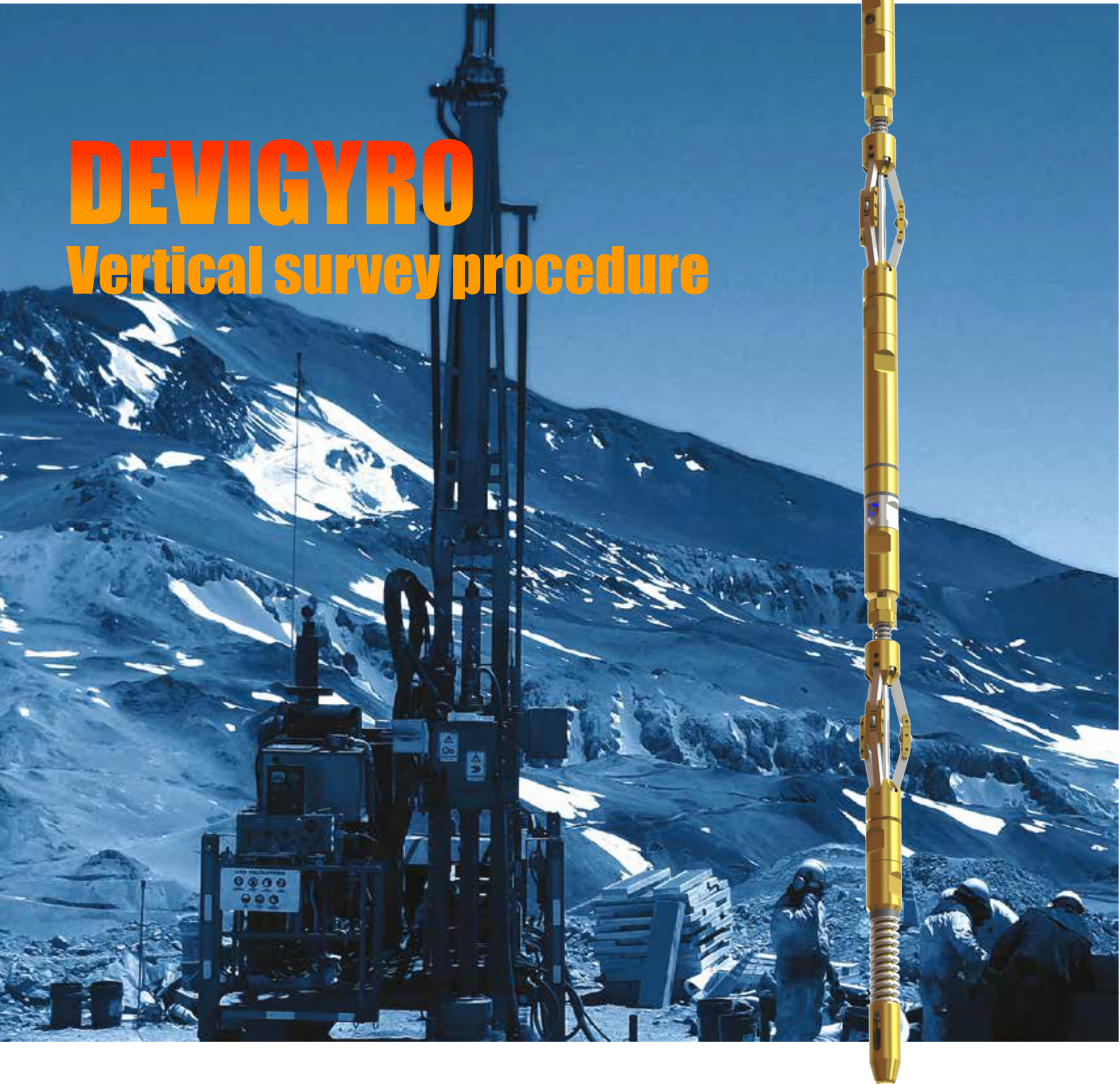


DEVIGYRO

Vertical survey procedure



**Directional Core Drilling
& Borehole Surveying Products**

DEVIGYRO

CONTINUOUS NON-MAGNETIC SURVEY

This manual gives a short description how to perform vertical surveys with the DeviGyro survey tool.

For further applications and more detailed information, take a look in the DeviGyro user manual.

1

Assemble DeviGyro running gear

Assemble the DeviGyro and the running gear as normal and adjust centralizer according to hole size.

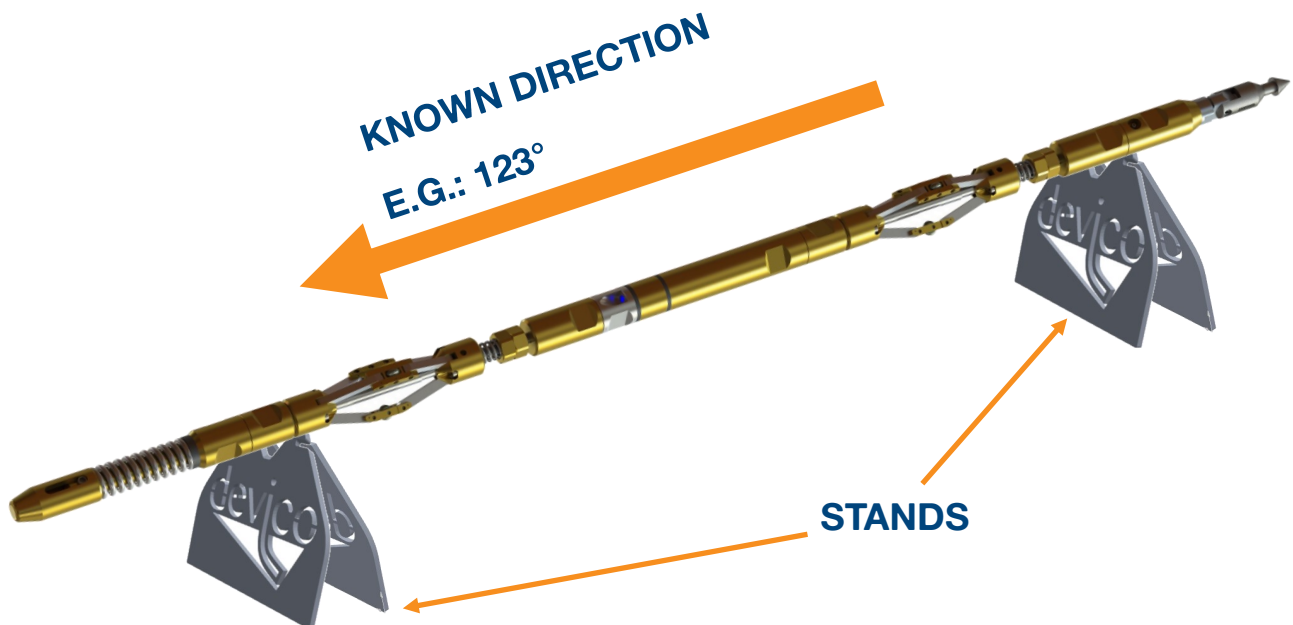
It is recommended to use bow spring centralizers for vertical holes, but rotating centralizers are suitable for shorter (<100 m) holes.



2

Reference direction

- A. Place stands on an undisturbed, level and stable surface.
- B. Lay the DeviGyro Running Gear in the stands and aim in a known direction/azimuth.
- C. Use DeviAligner, DeviSight or traditional land surveying techniques to measure the direction.



DEVIGYRO

CONTINUOUS NON-MAGNETIC SURVEY

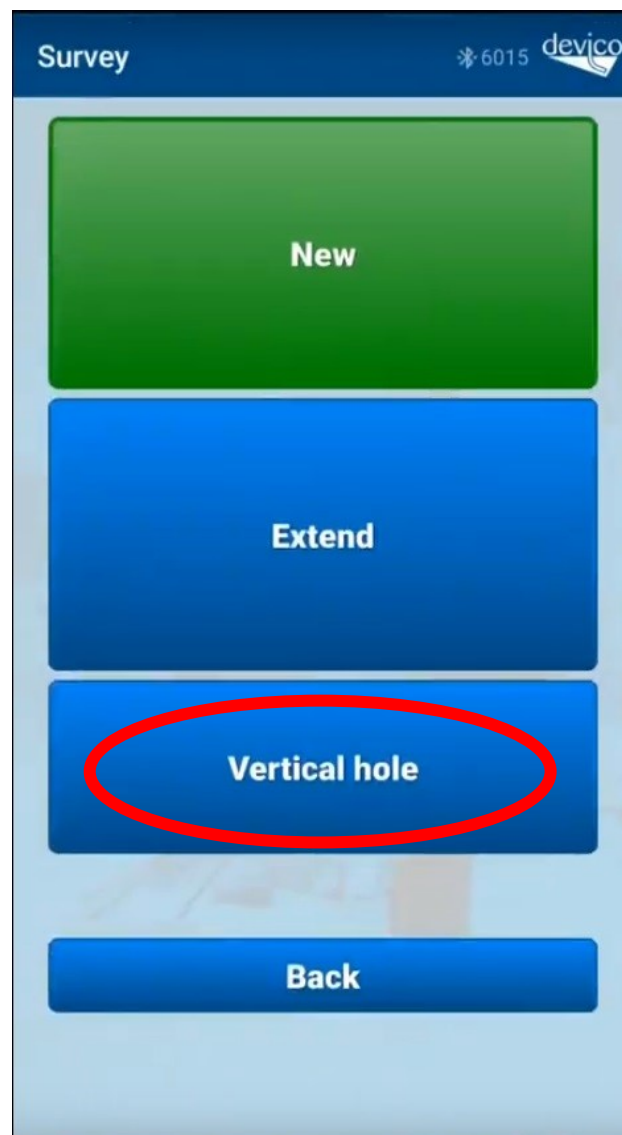
3

Connect and initiate survey

A

Use the magnet to activate and connect to the DeviGyro app.

Press **Start Survey** and **Vertical Survey** to start the survey operation.



B

Fill in survey parameters as normal.

Enter **Start direction** as measured in Step 2.

Enter **Latitude** as normal.

The screenshot shows the DeviGyro app interface. At the top, the title 'DeviGyro' is on the left and a Bluetooth icon with '6015' and the 'devico' logo is on the right. Below the header, there are several input fields and dropdown menus: 'Survey name' with the value 'DeviGyroVertical50', 'Hole name' with the value 'desktop', a checked checkbox for 'Use DeviCounter', 'Start reference:' with a dropdown menu showing 'Horizontal', 'Centralizer type:' with a dropdown menu showing 'Non rotating', 'Survey time: 6 hours 40 min.', and 'Start direction' with the value '123'. Below these is a section titled 'Gyro latitude input' which contains a 'Latitude:' field with the value '63,3455966', a 'Locate' button, and a 'Collar' button. At the bottom of the form are two large buttons: a green 'Start' button and a blue 'Back' button.

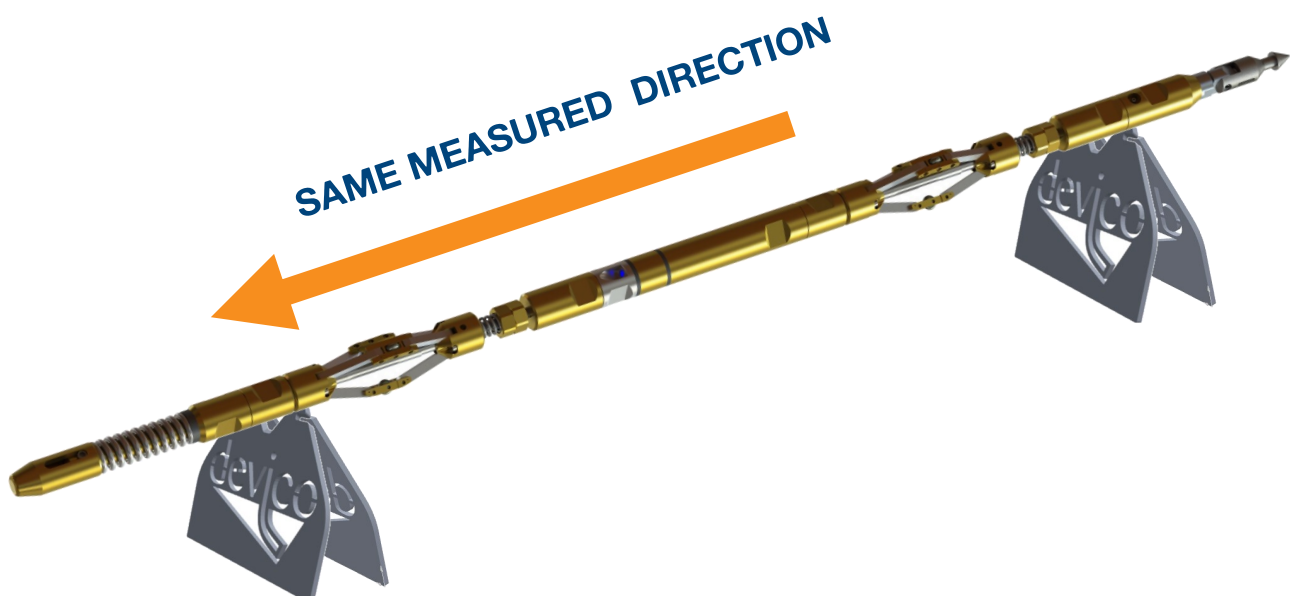
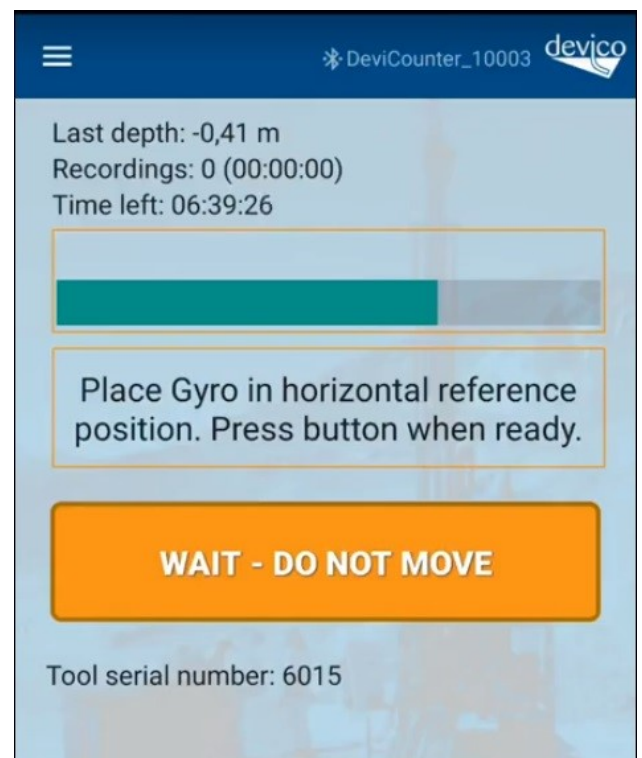
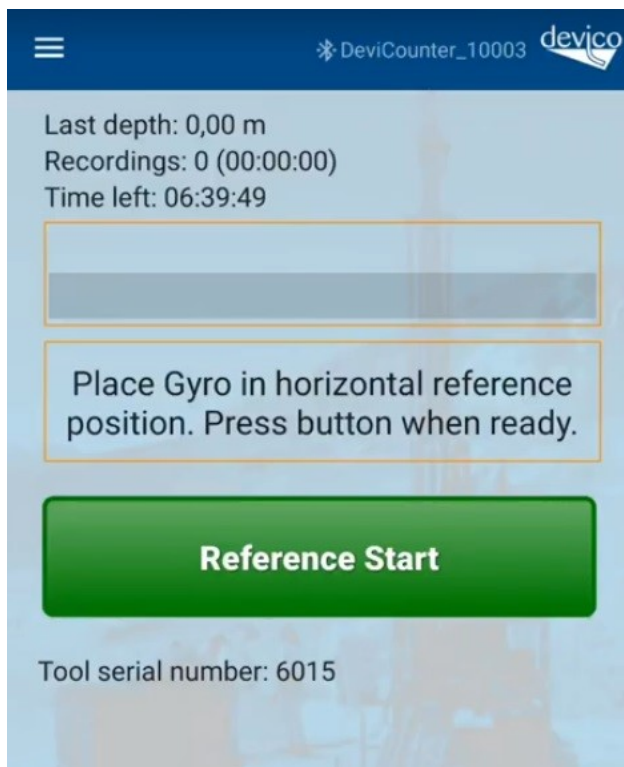
Same direction as in Step 2,
e.g. 123°.

DEVIGYRO**VERTICALSURVEY**

DEVIGYRO

CONTINUOUS NON-MAGNETIC SURVEY

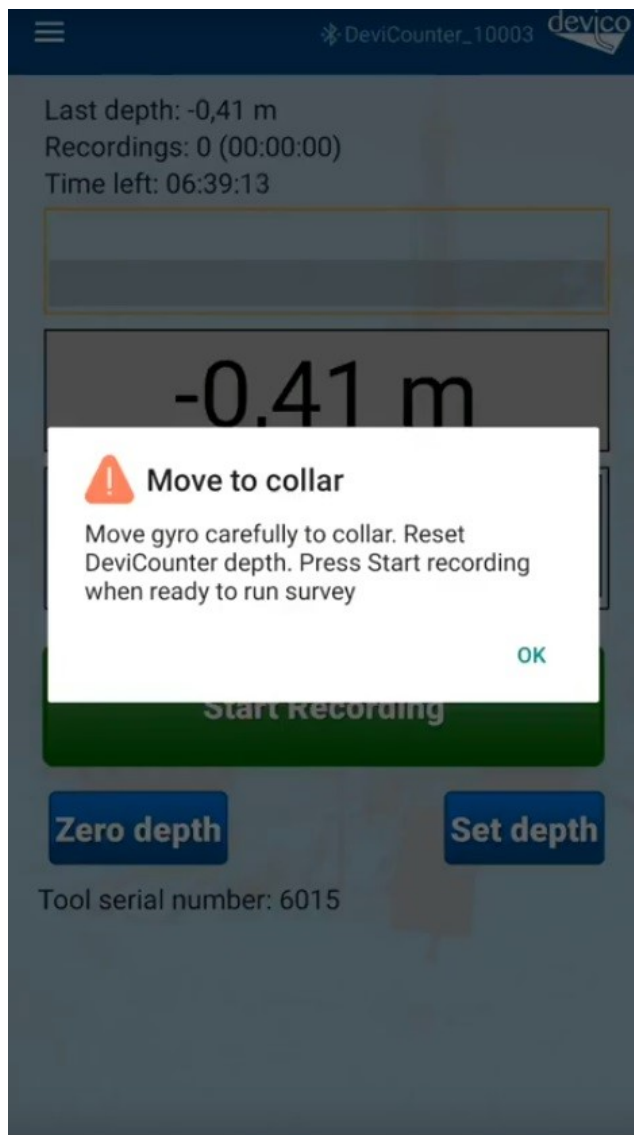
- C** Connect DeviCounter as normal.
- Ensure the DeviGyro is laying in the stands and faces the measured direction.
- Press **Reference Start** and wait.



D

Use care when moving the DeviGyro from the stands to the hole collar. Avoid abrupt movements (above 80°/second).

Leave the stands in place as a new reference is needed after the survey is completed.



DEVI GYRO VERTICAL SURVEY

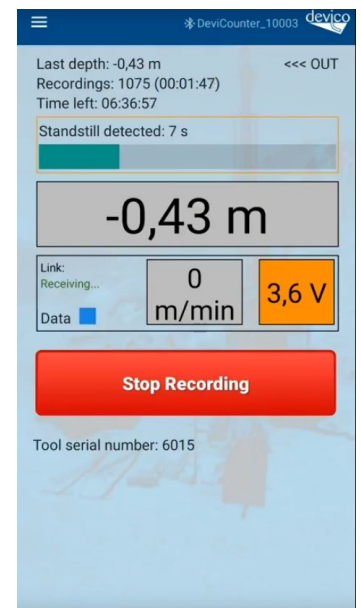
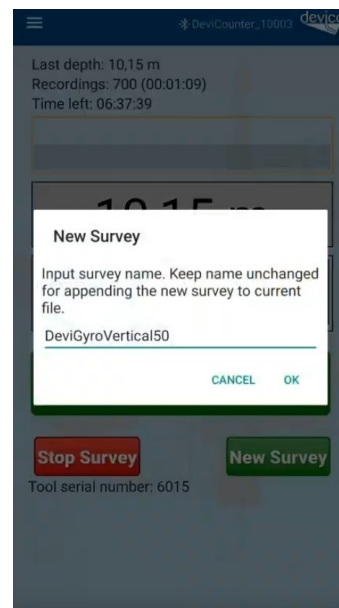
DEVIGYRO

CONTINUOUS NON-MAGNETIC SURVEY

4 Perform Survey

Attach DeviCounter and follow standard surveying procedures to perform in and out survey runs, as described in **11531.1002 - DeviGyro Quick Guide**, and summarized here:

1. Zero the depth before starting survey
2. Start recording and hold still
3. Perform survey and end recording at end of hole
4. Start new out survey and record while surveying out



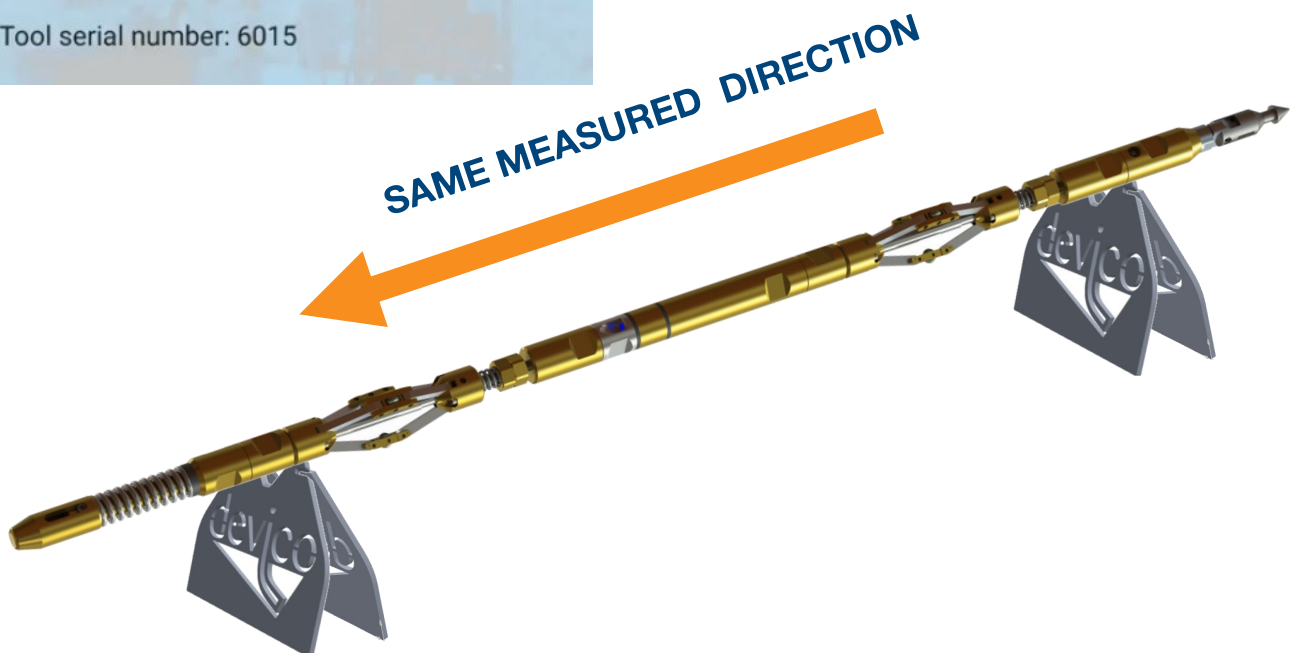
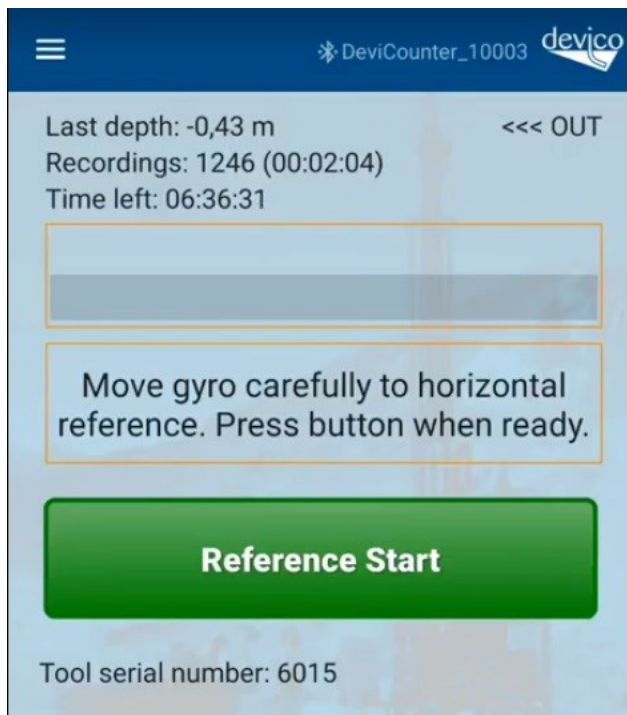
5

End survey

A

When in and out survey is completed stop the recording, remove the DeviCounter (but leave it on) and move the DeviGyro with care back to the stand.

Press the **Reference Start** button and wait.



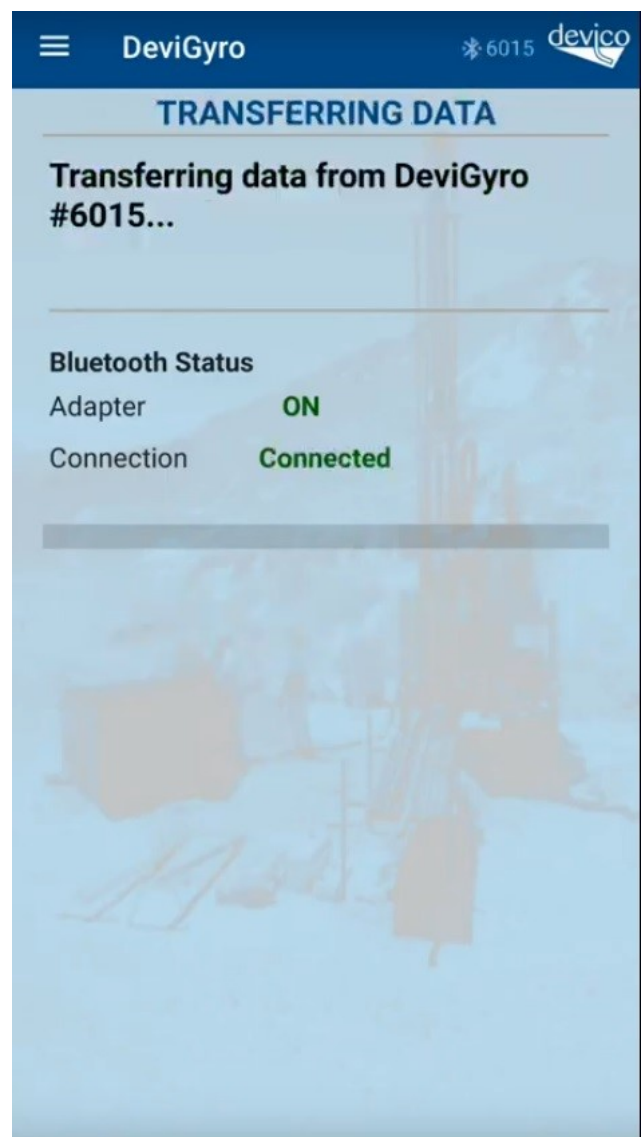
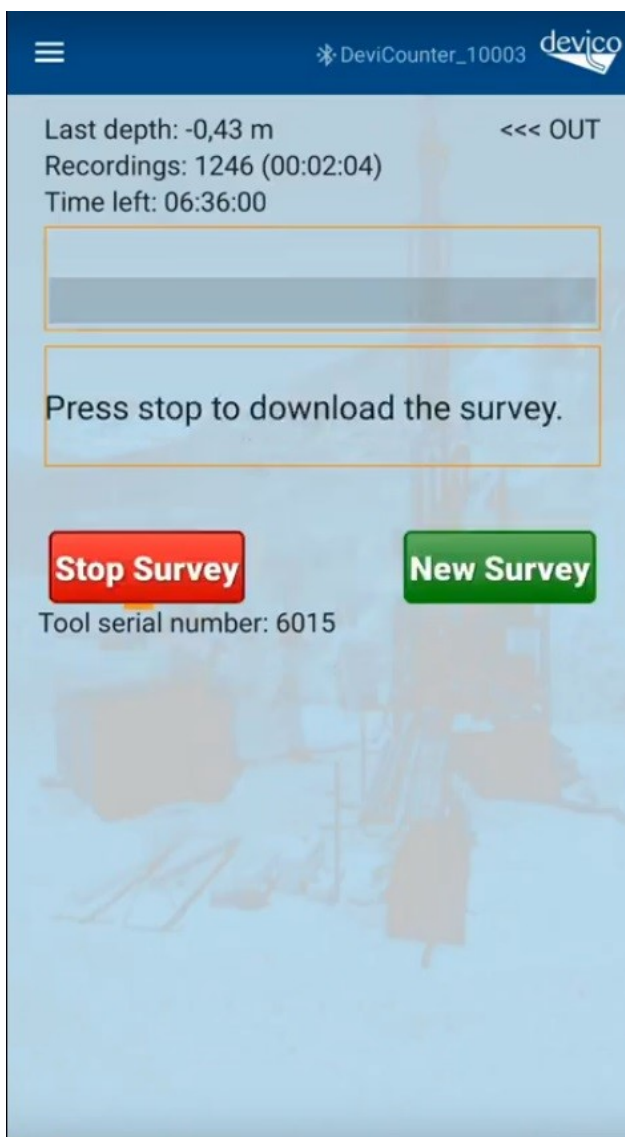
DEVI GYRO VERTICAL SURVEY

DEVIGYRO

CONTINUOUS NON-MAGNETIC SURVEY

B

Stop the survey and download data from the DeviCounter and DeviGyro.



C

Review the quality report and result table.

Number of surveys	2
Tool	DeviGyro
Serial No.	6015
Sample Period [s]	0.1
Report Created	2019-11-25 12:50:56
Survey Software	DeviGyro 1.1.0.719

Hole Details

Hole ID	desktop
End Depth [m]	13.15

Collar Details

Azimuth [°]	123
Gyro Latitude [°]	63.35
Northing [m]	0
Easting [m]	0
Elevation [m]	0

End Of Hole Position

	Depth [m]	Northing [m]	Easting [m]	Elevation [m]	Dist. from mean [m]
1 - In	13.15	-0.02	-0.16	-13.55	0.01
2 - Out	13.15	-0.01	-0.16	-13.55	0.00
Average		-0.01	-0.16	-13.55	
Misclose		0	0	0	0
Misclose per 1000 m					0.00

End Of Hole Directions

Table	Plot	3D View	Collar	Print	Back
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DeviGyroVertical50 - desktop - #2 (Out)				
Depth [m]	Azimuth [deg]	Incl. [deg]	Northing [m]	Easting [m]
-0,4	266,14	-89,31	0,00	
0,6	266,14	-89,31	0,00	
1,6	266,14	-89,31	0,00	
2,6	265,23	-89,31	0,00	
3,6	263,94	-89,31	0,00	
4,6	265,72	-89,31	0,00	
5,6	265,85	-89,31	-0,01	
6,6	264,87	-89,31	-0,01	
7,6	264,03	-89,31	-0,01	
8,6	265,32	-89,31	-0,01	
9,6	264,60	-89,31	-0,01	
10,6	264,62	-89,31	-0,01	
11,6	264,22	-89,31	-0,01	
12,6	266,13	-89,32	-0,01	
13,1	266,13	-89,32	-0,01	

Report	Plot	3D View	Collar	Export	Quality Control	Back
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NOTE

Clean and dry off the DeviCounter and DeviGyro assemblies properly after use.

DEVI GYRO VERTICAL SURVEY