impact of Microbial-Rock-CO<sub>2</sub> Interactions on Containment and Storage Security of  
Supercritical CO<sub>2</sub> in Carbonates**

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**Figures S1, S2  
Table T1**

**Introduction:**

**This supporting information contains supplementary figures (Figures S1, S2) and table (T1) supporting the analysis in the manuscript.**



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**Dynamic Rock Mechanics (Acoustic Velocities)**

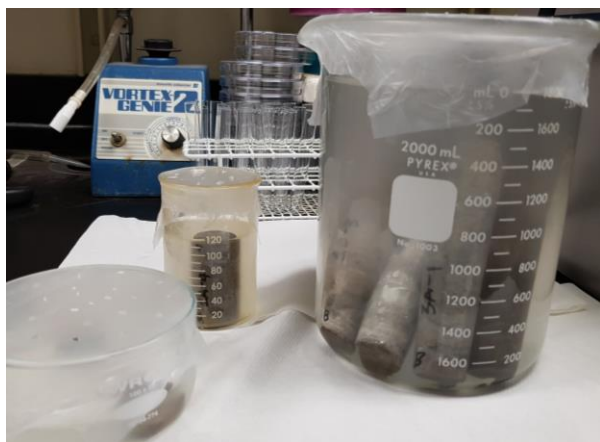
**Company:** Steward Energy II, LLC

**Well:**

**File No.:**

Sample	Depth ft	Air Permeability mD	Klinkenberg Permeability mD	Porosity %	Grain Density g/cc
V1	5,276.2	0.2271	0.0855	5.94	2.84
V2	5,351.6	0.1628	0.0569	6.38	2.85
V3	5,420.3	0.3460	0.1485	8.23	2.81
V4	5,456.0	0.0748	0.0246	0.13	2.90
V5	5,536.0	2.46	1.51	8.77	2.88
V6	5,596.0	0.0756	0.0258	0.29	2.88
V7	5,681.3	2.47	1.51	8.97	2.81
V8	5,741.8	3.30	2.30	8.82	2.83
V9	5,836.0	0.0799	0.0262	1.69	2.88
V10	5,906.4	0.3354	0.1506	6.50	2.96

**Supplementary Figure S1: Porosity and permeability data for analyzed core from core analysis.**



(a)



(b)

**Supplementary Figure S2: (a) the rock samples after microbial injection, but before placement in the incubator for 30 days treatment, (b) the same rock samples after being removed from the incubator at the end of 30 days treatment.**

Chemical component	Amount	Unit
Na	14,700	mg/L
Cl	26,000	mg/L
Ca	2310	mg/L
SO <sub>4</sub>	3350	mg/L
Mg	932	mg/L
K	458	mg/L
Sr	43	mg/L
Br	42	mg/L
Si	22.1	mg/L
B	26	mg/L
Li	7.3	mg/L
Ba	0.1	mg/L
Fe	0.4	mg/L
Mn	0.28	mg/L
TDS	47.9	g/L

**Supplementary Table T1: The analysis of brine designed based on formation water chemistry of the San Andres formation in Central Basin platform, Permian Basin. Data Source: [Stueber et al., 1998](#).**