



Appalachian Storage Well Abandonment

Location



Erie County, NY

Results



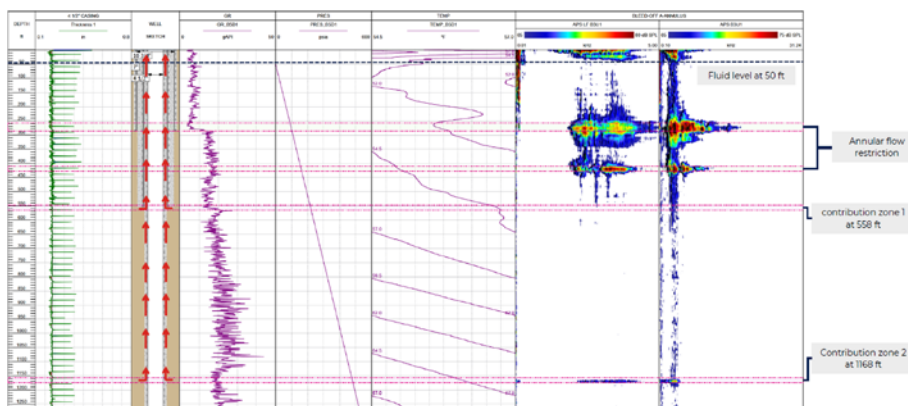
Two for Two

Squeezes conducted on two separate annuli eliminated all gas flow. 100% success rate.

Challenge

Sustained Casing Pressure (SCP)

BioSqueeze Inc. was contracted by an operator to eliminate annular gas on the 4-1/2" x 6-5/8" annulus of a storage well in the process of being plugged in Erie County, NY.



Noise-temp log indicating gas sources and obstructed flow.

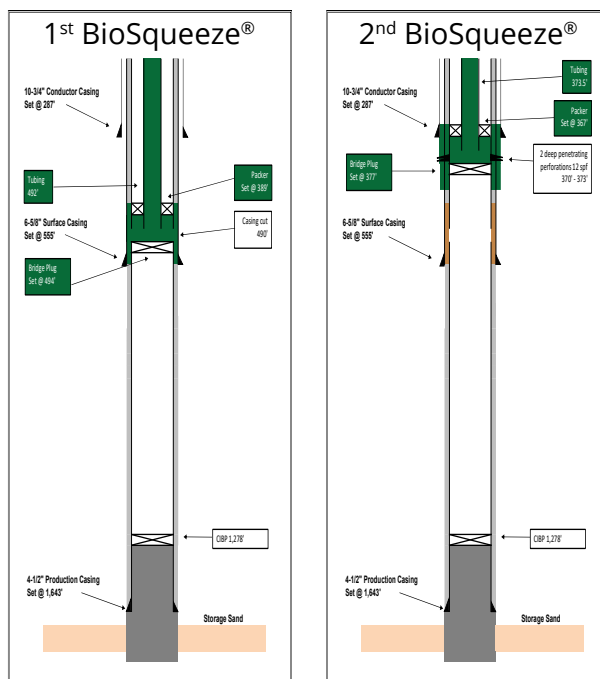
Solution

Downhole BioSqueeze®

Cement bond log indicated sporadic intervals of little to no coverage. Cut made in 4-1/2" casing at 490', bubbling shifted from annulus to wellbore indicating connection to gas channel. Injected acid to clean up channels, neutralized, and then treated with BioSqueeze®.

During treatment on the 4-1/2" x 6-5/8" annulus bubbling observed on the 6-5/8" x 10-3/4" annulus. Prompting additional intervention at the conclusion of the first treatment.

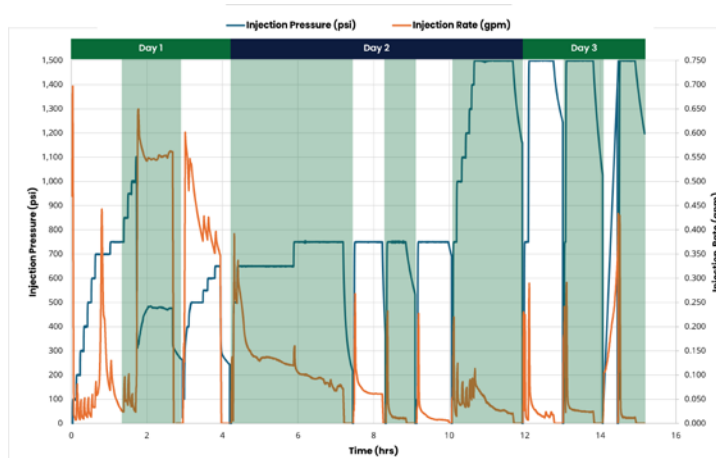
Perforated through 4-1/2" and 6-5/8" casing strings with overlaid 6 shot-per-foot deep penetrating charges at 370-373' and treated with BioSqueeze®.



First BioSqueeze®

4-1/2" x 6-5/8" Annulus | 490'

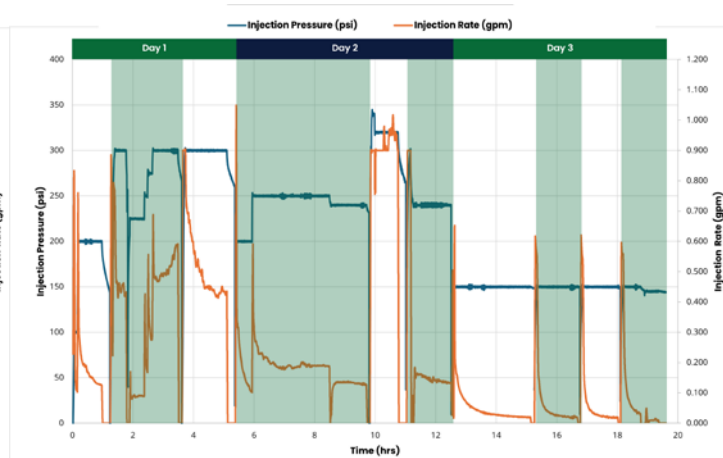
Day	Stages	Max Pressure	Pump Time	Injection Rate	Volume Injected
1	3	1,100 psi	220 min	0.345 gpm	60.8 gal
2	5	750 psi	405 min	0.020 gpm	31.7 gal
3	4	1,500 psi	192 min	0.012 gpm	4.8 gal



Second BioSqueeze®

6-5/8" x 10-3/4" Annulus | 370-373'

Day	Stages	Max Pressure	Pump Time	Injection Rate	Volume Injected
1	3	300 psi	281 min	0.440 gpm	98.3 gal
2	3	340 psi	405 min	0.134 gpm	94.9 gal
3	4	150 psi	391 min	0.010 gpm	12.5 gal

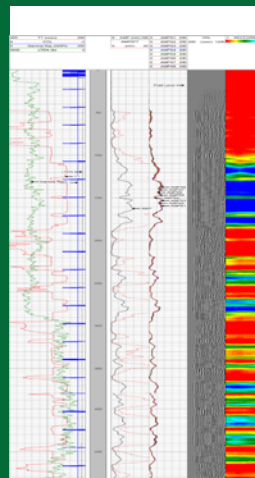


Results

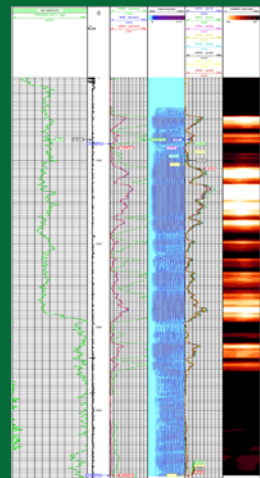
Both Annuli Sealed, SCP Eliminated, Well Approved for P&A

- ✓ Gas on 4-1/2" x 6-5/8" annulus reduced from too many bubbles to count to 0 bubbles in 30 minutes.
- ✓ Gas on 6-5/8" x 10-3/4" annulus reduced from too many bubbles to count to 0 bubbles in 30 minutes.
- ✓ Over 140' of cement healed, confirmed by CBLs on 4-1/2" x 6-5/8" (does not include cement healed on 6-5/8" x 10-3/4" annulus).

Pre-Treatment CBL



Post-Treatment CBL



**"No More Pump and Pray...
Seal Leaks With Confidence"**



BioSqueeze
SEALED WELL

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