



CONTRACTOR FIELD MANUAL

BoreSaver® Ultra C Plus

Application and rehabilitation procedure for iron-oxide fouling in potable groundwater bores, wells, pumps and rising mains

Document	Issue date	Pack size	Treatment range
IFU-UC+-8.0	28 July 2026	10 kg pail	4.16% recommended 7% maximum

READ BEFORE USE Only trained personnel familiar with bore rehabilitation should use this product. Read the current Safety Data Sheet (SDS), complete a site risk assessment and confirm all discharge approvals before work begins.

Purpose

This manual provides a practical sequence for calculating, applying, agitating, purging and verifying a BoreSaver Ultra C Plus treatment. It does not replace the product SDS, site procedures, permits or applicable environmental and drinking-water requirements.

At a glance

- Confirm that the principal foulant is iron oxide and identify the treatment zone.
- Calculate the water volume and dose at 4.16% product by weight to water; never exceed 7%.
- Place and thoroughly agitate the solution through the screen or other target zone.
- Allow 24–48 hours contact time, then purge at least 3–5 casing volumes or until clear.
- Verify pH has returned to background and oxalate is at or below 10 mg/L (10 ppm) before return to service.

1. Product and scope

Product description

BoreSaver Ultra C Plus is a factory blend of BoreSaver Ultra C and BSL Liquid Enhancer. It is an acidic rehabilitation chemical blend designed for potable groundwater bores, wells, pumps and pipes where iron-oxide clogging is predominantly associated with biologically driven processes.

When introduced to the treatment zone and agitated using standard bore-rehabilitation methods, the product loosens and dissolves deposits so they can be removed by bailing, airlifting or pumping.

Scope and limitations

- Use only after confirming that iron oxide is the principal clogging material.
- For severe fouling, use two treatments rather than exceeding the maximum 7% concentration.
- Effectiveness depends on accurate dosing, good contact with the target zone, thorough agitation and complete purging.
- Confirm chemical compatibility with bore components, pumps, seals and site materials before treatment although this is not normally an issue.

Definitions

Term	Meaning
Product	BoreSaver Ultra C Plus, the blend described in this manual.
Headworks	Pipework at the top of the casing connecting the pump rising main to the distribution main.
Rising main	Pipe connecting the pump to the headworks.
Recycling	Running the installed pump and returning flow through the headworks back into the bore.
Purge water	Water pumped from the bore carrying cleaner, biofilm and loosened deposits.
Treatment time	Time the treatment solution remains in the bore before purging.
Ground disposal	Discharge to an approved ground area where the water is neutralised and absorbed.
Cascading bore	A bore with some screen slots above standing water level, causing inflow to cascade and become oxygenated.

2. Planning and dosage

Pre-start checks

- Obtain the current SDS and complete the site risk assessment, isolation and permit requirements.
- Confirm casing internal diameter, standing water level, total depth and length/location of the target zone.
- Record baseline flow, pumping water level, drawdown, specific capacity, pH and water appearance.
- Confirm the planned agitation method, purge route, wastewater containment and disposal approval.
- Ensure suitable potable water, sampling equipment, pH measurement and oxalate test capability are available.

DOSAGE BASIS Recommended concentration: 4.16% BoreSaver Ultra C Plus by weight to the water volume in the bore. Example: 1,000 L of water requires 41.6 kg. Maximum concentration: 7%.

Dosage table

Casing internal diameter	Water volume (L per metre)	Product at 4.16% (kg per metre of water)
101 mm	8	0.332
152 mm	18	0.75
203 mm	32	1.4
254 mm	50	2.1
304 mm	73	3.0
355 mm	99	4.1
406 mm	129	5.4
457 mm	164	6.8
508 mm	202	8.4

Calculation: product required (kg) = water column length (m) × product per metre from the table. Use the actual internal diameter and measured water column; for other diameters, calculate the bore volume directly.

Placement

The product is supplied as a concentrate and may be used as supplied or mixed with potable water when additional bulk is needed. For up to 50 m of water depth, it may be introduced at the top of the casing and mixed by the selected rehabilitation method. At water depths greater than 50 m, use a placement pipe to deliver the product into the target zone.

3. Select the rehabilitation method

Use the most effective method that site access, bore construction and equipment allow.

Priority	Method	Best suited to
1 — Most effective	Mechanical surging / brushing	Screen and formation fouling; pump can be removed.
2	Air-assisted development	Screen fouling where airlifting and compressed-air surging are practical.
3	Pump-in recycling	Pump and rising-main cleaning, light screen fouling, or where pump removal is not feasible.

Method 1 — Mechanical surging and brushing

1. Isolate the bore, remove the pump and secure the work area.
2. Optionally inspect the bore with a downhole camera and record the condition.
3. Brush and surge to loosen deposits; bail out loose debris.
4. Add the calculated product dose to the casing and screen.
5. Resume brushing and surging to distribute the solution through the treatment zone.
6. Leave the product in contact for 24–48 hours.
7. Purge 3–5 casing volumes, or until the water runs clear. Measure flow and drawdown to calculate post-treatment specific capacity.
8. Optionally reinspect by camera. Repeat the treatment cycle if required; do not exceed 7% concentration.
9. Confirm pH has returned to background and oxalate is at or below 10 mg/L (10 ppm).
10. Reinstall the pump, reconnect the headworks and return the bore to service only after acceptance criteria are met.

Method 2 — Air-assisted development

Airlift pumping introduces compressed air through an airline near the bottom of the bore. Rising air carries water and fines out of the bore; alternating pumping and short pauses creates a surging action through the screen.

1. Isolate the bore, remove the pump and secure the work area.
2. Optionally inspect with a downhole camera and record the condition.
3. Air-surge to loosen soft deposits; bail or airlift loose debris.
4. Add the calculated product dose to the casing and screen.
5. Resume air surging to distribute the solution through the treatment zone.
6. Leave the product in contact for 24–48 hours.
7. Purge 3–5 casing volumes, or until the water runs clear. Measure flow and drawdown to calculate post-treatment specific capacity.
8. Optionally reinspect by camera. Repeat the treatment cycle if required; do not exceed 7% concentration.
9. Confirm pH has returned to background and oxalate is at or below 10 mg/L (10 ppm).
10. Reinstall the pump, reconnect the headworks and return the bore to service only after acceptance criteria are met.

Method 3 — Pump-in recycling

This method leaves the pump installed and returns flow down the casing. It principally cleans the pump and rising main and is normally selected where the screen is not heavily blocked or pump removal is impractical.

1. Take the bore offline, isolate the headworks and provide a safe opening for product addition, recycling and purging.
2. Establish the recycling line. Start the pump and check all temporary pipework and connections for leaks.
3. Add the calculated product dose to the bore casing.
4. Recycle for 8–12 hours. Continuously manage the system so the pump does not overheat, cavitate or run dry.
5. Stop recycling and leave the solution in place for a further 24 hours.
6. Pump at least 3 casing volumes, or until clear, to the approved wastewater tank or disposal point.
7. Continue purging until pH has returned to background and oxalate is at or below 10 mg/L (10 ppm).
8. Reconnect the headworks and return the bore to service only after acceptance criteria are met.

4. Purging, wastewater and verification

Purging

- Direct all initial purge water to the approved wastewater containment or discharge point.
- Purge at least 3–5 casing volumes, or until the water runs clear and verification criteria are met.
- Where practical, introduce potable water at the top of the casing during purging to move reaction by-products above the pump down to the intake and out to waste.

Wastewater tank treatment

1. Add finely ground agricultural lime to the wastewater tank or disposal pit while monitoring pH.
2. As a planning guide, allow approximately 25 kg of lime for each 100 kg of BoreSaver Ultra C Plus used. Actual demand depends on wastewater conditions and must be confirmed by testing.
3. Mix safely, allow solids to settle and verify the wastewater meets the approved acceptance criteria.
4. Dispose of liquid at an approved waste-treatment facility or approved discharge point.
5. Dispose of settled solids through an appropriate waste facility.
6. Rinse the tank with fresh water and manage the rinse water as required by the site plan.

ENVIRONMENTAL CONTROL Neutralisation and/or dilution may correct pH, but this does not by itself authorise discharge. Assess each site and obtain any required approval before discharge to ground, sewer, surface water or the natural environment.

Verification and return to service

- Test discharge water with a suitable colorimetric oxalate kit, or send a sample for laboratory analysis such as HPLC.
- Confirm oxalate is at or below 10 mg/L (10 ppm), or any more stringent site or regulatory limit.
- Confirm pH has returned to the bore's background level and water runs clear.
- Record final flow, pumping water level, drawdown and specific capacity; compare with baseline.
- Reconnect the headworks and resume operation only after all acceptance criteria and site requirements are satisfied.

Chlorine loading

Effective purging rapidly reduces oxalate in the casing and minimises additional chlorine demand at downstream water-treatment facilities. Typical purge duration may be 15–60 minutes, but actual time depends on bore construction, stored water volume, pump capacity and the verification results. Always purge to measured acceptance criteria rather than time alone.

5. Safety and contractor records

Personal protective equipment

Select PPE from the current SDS and site risk assessment. As a minimum for handling the concentrate and dry product, the original product guidance specifies:

Exposure area	Minimum guidance
Respiratory	Suitable particulate respirator for dust exposure, selected and fitted in accordance with the SDS and site requirements.
Hands	Acid-resistant gauntlets or chemical-resistant gloves.
Eyes / face / head	Full-face protector or visor with suitable head protection.
Body / feet	Waterproof hooded protective clothing and chemical-resistant safety footwear.

SAFETY DATA SHEET CONTROLS The current SDS takes precedence for hazards, first aid, spill response, storage, transport, incompatibilities and PPE selection. Do not begin work if the SDS, emergency arrangements or required controls are unavailable.

Recommended job record

Record	Site entry
Bore / asset ID • casing ID • water column	_____
Baseline flow / drawdown / SC	_____
Product quantity / concentration	_____
Application method / contact time	_____
Purge volume • final pH • oxalate	_____
Final flow / drawdown / SC	_____
Wastewater destination / approval	_____
Contractor / date	_____

Technical support

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