

Problem	Diagnosis	Appearance	Boresaver Product	Description
<p>Iron Oxide Iron Bacteria (slime bacteria)</p>	<ul style="list-style-type: none"> • Rusty slime inside pipes • Cloudy rusty water at pump start-up • Reduced water flow • Slimy deposits blocking main lines and laterals 		<p>Boresaver Ultra C</p> <p>But where contamination is severe or for ongoing management of iron bacteria use: Boresaver Ultra C and Boresaver Liquid Enhancer</p>	<p>Boresaver Ultra C is an approved proprietary blend of monohydrates and organic acids based on leading research. It is biodegradable and completely removes the iron oxide deposits and iron bacteria that build up in wells, pipes, pumps and associated equipment.</p> <p>Boresaver Liquid Enhancer is an aqueous proprietary blend with bacteriostatic properties, used for severe contamination and the ongoing management of iron bacteria.</p>
<p>Manganese Oxide</p>	<ul style="list-style-type: none"> • Reduced water flow • Blackish-brown deposits blocking pipes • Cloudy water at pump start up • Often found in iron bearing water 		<p>Boresaver IKL Pro</p> <p>For manganese oxide and iron oxide combination problems use: Boresaver IKL Pro and Boresaver Ultra C</p> <p>For ongoing bacteria management use: Boresaver Liquid Enhancer</p>	<p>Boresaver IKL Pro is a proprietary chemical blend of acids with a non-ionic surfactant which promotes emulsions. It dissolves and completely removes manganese scale found in boreholes, pipes, pumps and related equipment.</p> <p>Boresaver Ultra C is an approved proprietary blend of monohydrates and organic acids based on leading research.</p> <p>Boresaver Liquid Enhancer is an aqueous proprietary blend with bacteriostatic properties.</p>
<p>Calcium Carbonate Deposits (lime scale)</p>	<ul style="list-style-type: none"> • Reduced water flow • Deposits of distinct white powder or stone more layered than iron oxide deposits • Iron oxide could also be present indicated by a rust coloured calcification. 		<p>Boresaver IKL Pro</p> <p>For calcium carbonate and iron oxide combination problems refer to local technical support team.</p> <p>For ongoing bacteria management use: Boresaver Liquid Enhancer</p>	<p>Boresaver IKL Pro is a proprietary chemical blend of acids with a non-ionic surfactant which promotes emulsions. It dissolves and completely removes calcium carbonate deposits found in boreholes, pipes, pumps and related equipment.</p> <p>Boresaver Liquid Enhancer is an aqueous proprietary blend with bacteriostatic properties, used for severe contamination and the ongoing management of iron bacteria.</p>

Well Details

Client Name/Well/Borehole Location:						
Construction:	Steel <input type="checkbox"/>	PVC <input type="checkbox"/>	Fiberglass <input type="checkbox"/>	Other: <input type="text"/>	Open hole <input type="checkbox"/>	Screened <input type="checkbox"/>
Frequency & duration of pumping:						
General description of problem:						

Clogging Composition (Use *BoreSaver Range Usage Chart* on reverse for guidance)

If 'YES' use IKL Pro (Tick boxes that apply)				If 'Yes' use ULTRA C (Tick boxes that apply)			
	Yes	No	Unsure		Yes	No	Unsure
Calcium/Limescale				Iron oxides			
Manganese *				Iron related bacteria			
General scale				General organic slime			

Well and Clogging Quantity Factor

Rating	Location of Clogging/Characteristics/Timeline	✓ or ✗
Maintenance	Cleaned within the last 12 months	
	Screen/hole diameter smaller than 20"	
	Soft mushy oxides/loose developed carbonates	
Regular	Clogging less than 1" thick	
	Continuous slotted screens	
	Between 24 & 12 months since last clean	
	Clogging more than 1" thick	
Severe	Solid iron oxide/hard brittle carbonates	
	Slotted screens	
	Screen/hole diameter larger than 20"	
	More than 24 months since last clean	

Product Calculator

Quantity Calculator			Unit
Total Well Depth			Meters
Standing Water Level (SWL) <small>(measured from top to bottom)</small>			Meters
Water column depth (Total less SWL)			Meters
Internal Diameter (ID)			mm
Water volume to be treated (From Product Calculator)			Liters
BoreSaver Product Type	Total Required (kg)	Dose Rate %	Rating
Ultra C & Ultra C Pro		2.00%	Maintenance
		4.16%	Regular
		5.00%	
		7.00%	Severe
IKL Pro		5.00%	Maintenance
		7.00%	Regular
		10.00%	Severe

The amount of ticks gives you a good indication of the type of clean you require

Post Treatment Data - Specific Capacity (SC) Monitoring Result

Original Drilled	Current	Target	Achieved	
				ltrs per m
				Improvement achieved %

Rating Overview

Maintenance Clean: Where the oxide residues are fresh, soft and sloppy with no thick hard layers maintenance clean quantities will be suitable. This is generally the case where the well is cleaned once or twice a year.

Regular Clean: When the iron oxide turns solid, with just a layer of the soft sloppy residues, we class the well as a "regular" clean. This is the standard clean amount and allows for the void and some aquifer penetration.

Severe Clean: When the iron oxide deposits have turned very hard and are an inch or so thick, the well is classified as severe. Often these wells have not been cleaned for up to 20 years and are close to being abandoned because of iron oxide problems.

Rehabilitation Method Guidance

Surging, scrubbing and brushing	This along with <i>BoreSaver Ultra C</i> and <i>IKL PRO</i> gives the most consistent highest level of rehabilitation recovery possible.
Air Surging	Air surging is the next best method after surging and scrubbing.
Pump Cycling	This is an inexpensive method of cleaning that focuses almost entirely on the pump and head works. Little screen or formation penetration is possible with this method.

Keys to successful rehabilitation

- ❖ Use the recommended amount of product for the situation.
- ❖ You should do two treatments for a severe problem rather than increasing the treatment concentration beyond the recommended dose (Phased Treatment).
- ❖ Get the product to the area that needs it i.e. wells with more than 50m of water depth it may be useful to use a tremmie to get product directly into the screens.
- ❖ Agitate the treatment solution thoroughly in the target zone.
- ❖ Leave in place for the recommended time (longer is not better)

Overview

This document is designed to allow fast accurate assessment of a clients rehabilitation needs. This easy to use checklist collects all the essential information required to both maximize well recovery and aid future rehabilitation programs.