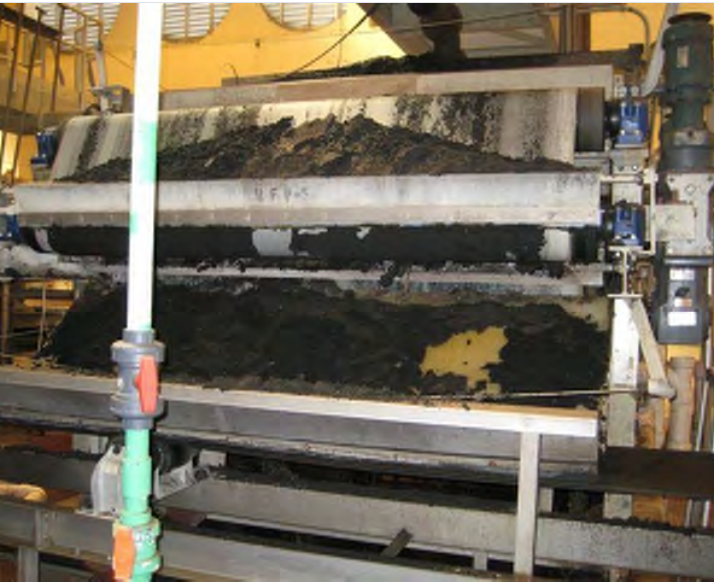




STRUVITE

Belt Press Struvite Scale Control Case Study Orlando, Florida, USA

A 150-day evaluation controlled struvite accumulation, reduced existing deposits and enhanced flocculation, cutting average daily polymer use by approximately 20%.

20%

Lower Daily Polymer Use

5 to 1mm

Struvite Scale Reduction



Improved Sludge Flocculation

0

Cleaning Required

BEFORE & AFTER

BEFORE

- Hard struvite bridged drum holes
- Five millimetres of hard pan scale
- Severe scale impeded press productivity

AFTER

- ✓ Minimal scale remained on the drum
- ✓ Only one millimetre of brittle pan scale
- ✓ Average polymer use fell by about 20%



BEFORE

Minimal drum scale



AFTER

Drum holes opened up



OVERVIEW

The City of Orlando's Water Conserv II Water Reclamation Facility evaluated Hydropath technology on belt press No. 5 to control struvite, reduce existing deposits and improve flocculation. The 150-day evaluation also assessed whether polymer use and cleaning requirements could be reduced.



CHALLENGE

Severe struvite accumulation affected belt press performance and required routine cleaning.

- Hard scale bridged holes in the press drum
- Around 5 mm of hard scale covered the pan
- Cleaning required belt removal and hot water
- Centrate was transferred continuously, 24 hours per day.



SOLUTION

One *HydroFLOW*® Custom 12" unit was installed on the belt press influent pipe, downstream of anionic polymer injection, and operated continuously for 150 days.

UNIT INSTALLED

1x *HydroFLOW*® Custom 12"

INSTALLATION POINT

Belt press influent pipe

BELT PRESS

AshBrook Klam, two 2-metre-wide belts

EVALUATION PERIOD

150 days of continuous operation



INSTALLATION

HydroFLOW® Custom unit installed on influent pipe



RESULTS

🛡️ New Scale Accumulation Prevented

Minimal new struvite remained on the drum after 150 days.

📉 5 mm → 1 mm Scale Reduction

Hard pan scale reduced from 5 mm to just 1 mm of brittle scale.

🔄 No Cleaning During Evaluation

The belt press operated continuously for 150 days without scale cleaning.

📄 20% Lower Polymer Use

Average daily polymer use fell by approximately 20% with improved flocculation.



TESTIMONIAL

"After 10 days of use, there was a marked reduction in the amount of struvite buildup and eventually the struvite had softened to the point that it could be wiped off by hand. During the demonstration, the unit was run continuously without any cleaning."

— Steve Shelnutt, Plant Manager, Water Conserv II

KEY TAKEAWAY

Struvite Control at Orlando

One *HydroFLOW*® Custom unit operated for 150 days on belt press No. 5. New struvite accumulation was controlled, existing deposits softened and scale reduced from 5 mm to 1 mm. Improved flocculation cut average daily polymer use by approximately 20%, with no cleaning required during the evaluation.

20%

LOWER DAILY POLYMER USE

5 to 1mm

STRUVITE SCALE REDUCTION



IMPROVED SLUDGE FLOCCULATION



ADDITIONAL PHOTO EVIDENCE



BEFORE

Heavy struvite scale on drum side



AFTER

Minimal struvite remained after 150 days



BEFORE

5 mm of hard struvite scale before treatment



AFTER

Only 1 mm of brittle struvite remained after 150 days

HYDROPATH

Ready to control struvite scale?

Get a free consultation for your wastewater treatment facility.

✉ sales@hydropath.com

☎ +44 (0)115 986 9966

🌐 hydropath.com

✓ ISO 14001:2015

✓ ISO 9001:2015

✓ GREENPRO

✓ SOLAR IMPULSE