



BY AARBAKKE INNOVATION

Havtil P&A seminar
Stavanger, 8th May 2025

Svein Bjelland

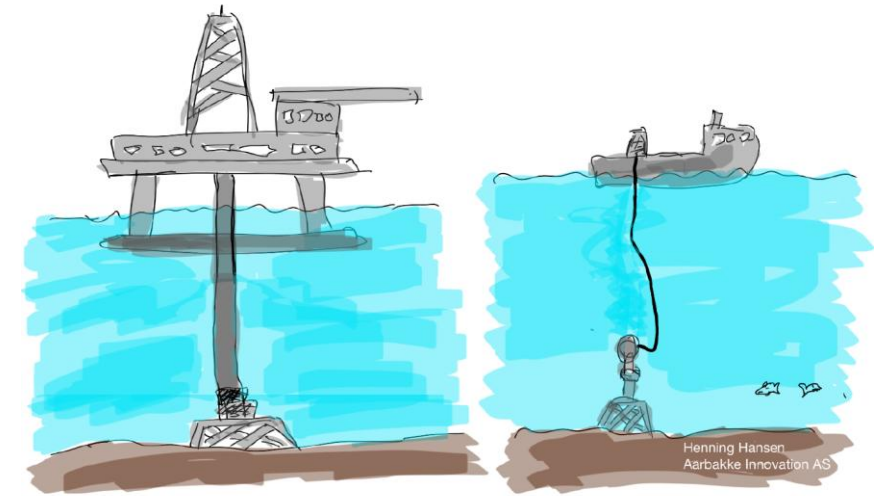
Operations & Technical Manager

Svein.Bjelland@axter.no

+47 481 05 137

Axter Retrieve

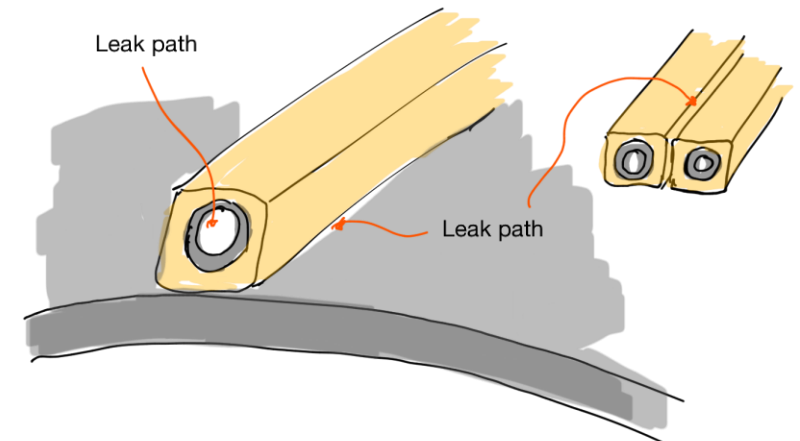
The enabler for permanently leaving the tubing string in the wellbore by removing the cable outside the tubing string to permit cementing the tubing in place.



Moving from Rig to Well Intervention Vessel.

Axter Retrieve - Removing control line and cables outside the tubing/in A-annulus

Axter Cast - A quick and economical solution to install a patch/straddle with minimum ID reduction across milled windows

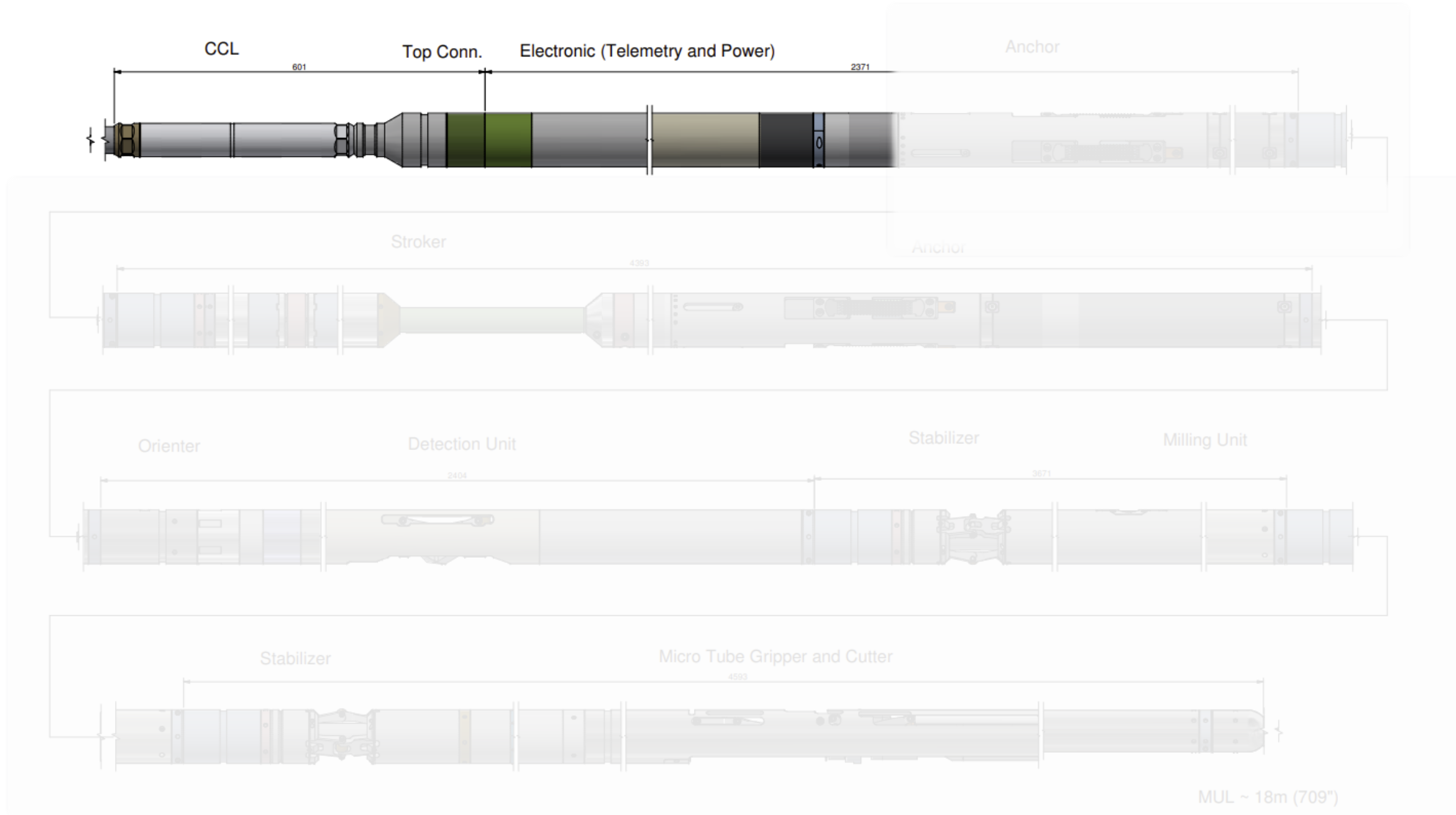




BY AARBAKKE INNOVATION

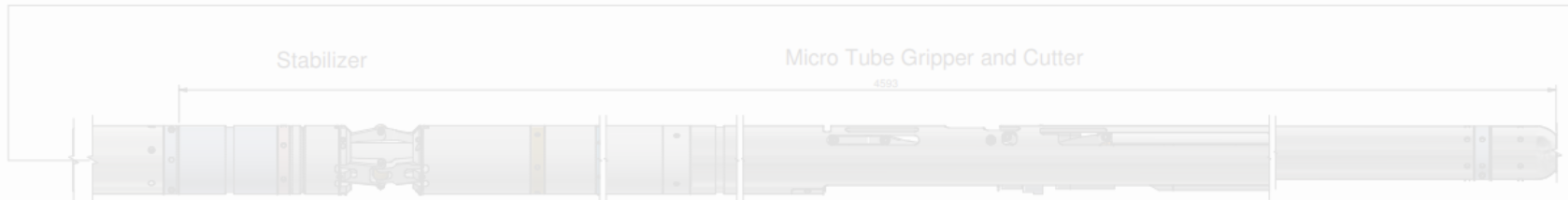
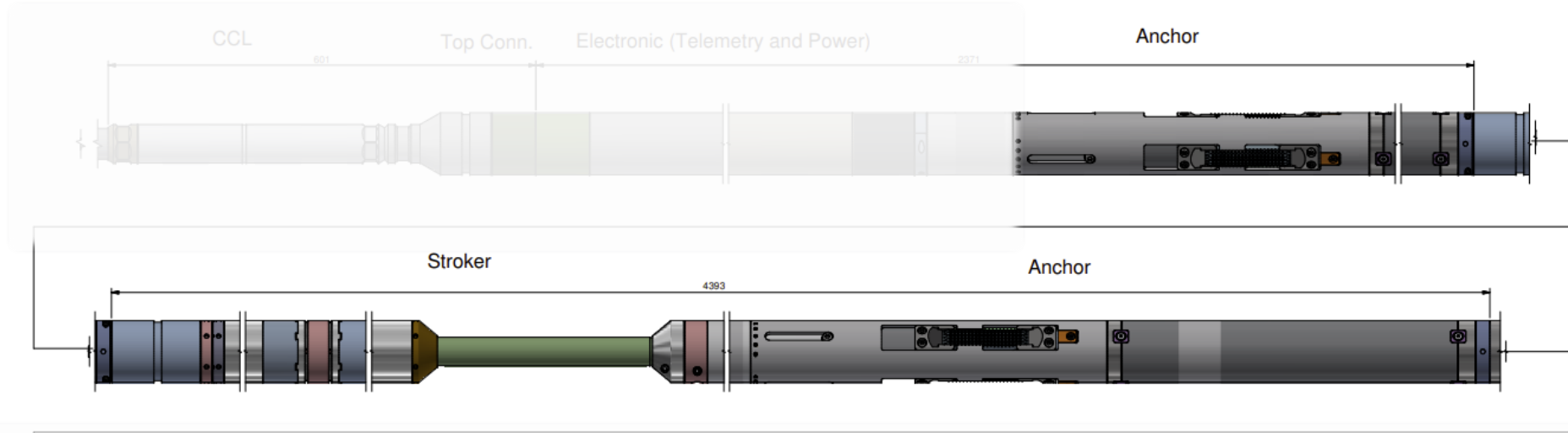
The Axter Retrieve tool string

To be run on 5/16" Mono-conductor and larger Multi-conductor cables



The Axter Retrieve tool string

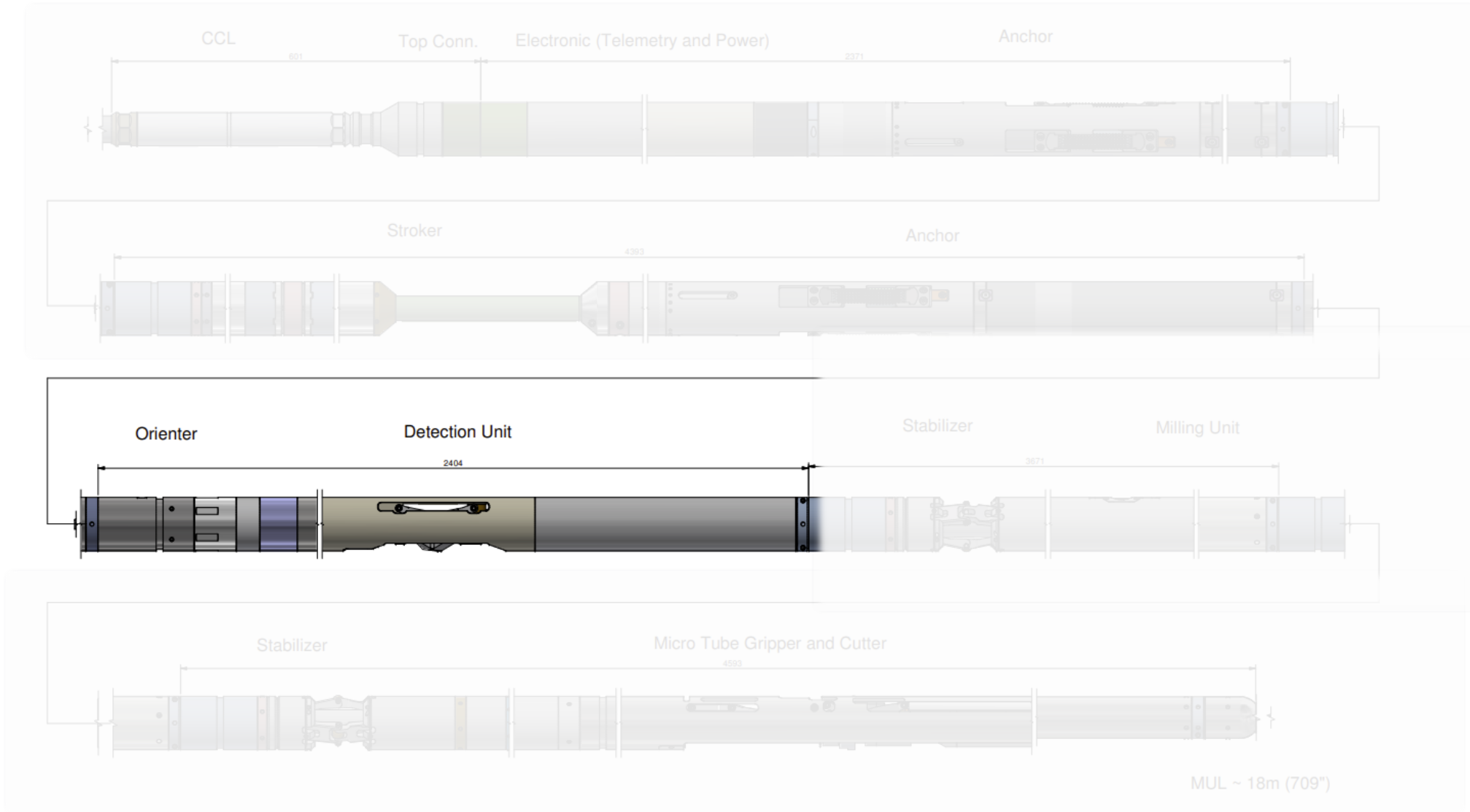
To be run on 5/16" Mono-conductor and larger Multi-conductor cables



MUL ~ 18m (709")

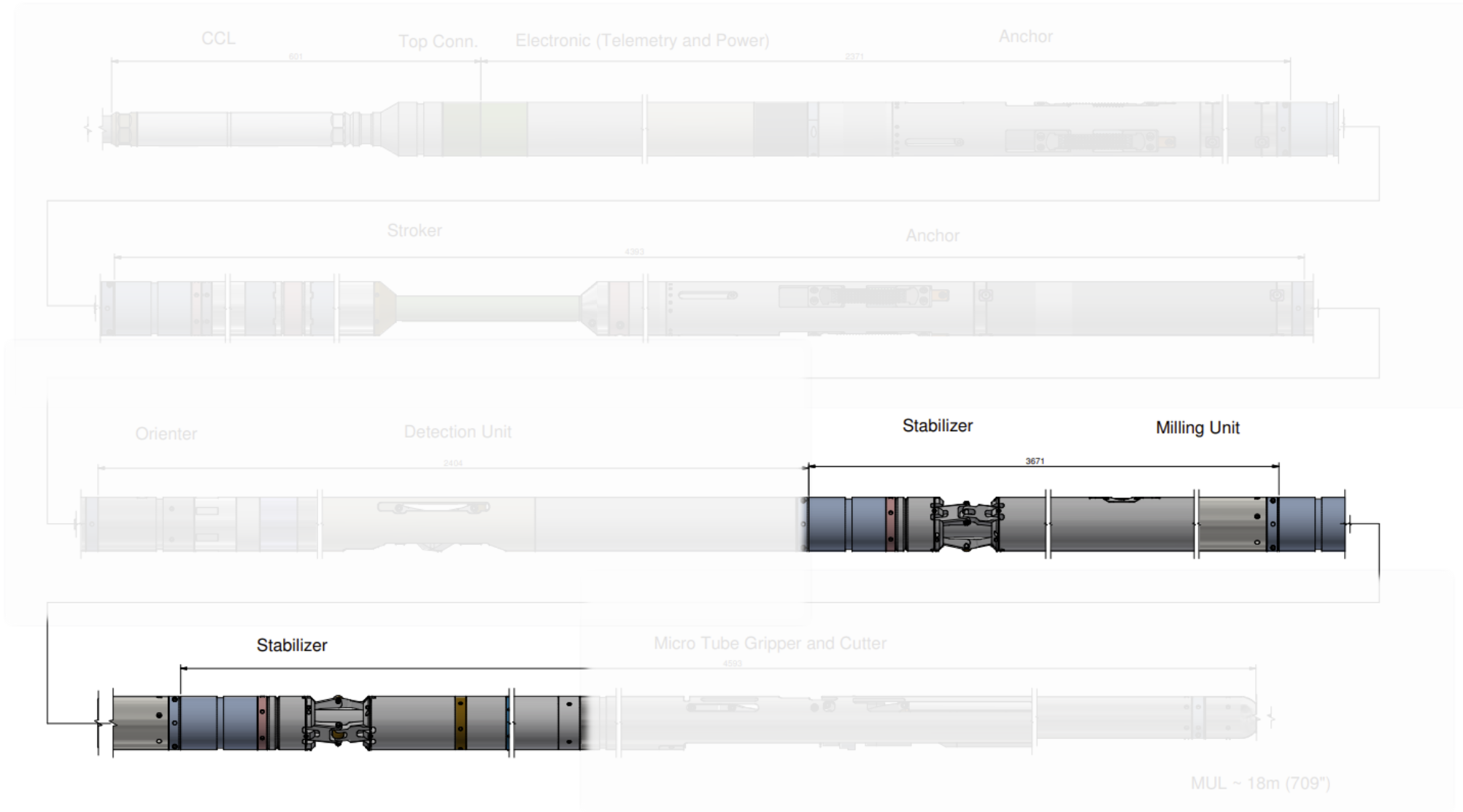
The Axter Retrieve tool string

To be run on 5/16" Mono-conductor and larger Multi-conductor cables



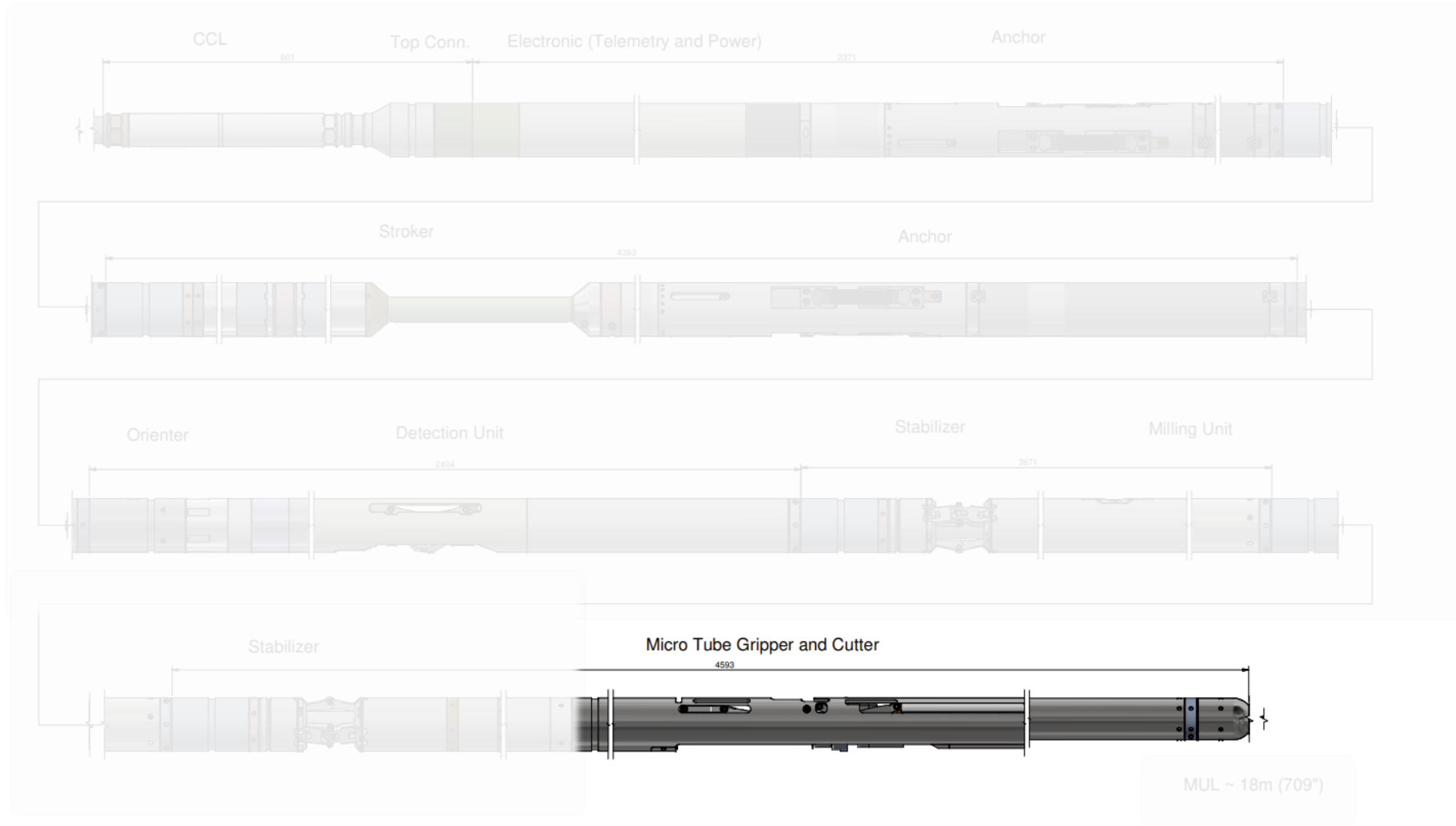
The Axter Retrieve tool string

To be run on 5/16" Mono-conductor and larger Multi-conductor cables



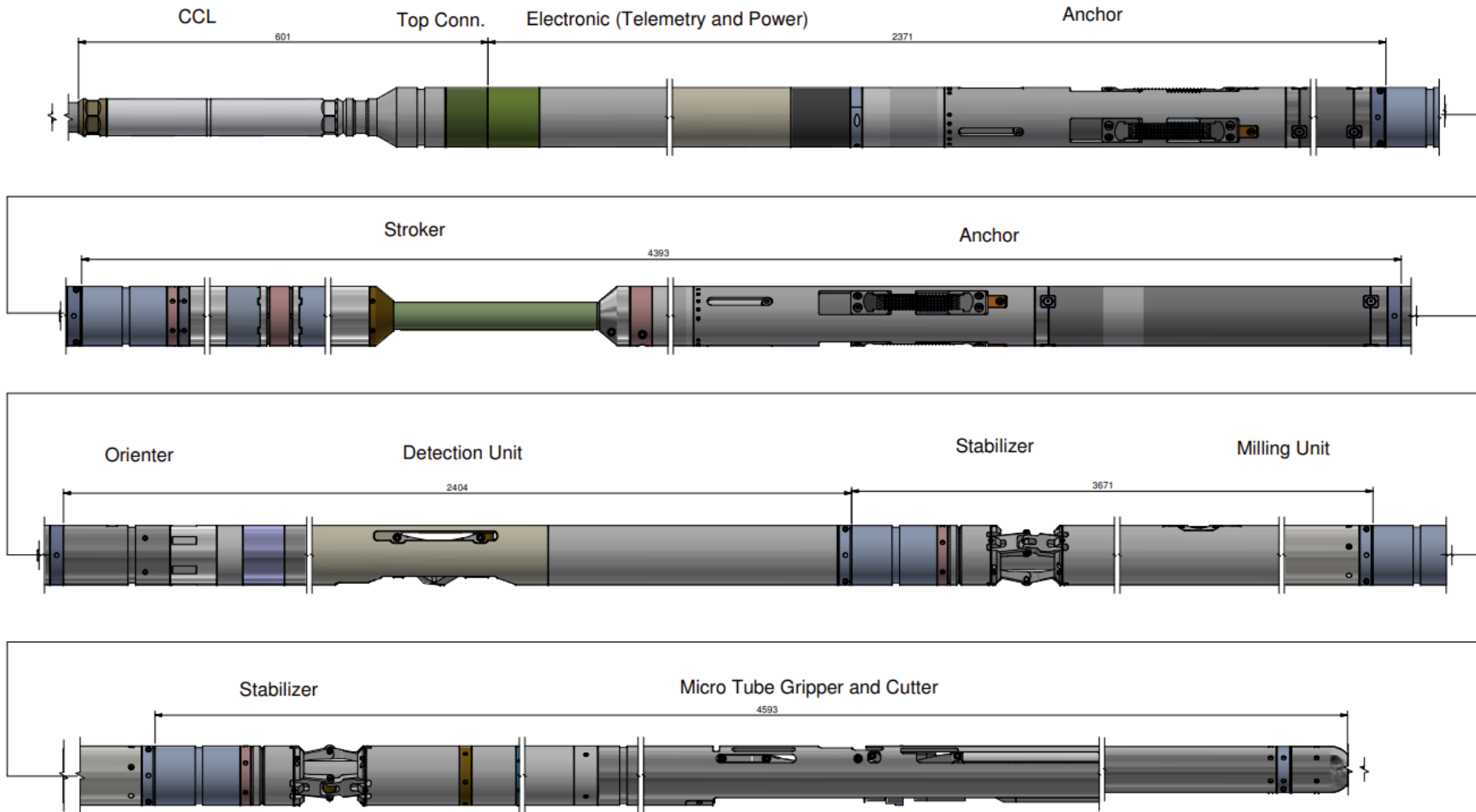
The Axter Retrieve tool string

To be run on 5/16" Mono-conductor and larger Multi-conductor cables



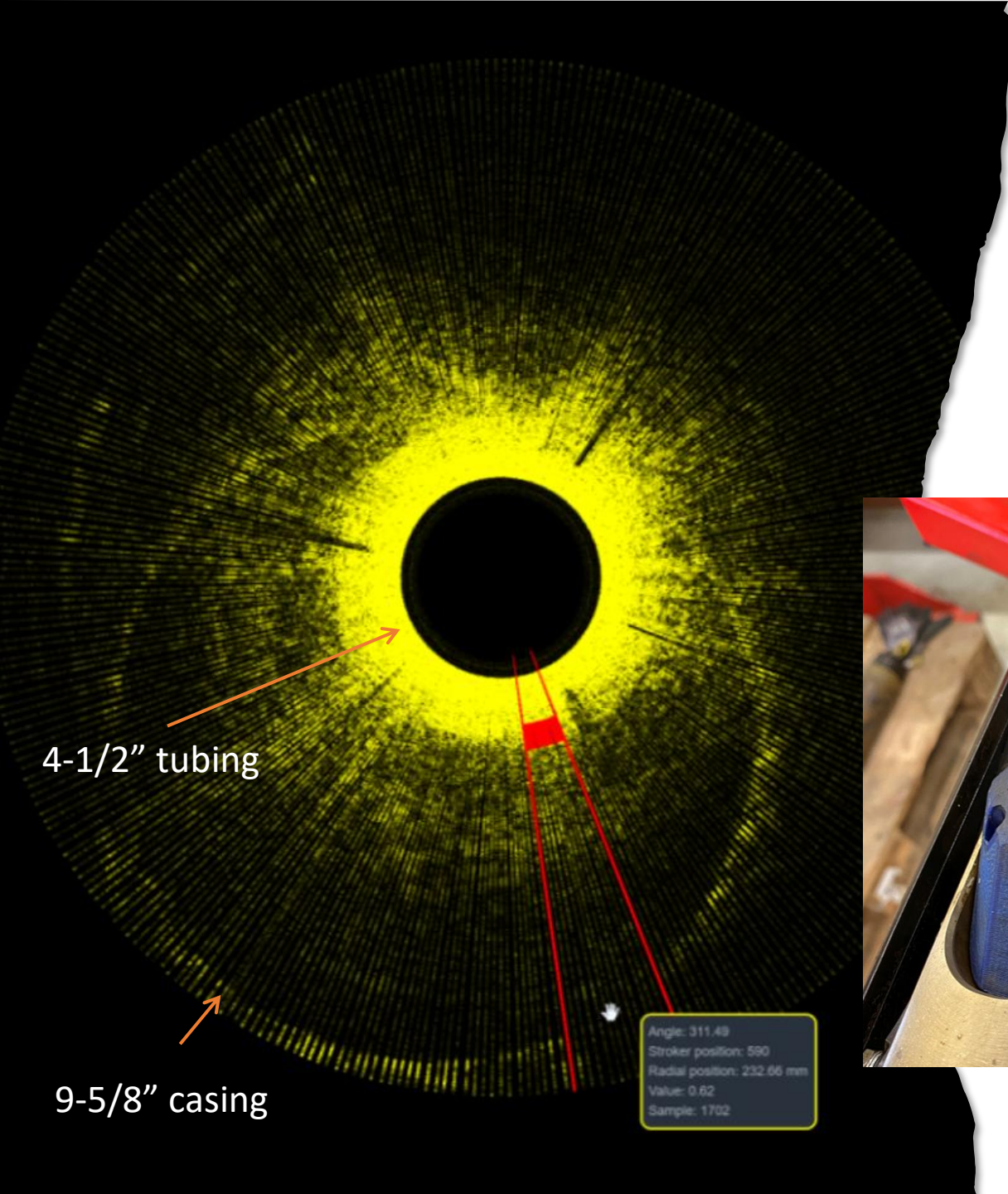
The Axter Retrieve tool string

To be run on 5/16" Mono-conductor and larger Multi-conductor cables



MUL ~ 18m (709")

Real Time Through Tubing Imaging Tool



- Capable of detecting external cable position along a tubing string (outside cable clamps).
- Measures Tubing within Casing Eccentricity and detects Casing Deformation.
- Detect position of hydraulic channel in DHSV.

Lateral Miller

- Powerful and stable milling unit, high cutting rate.
- 3-4 mm Swarf size.
- Special designed mill bits for different applications.
- Mill designed to extend to max. 5mm outside tubing OD (Fully controllable from operator panel).

Control line Gripper & Cutter Unit



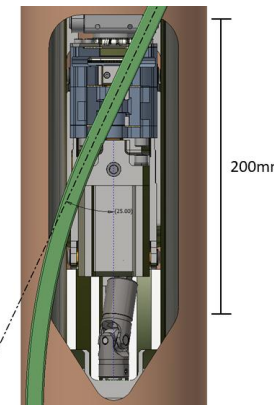
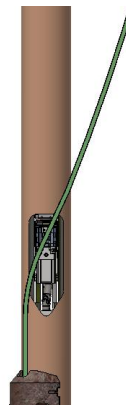
Gripper locked
onto control line



Gripper biting
into steel tube

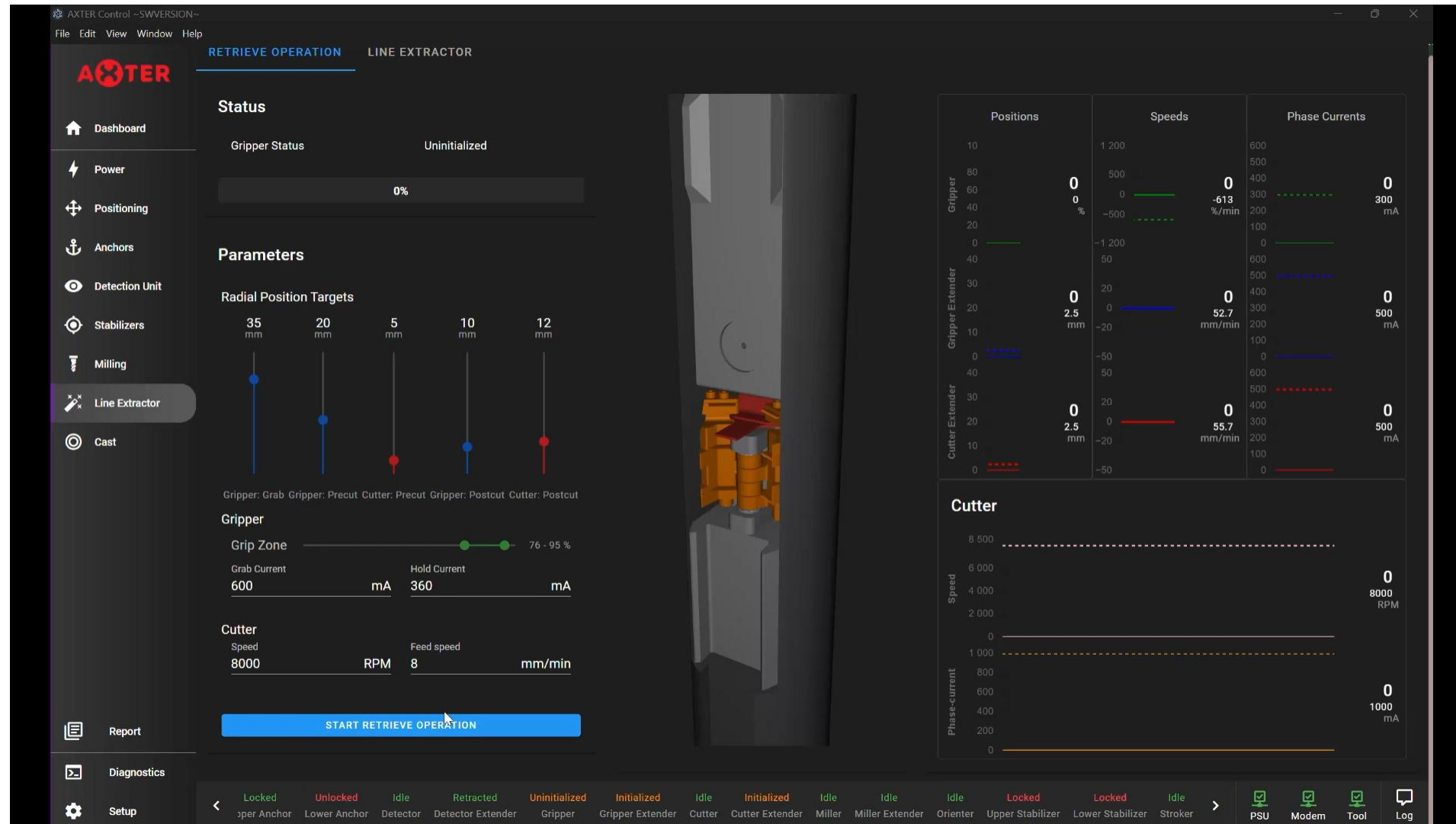


Cut surface



Gripper able to grab
control line where line is
positioned at an angle of
up to 25° in relation to
tubing.

User Interface, Gripper & Cutter operations

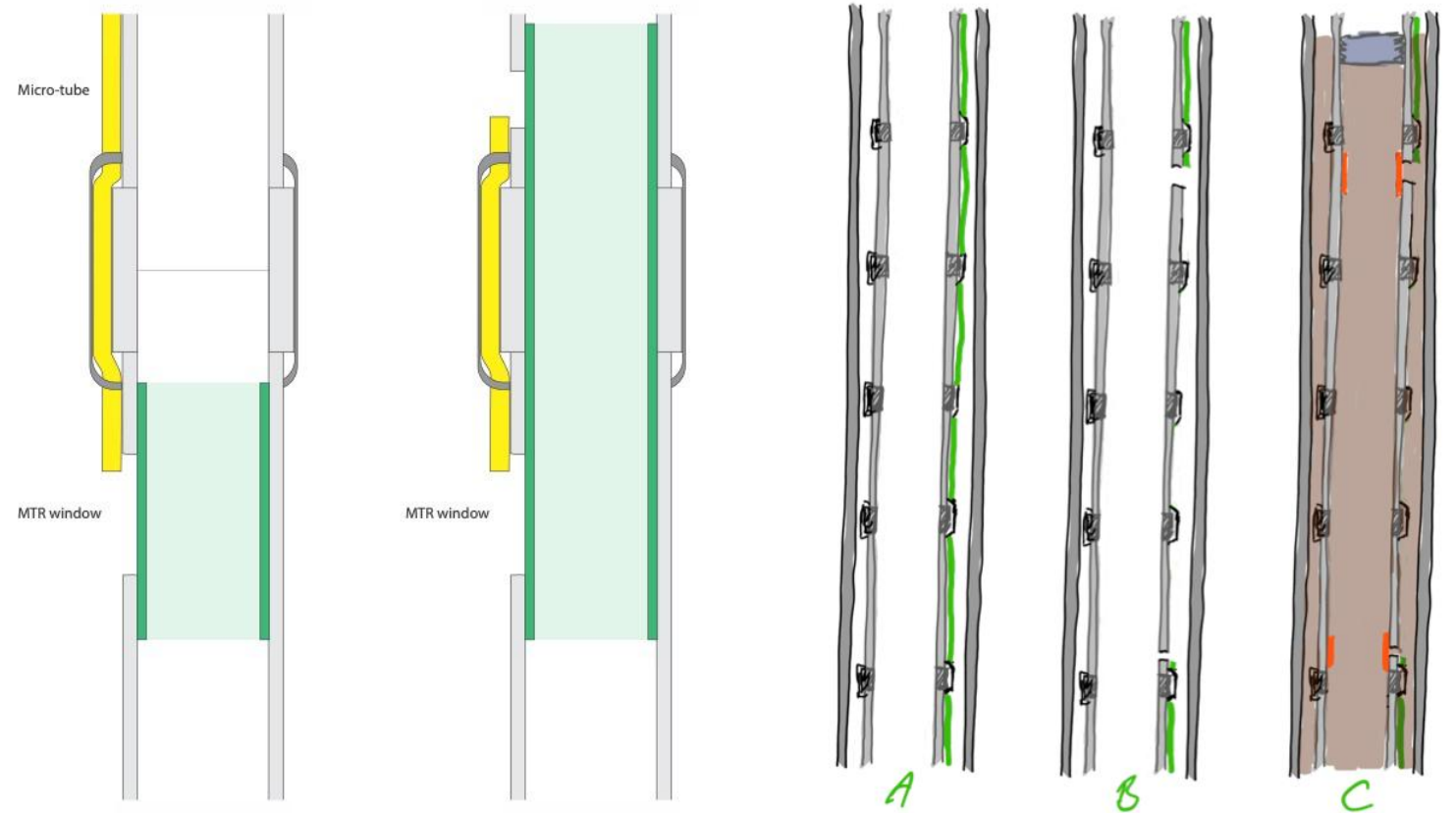
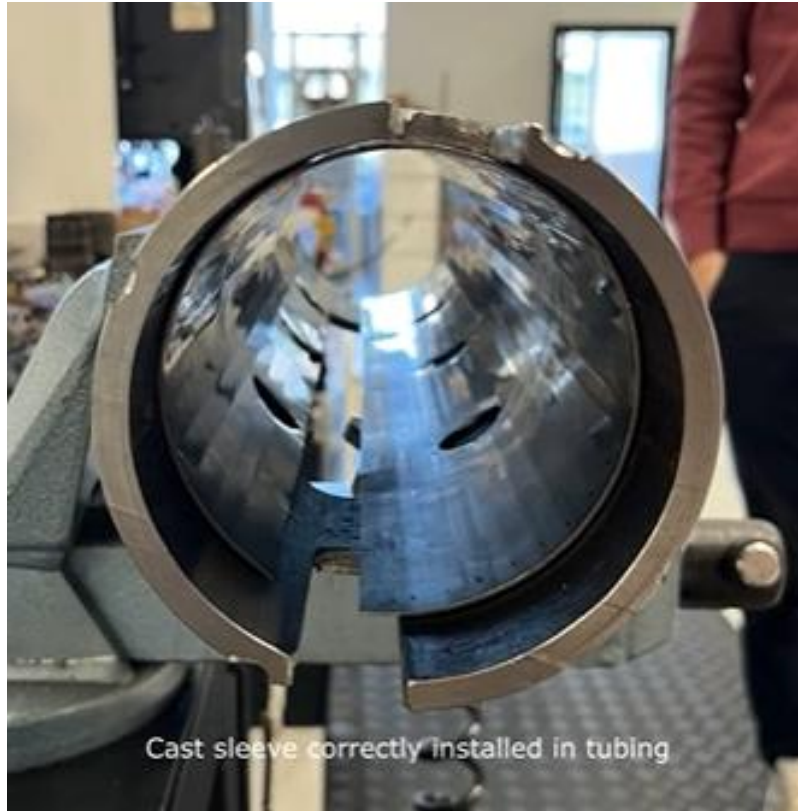




BY AARBAKKE INNOVATION

Axter Cast – Low cost and rapid installation
of sleeves for cementing purposes

The Axter Cast straddle



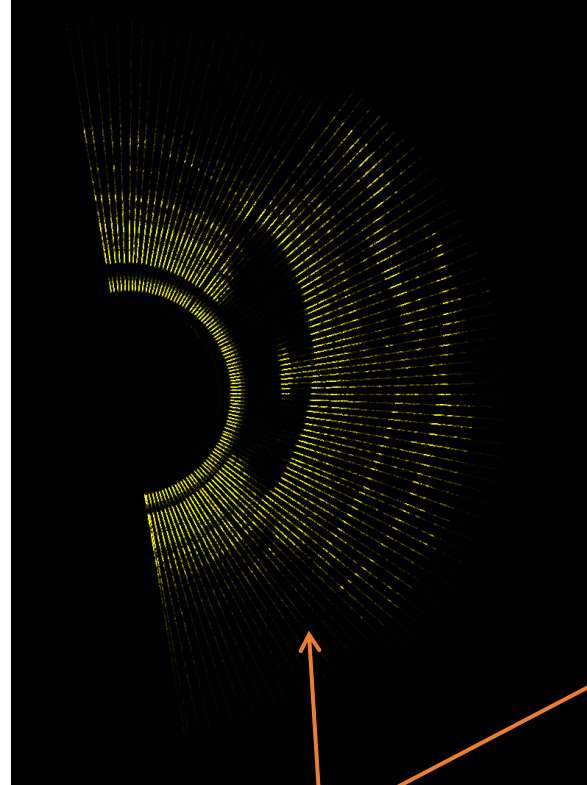
- A patch/straddle with minimum ID reduction, can be placed across milled windows
- Allows cement darts to easily pass through

The Axter Cast Patch Straddle

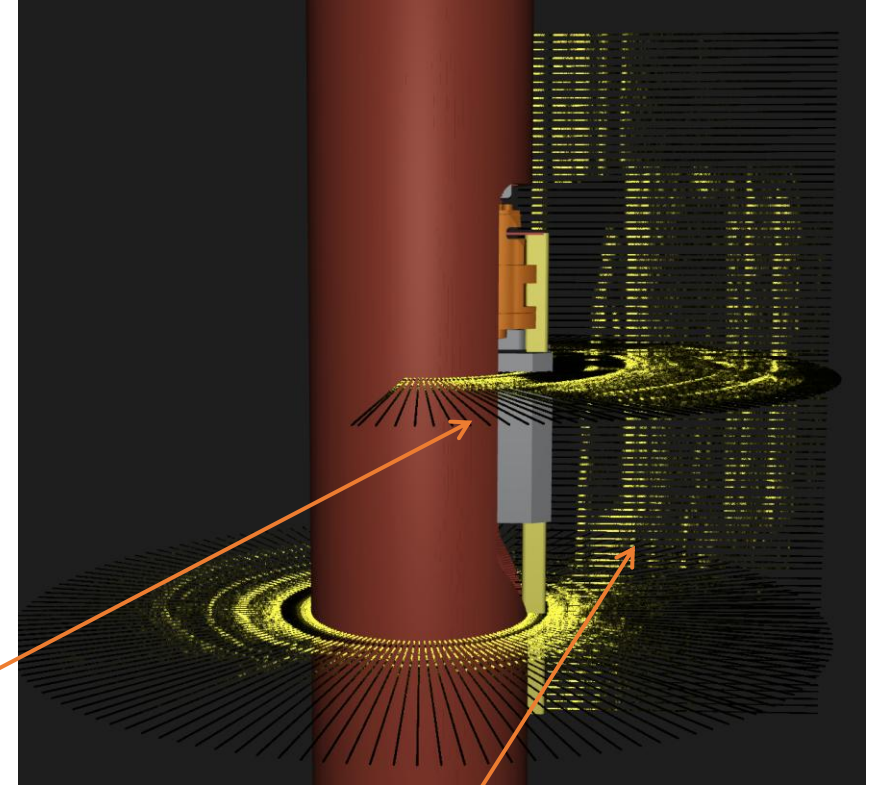
Scanning window position prior to installation of Cast sleeve

The initial Radial scan indicates the window position and width in addition to the control line position

The vertical scan indicates top and bottom of window in addition to top and position of control line



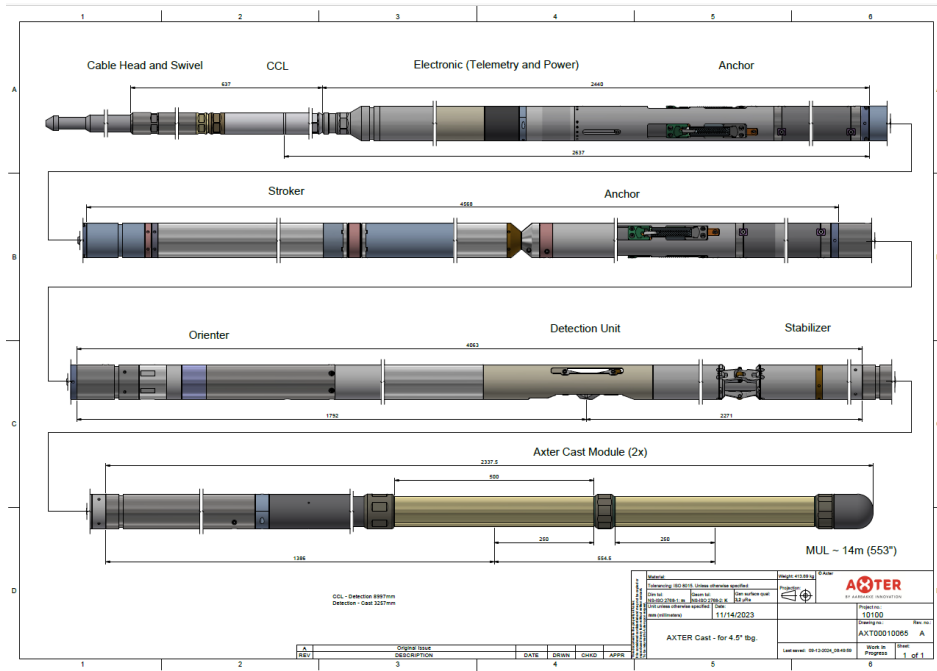
Radial scan



Vertical scan

(Line Cutter in window only for illustration purposes)

The Axter Cast Patch Straddle



Axter Cast ready to RIH



Axter Cast set and tubing pulled

Up to 4 ea. Cast sleeves individually positioned in one single run

Axter Retrieve & Axter Cast de-risk for TotalEnergies Gryphon P&A

Ullrigg Test Centre – Stavanger. 27.01.2025

Operations performed in Ullrigg well U-08
Tubing size: 4-1/2" 12.6ppf. L80
Casing size 9-5/8"
Operations depth: 545 - 557mRKB
Well inclination at depth: 27°

Axter Retrieve Operations - Ullrigg U-08

RIH to position toolstring for lower control line cut (557mRKB)

Identify position of control line, mill window and cut control line.
- Total operation time 4 hrs. 10 mins.

Position toolstring for upper control line cut (545mRKB).

Identify position of control line, mill window and cut control line.
Retrieve cut control line to surface.

- Total operation time 5 hrs. 10 mins.

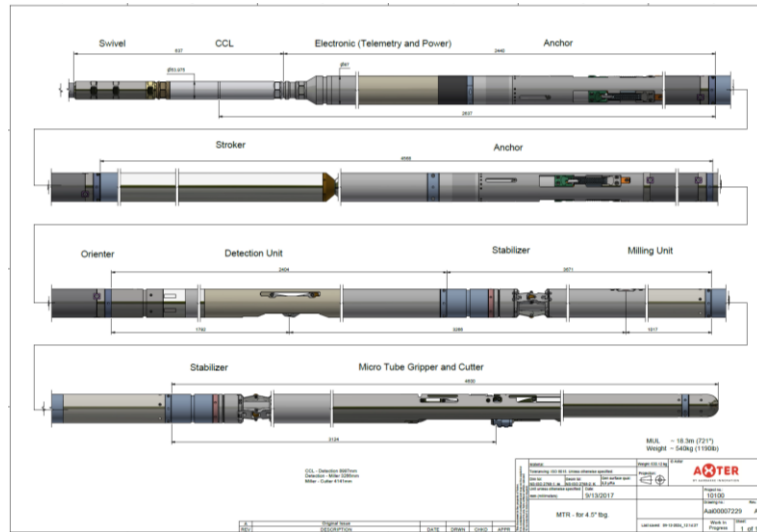
Axter Cast Operations - Ullrigg U-08

RIH to position toolstring for Lower Cast installation (557mRKB).

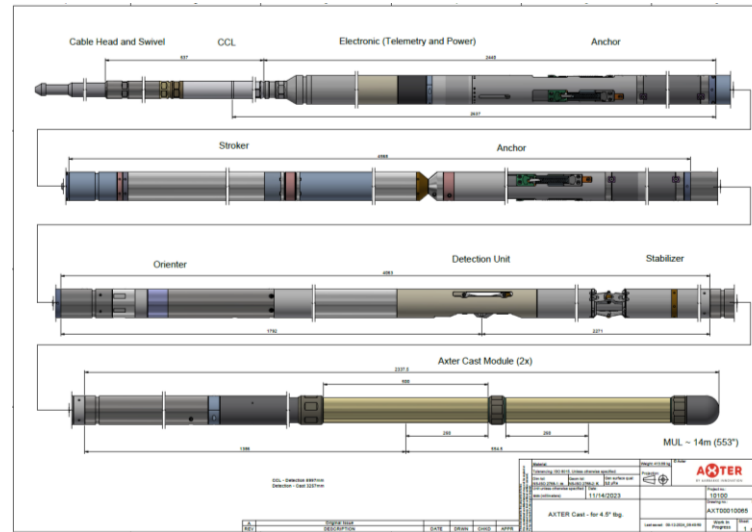
Identify position of milled window, position and set Cast sleeve.
- Total operation time 1hrs. 10 mins.

Position toolstring for Upper Cast installation (545mRKB).

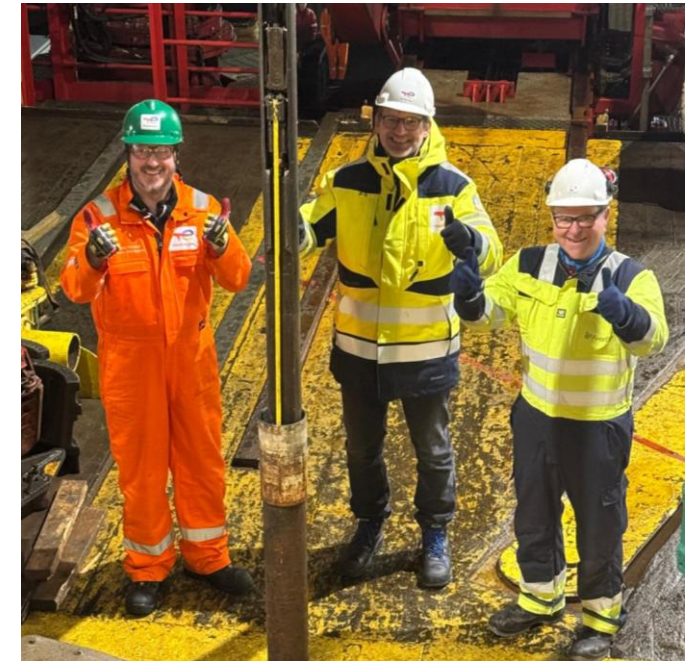
Identify position of milled window, position and set Cast sleeve.
- Total operation time 1hrs. 24 mins.



4-1/2" Axter Retrieve Toolstring



4-1/2" Axter Cast Toolstring



Control line successfully retrieved to surface.

Ben Foreman, TotalEnergies
Johan Kverneland, TotalEnergies
Martin Straume, AkerBP