



San Juan Disposal Well Remediation

LOCATION



La Plata County, CO

RESULTS



Leaks Sealed ID Preserved

Held at 1,200 psi for 30 min
Successful H-5 MIT

CHALLENGE

Casing Leak(s) Resulting in Loss of Integrity

BioSqueeze Inc. was contracted by an operator to restore mechanical integrity on a disposal well in the San Juan Basin.

- Drilled in the early 2000's targeting the Bluff and Entrada formations.
- Leak isolated to a 32 ft interval on the 4-1/2" production casing at ~7,800 ft.
- Two conventional cement squeezes attempted with low confidence in placement and no meaningful improvement to pressure falloff rates.

PREPARATION

Rig Reduced Remediation

To prepare the well for treatment via a rigless Downhole BioSqueeze® the following actions were taken:

- Utilize existing bridge plug with cement on top
- Trip packer and work string, set packer at 7,774'
- Trip cap string through packer to 7,825'

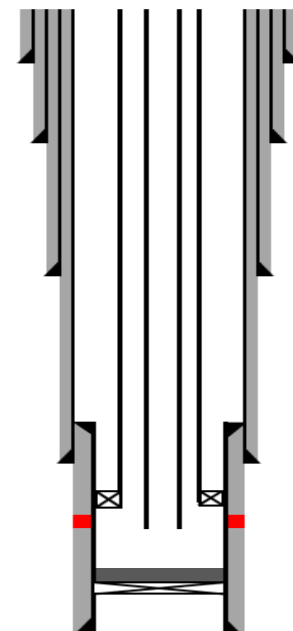
After preparing the well, the workover unit rigged down and moved to a different well. BioSqueeze then began rigless treatment.

Surface Casing:
OD: 13-3/8"
Shoe: 478'

Intermediate 1:
OD: 9-5/8"
Shoe: 3094'

Intermediate 2:
OD: 7"
Shoe: 7561'

Liner:
OD: 4-1/2"
Hanger: 7251'
Shoe: 8931'

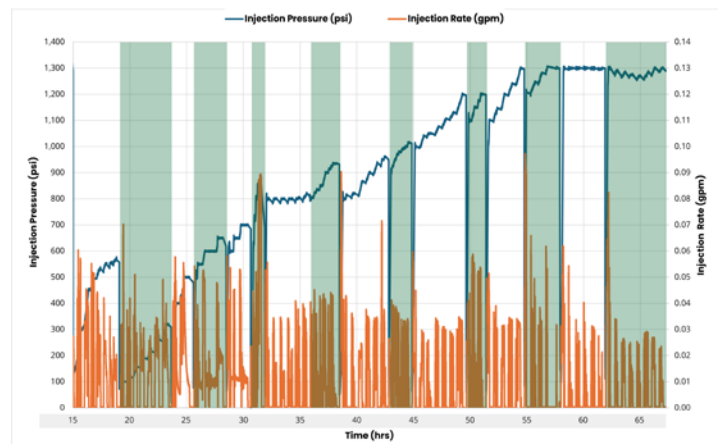
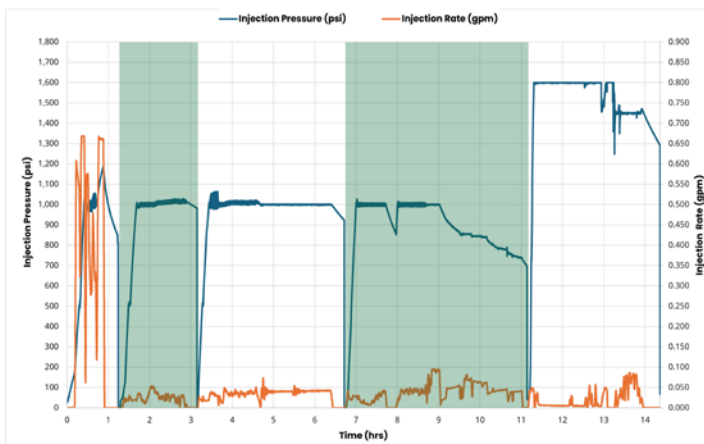


Leak: 7781-7813'

Solution

Rigless Downhole BioSqueeze®

Low-viscosity, biomineralizing fluids were pumped into leakage pathways in the cement behind casing to form new mineral (limestone) and re-establish integrity. Our treatment strategy involved slowly stepping up injection pressure, establishing sustained injection, and sealing at each pressure level before proceeding higher. This methodical approach ensured thorough biomineralization across all accessible leakage pathways, from sub-micron gaps to larger channels.



RESULTS

Restored Mechanical Integrity, Enabling Injection to Resume

98.8% Reduced injection rate from 0.668 gpm to 0.008 gpm with 112 gal injected.

97.8% Reduced pressure falloff from 18.4 psi/min to 0.4 psi/min.

H-5 MIT Successful mechanical integrity test, holding at 1,200 psi for 30 min.

“ Eliminate Leaks Without Sacrificing ID ”



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