



BioSqueeze
SEALED WELL

Case Study
050



BioSqueeze® Riglessly Seals Orphan Well

Location



Cleveland, Ohio

Results



Pre-Treatment
+450 bubbles/minute

Post-Treatment
0 bubbles

Challenge

Well with SCP in the Process of Being Plugged

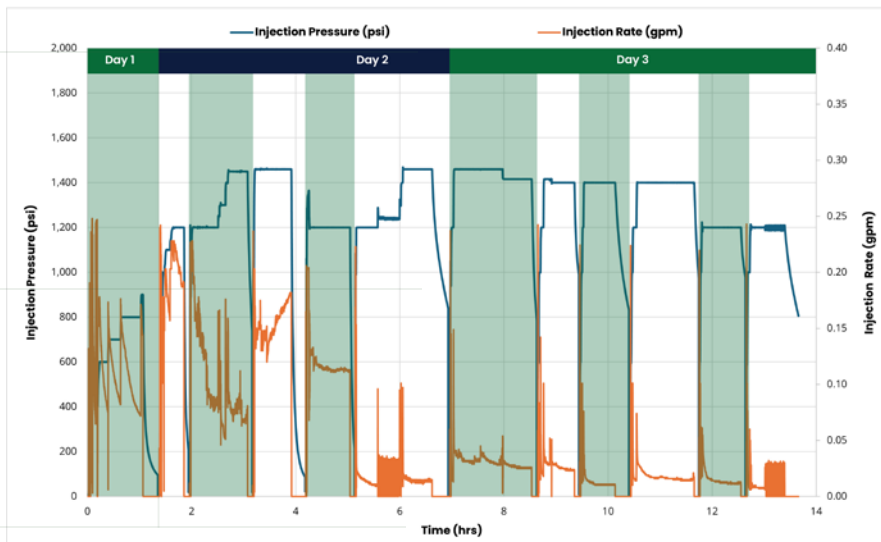
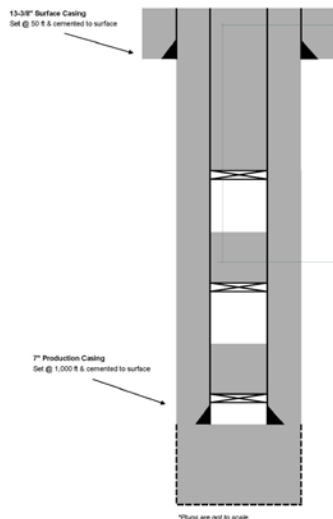
BioSqueeze Inc. was contracted to eliminate annular gas on an orphan well in Cleveland, Ohio. The well had been drilled before WWII and stripped of casing for the war effort. New casing was set and cemented as part of efforts to abandon the well and it was plugged to surface thereafter, but gas flow persisted.

Solution

Deep Penetrating Annular Surface (DPAS™) BioSqueeze®

Instead of a costly re-entry requiring drillout and additional downhole squeezes, a DPAS™ BioSqueeze® was utilized to riglessly inject treatment fluids directly into leakage pathways in cement at surface. Utilizing our NanoSeal™ fluid system, bond was restored throughout the annulus (+1,000').





Results

Leaks Sealed, Well Abandoned

✓ Before treatment, gas leakage was measured at 450+ bubbles per minute. After treatment, no bubbles were observed over a 10-minute monitoring period.

✓ The well was monitored by the Ohio Department of Natural Resources (ODNR) and no gas was detected post-treatment, enabling the well to be capped and cut for permanent abandonment.

Stage	Constant Pressure	Pump Time	Injection Rate	Volume Injected
1	900 psi	63 min	0.145 gpm	6.8 gal
2	1,200 psi	28 min	0.188 gpm	6.6 gal
3	1,450 psi	67 min	0.080 gpm	6.8 gal
4	1,460 psi	44 min	0.180 gpm	7.3 gal
5	1,360 psi	51 min	0.110 gpm	5.7 gal
6	1,460 psi	89 min	0.014 gpm	1.1 gal
7	1,460 psi	95 min	0.025 gpm	3.3 gal
8	1,416 psi	43 min	0.023 gpm	1.3 gal
9	1,400 psi	42 min	0.010 gpm	0.8 gal
10	1,400 psi	74 min	0.016 gpm	1.3 gal
11	1,225 psi	48 min	0.120 gpm	1.0 gal
12	1,200 psi	46 min	0.006 gpm	0.6 gal

“No more expensive re-entries... Switch to DPAS™ and put plugged wells to bed once and for all.”



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