

USER GUIDE



A mobile application for HDD customers to survey, log and manage their log data from **Underground Magnetics**.



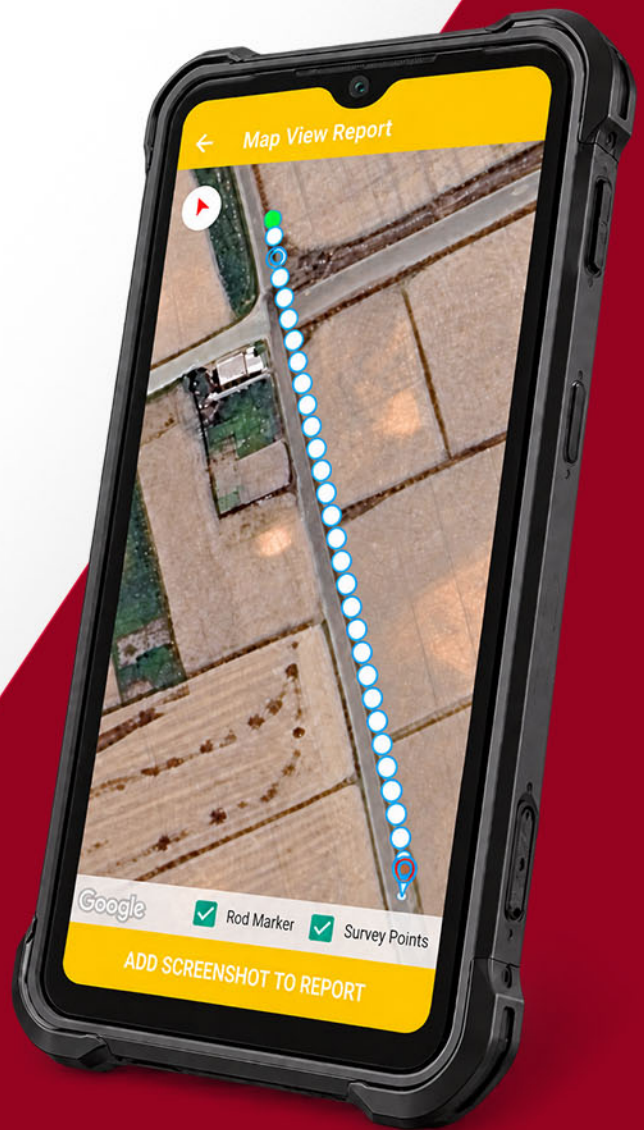
LOG



MANAGE



SURVEY



Underground Magnetics

simple. powerful. affordable.

www.UMmaps.com

TABLE OF CONTENTS

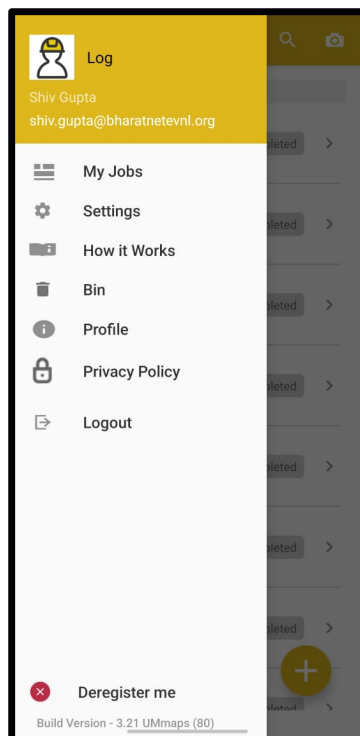
Introduction	1
Prerequisite & Register	2
Log In Process	3
Mag Log Role	4
Connect your Locator & GPS	5
Create a Job	7
Record a Data	8
Mag Manage Role	9
Generate a Report	12
View RodWise Data	13
Share Report in PDF or CSV	15

INTRODUCTION

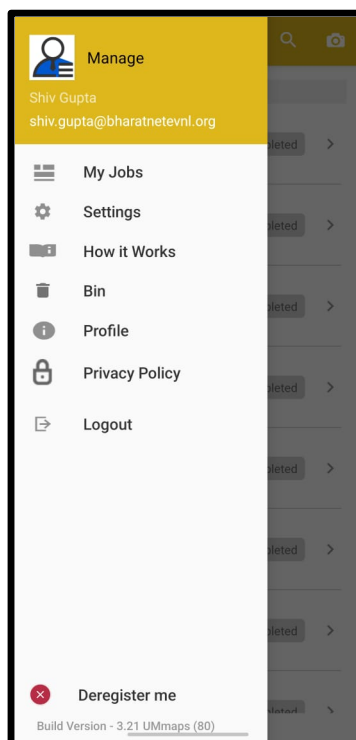
Ummaps is the latest UGM effort to provide users with a simple, yet comprehensive and powerful tool to survey, log, and manage bore log data on Android Devices. It's a companion tool compatible with all models of locators—from legacy models to the latest MAG X Geo. In addition to the traditional bore logging function, the tool introduces a new feature called **Survey**, which allows users to plan a route before starting drilling.

To simplify the app's usage for diverse types of users, it has been designed using a role-based model. This ensures that users are not burdened with features they don't need during their tasks. In other words, the tool's functions are divided into three roles: **Log**, **Manage**, and **Survey**. Depending on a user's role at any given time, only the relevant features are made available, while the others are hidden. This prevents distractions and makes the app easier to use, especially for users with a single designated role in their company. For those who perform multiple roles, switching between roles is simple and efficient.

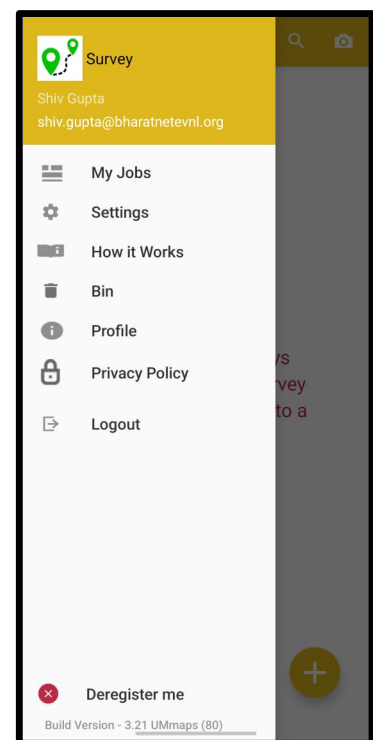
As shown below, the current role is always displayed when navigation bar is opened. To switch roles, tap the current role icon and select one of the three roles—**Log**, **Manage**, or **Survey**—from left to right. That's how you switch roles!



Mag Log Screen



Mag Mate Screen



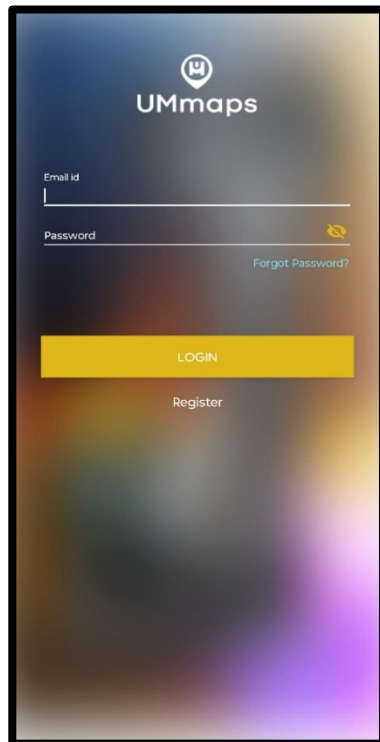
Mag Survey Screen

PREREQUISITE

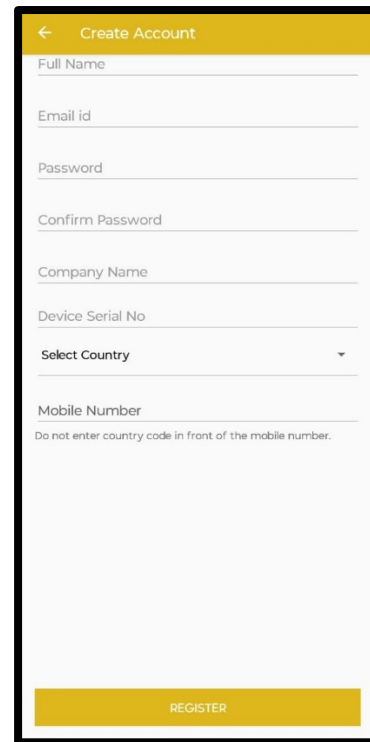
- All users are required to have this tool installed on an Android phone. Currently, it only supports Android devices.
- All users are required to have an account with **ummaps.com**. User registration is prompted when the first time the app is opened. Follow the on-screen instructions to register, and then log in to the app. The same account credentials can be used to log in the account on the web site - ummaps.com.

REGISTER

Download the Ummaps app from the Google Play Store and open it. To register, tap the Register icon, fill in the required information, and then tap the Register icon again to complete the process

The image shows the login screen of the Ummaps app. At the top, there is a logo with a stylized 'u' inside a circle, followed by the text 'UMmaps'. Below the logo, there are two input fields: 'Email id' and 'Password'. The 'Password' field has a small eye icon to its right. To the right of the 'Password' field, there is a link that says 'Forgot Password?'. Below these fields, there is a large yellow button with the text 'LOGIN'. At the bottom, there is a link that says 'Register'.

Login in Screen

The image shows the 'Create Account' screen of the Ummaps app. At the top, there is a yellow header bar with a back arrow and the text 'Create Account'. Below the header, there are several input fields: 'Full Name', 'Email id', 'Password', 'Confirm Password', 'Company Name', 'Device Serial No', 'Select Country' (with a dropdown arrow), and 'Mobile Number'. Below the 'Mobile Number' field, there is a small text note: 'Do not enter country code in front of the mobile number.' At the bottom, there is a large yellow button with the text 'REGISTER'.

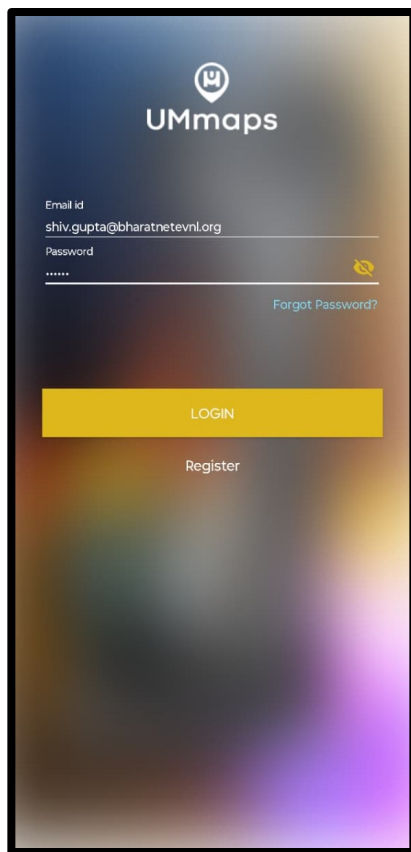
Register Account Screen

LOG IN

Log In to the Ummaps app using the email ID and password created when it was registered.



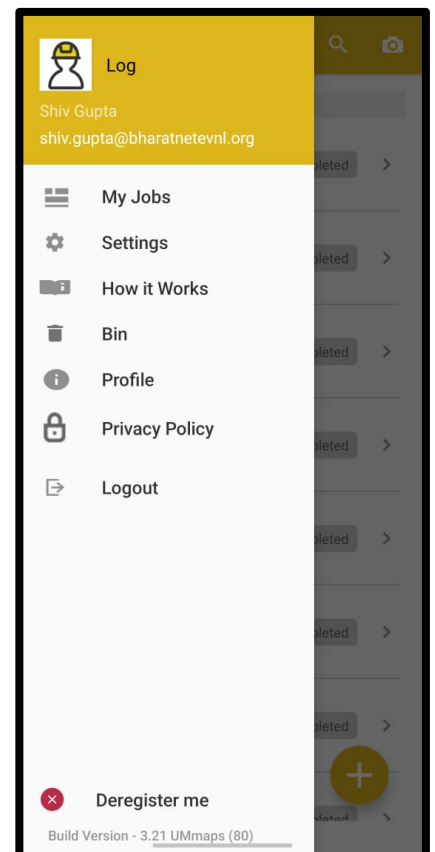
Once the account is registered, it may take up to 24 hours for approval by the administration. After approval and log in – the app redirects to “My Job” screen.



Login in Screen



My Job Screen

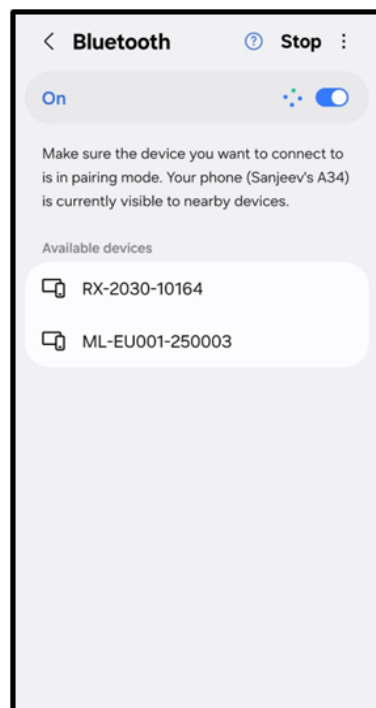


Mag Log Screen

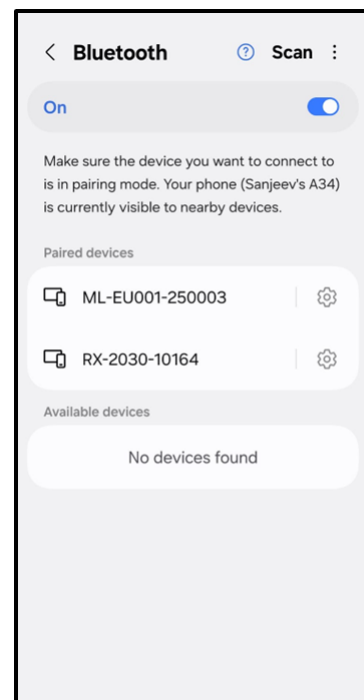
PAIRING THE MAG LOCATOR AND & MAG LINK GPS WITH ANDROID DEVICE

When connecting the devices (either locator or Mag Link) for the first time, pair the devices with android phone, follow the process as below:-

1. Ensure the Umag receiver is powered on and actively receiving data from the transmitter.
2. On the Android device, go to **Settings > Connections > Bluetooth**.
3. In the list of available devices:
 - Look for a device name starting with **"RX"**—this corresponds to the Umag locator's serial number. Tap it to pair.
 - Next, look for a device name starting with **"ML"**—this represents the Mag Link (UGM external GPS). Tap it to pair.



Bluetooth Setting Screen



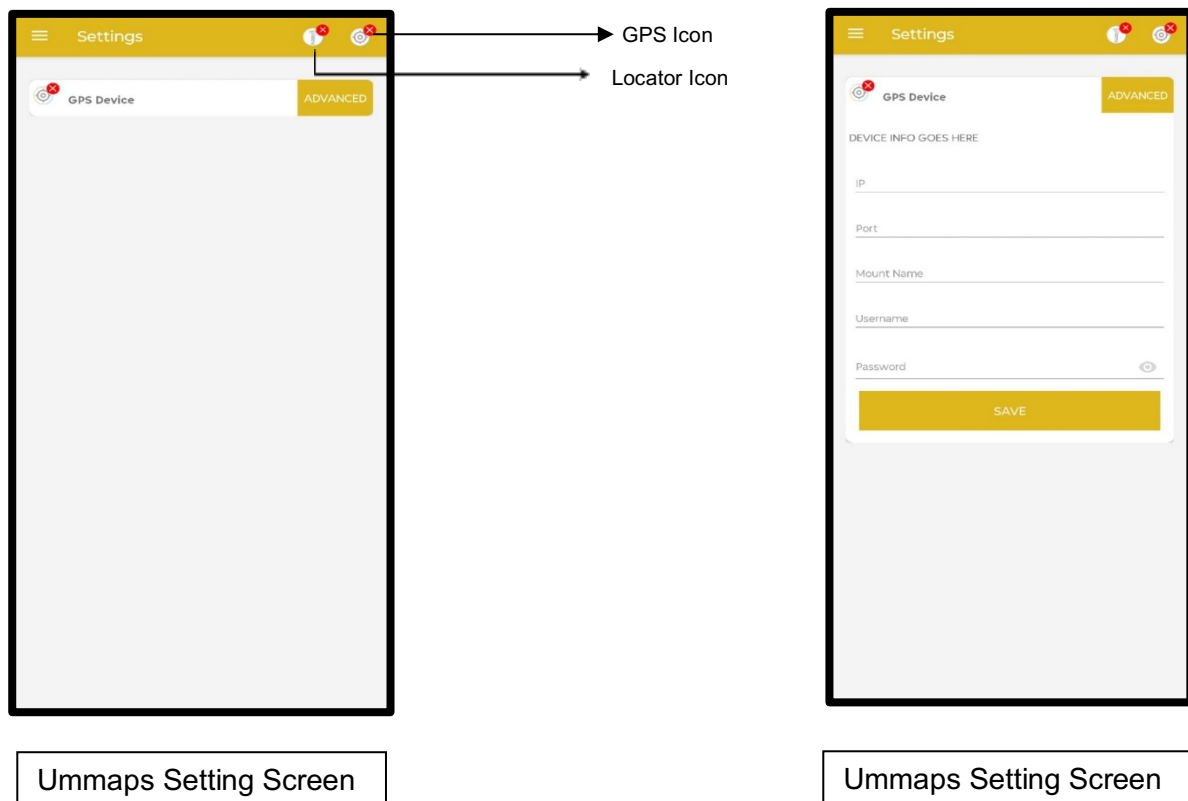
Bluetooth Setting Screen

MAG LOG

This role is designed for professionals whose primary task is logging the bore log data. With this role, users can log data as long as they have access to a UM locator (Existing & legacy models) and—optionally—a newly released GPS device called **Mag Link** (an external GPS accessory provided by UGM).

Once the user completes the setup steps to connect the locator and Mag Link via Bluetooth, they can begin logging data rod by rod as drilling progresses.

Connections are configured via the **settings** in the navigation bar, where pair both the locator and the GPS device. The top two icons represent the locator and the GPS device, respectively.

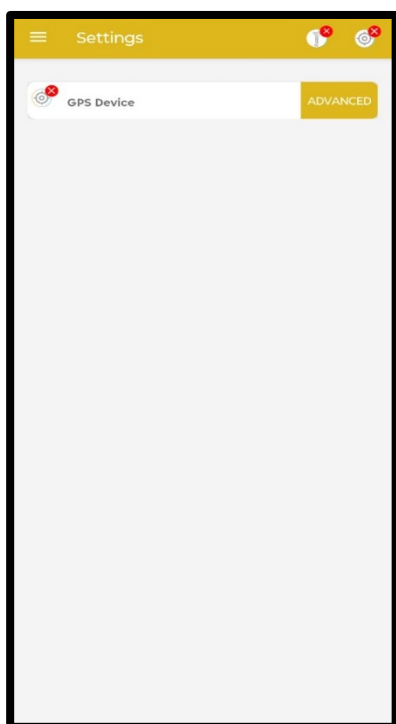


If the engineering needs highly accurate GPS location information to be logged along with locator data, use a correction service provided by CORS (Continuously Operating Reference Station) service provider. In that case, add the service account information to the Ummaps application. Press the "Advanced" button next to the GPS service/Mag Link Serial Number to add the CORS credentials.

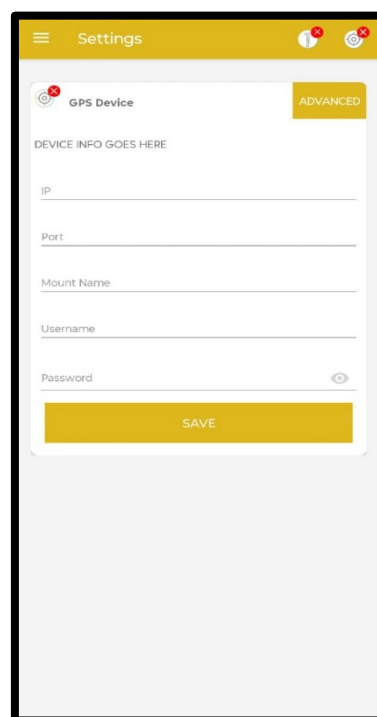
Once the pairing devices with the Android phone is carried out, select the paired devices to connect to for a particular job. Here are the steps to connect the app to the devices:

- **Open the UMmaps app on the Android device.**
- **Go to the Devices section.**
- Tap each device icon  or  and see the serial number that matches the device previously paired via Android Bluetooth.

Ensure that both the locator and GPS icons have changed from red cross marks (X) to green check marks (✓), indicating a successful connection.



Mag Log: Setting Screen



Mag Log: Setting Screen

If the job needs to log accurate GPS data, GPS device (Mag Link) needs to be configured to use CORS services. In this case, use “Advanced” button to move to the CORS configuration screen. On the CORS configuration screen, enter the account credentials from CORS service provider and press “SAVE” button to save the account info to the app.



Note

- In this role, the user is limited to logging data only. All logged job data is visible to the user, but can't perform any other actions—except for adding or removing one rod at a time.

← jab 8-farrukhabad-kamalganj-fattepu...

RODWISE VIEW JOB DETAILS CHART VIEW MAP VIEW

Rod#	Pitch	Depth	Relative Depth	Depth Change	
68	+10.5%	1.97m	2.26m	-0.12m	✕
67	-2.3%	2.02m	2.39m	-0.02m	
66	+3.6%	1.93m	2.41m	-0.11m	
65	+3.8%	2.08m	2.52m	-0.10m	
64	+3.0%	2.19m	2.62m	-0.04m	
63	-0.5%	2.25m	2.58m	0.11m	
62	-2.0%	2.21m	2.47m	0.11m	
61	-0.4%	2.21m	2.36m	0.08m	
60	+0.0%	2.13m	2.28m	0.06m	
59	+2.7%				



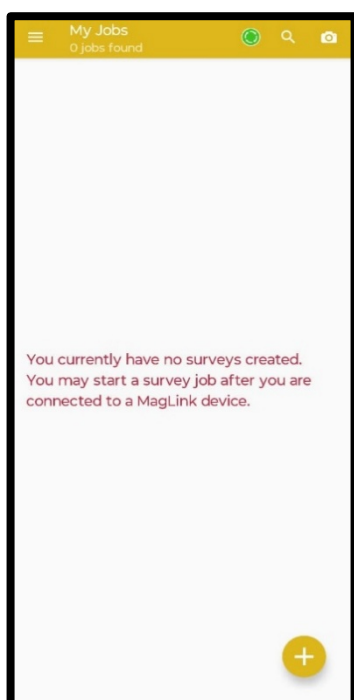
ADD NEW ROD

Rodwise View Screen

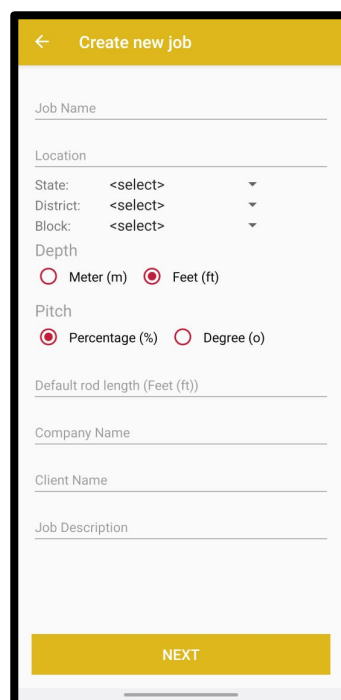
- Log user can take pictures for his current job as shown here, where camera icon  allows the user to capture in-job photos and road offset  icon-Enables the user to record offsets from the center of the road, useful for precise location tracking and planning.
- NOTE;  road offset is available only for India region since not all regions require logging this info.

CREATE A JOB

To create a job, tap the  symbol at the bottom right. Fill in all the required information, select the preferred units of depth and pitch settings, and enter the default rod length based on what you're using—such as 3 m (9.8 ft), 4.5 m (14.8 ft), 6 m (19.7 ft), or 9.5 m (31.2 ft). Add the required State, District and Block for precise location and future records. Once the required data has been filled in, **tap the NEXT icon** to proceed.



Job create screen



Job create screen

Bore Logging

Bore logging needs to be carried out once each drill rod completed the drilling or at break point. When logging the data, ensure the locator is placed either Locate Line or at Front locate point, allow the data to stabilize both on locator and GPS and capture the data by pressing the required icon on the app which may be corresponding to Front (icon) or Centre (cnetre). While it is advised to log the data while locator is placed on the Locate line, data can also be logged on Front Locate point.

It is important to know at which point locator is placed and when to press one of the three button icons (Front / Centre / others) for logging. Here are the basic rules to follow:

1. First two points must be taken on Locate Line using Centre icon on the App, which

means positioning the locator at the over the head of the transmitter when recording for the current rod.

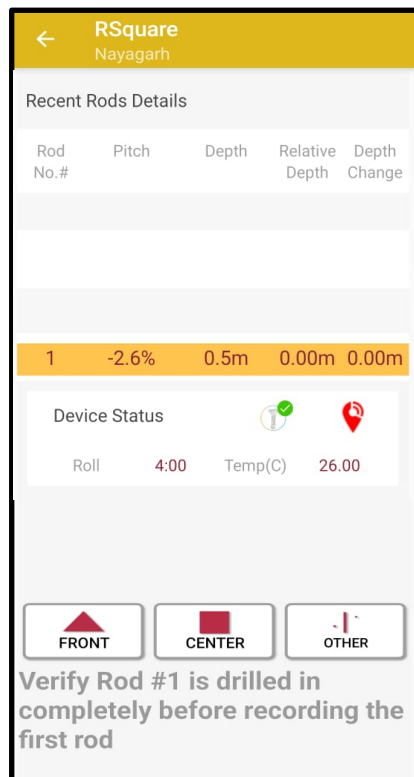
2. If carrying out Front point locating, use the “Front” (icon) button to record the current drill rod.
3. If at certain point, it’s not possible to capture the data either at Locate Line or the Front Locate point, (due to topographical limitation), use the “Other” (Icon) button to record the current rod. This will not record depth but record pitch only for calculated depth.

Data Recording:

1. Make sure that the data is received by the locator.

If pitch data on **Rod 1** is not displayed, go back and **reconnect Bluetooth** until the pitch is displayed.

2. To record Rod 1, tap the center icon  when the transmitter housing is fully in the ground or right before inserting the next rod.



Data Capturing screen

Note

For subsequent rods:

- Tap the **front button icon**  to record data if chosen, to do **front point locating**. Note that one  must be at the front locating point before pressing this button.
- Tap the center button icon if the locator housing is indeed at the center point or locate line.
- Tap the “**other**” icon  when **neither the center (Locate Line) nor front points** are accessible.
- Repeat this process for the entire bore for capturing data points.

NOTE: To determine the locate line / center point or front locating point, please refer to locator user's manual. Knowing locating point type and pressing proper buttons accordingly will lead to correct logging.

Know the device status indicators:

There are two devices connected to the android phone for this app via blue tooth, one being a locator and other being a Mag Link GPS device. Devices must be connected to the app (see previous sections on how to connect devices to the android phone and the app).



locator is connected to the app, usually with locator data changing on the screen as well.



Locator is disconnected to the app. Don't log data when the locator is not connected to the app.



GPS is disconnected to the app.



GPS is connected to the app.



GPS signals are not available. Make sure your GPS device is connected.



GPS is at meter level accuracy.



GPS is at 30-centimeter level accuracy.



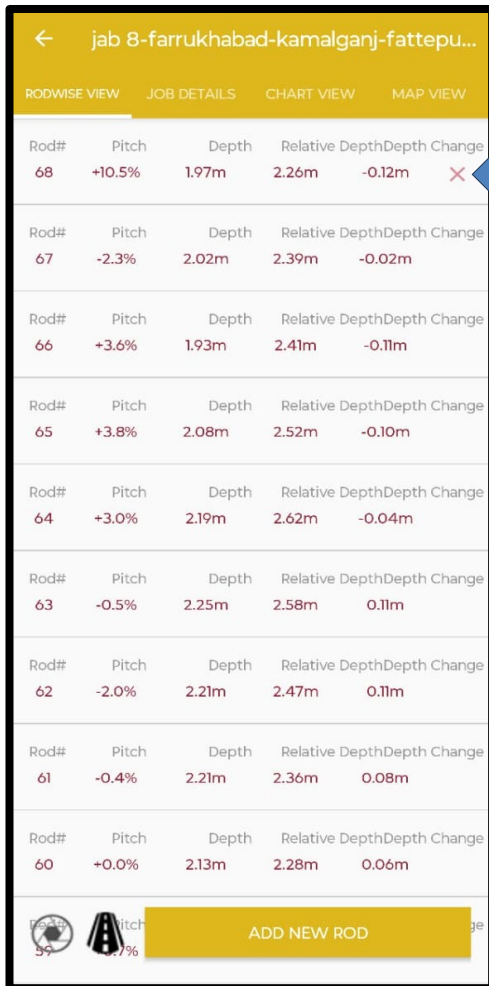
GPS is at 10-centimeter level accuracy.



If icons with different colors are visible, it means CORS services for GPS data are being used. See device connection section for setting up CORS services.

DELETE A RECORD

There are situations that would need to delete a logged rod. For Example, the rod is recorded twice or need to be pulled back and re-drill a rod which is already recorded. In either case, the last drill record needs to be removed. To remove the last drill rod, move to the “Rod wise view” and find the last drilled rod, click on the “X” icon and delete the rod.



Rod#	Pitch	Depth	Relative Depth	Depth Change
68	+10.5%	1.97m	2.26m	-0.12m
67	-2.3%	2.02m	2.39m	-0.02m
66	+3.6%	1.93m	2.41m	-0.11m
65	+3.8%	2.08m	2.52m	-0.10m
64	+3.0%	2.19m	2.62m	-0.04m
63	-0.5%	2.25m	2.58m	0.11m
62	-2.0%	2.21m	2.47m	0.11m
61	-0.4%	2.21m	2.36m	0.08m
60	+0.0%	2.13m	2.28m	0.06m

To Delete the Last recorded rod

Rodwise View Screen

Once Rod get deleted, then again click on to “ADD NEW ROD” option to capturing the new record.

TAKE A PICTURE

Pictures can be taken for the job site during the drilling process using aperture icon  . To take the picture click the icon and the picture is captured and gets tied to the job profile and to map view with geo coordinates. This is for future records and reconciliation.

This app may also be used as an extension to Mag X Geo series locators for capturing pictures while locators is used for bore logging.

On Mag X Geo, Long press the setting button, go to Device info, look for serial number and press the same. The QR code would appear on the screen.

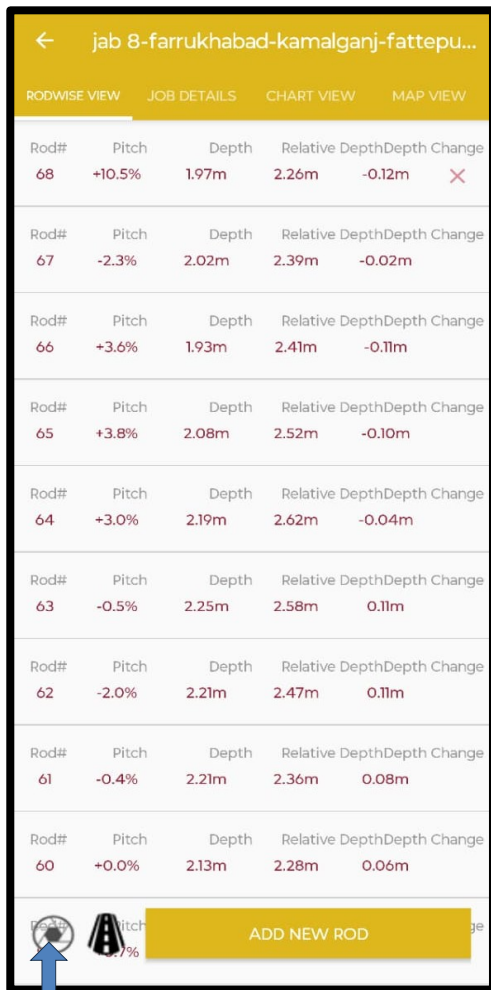
Open the UM maps app, and go to Mag log, and go to Mag manage. Go to setting in mag manage and it would show two options, and choose “New Locator Model /picture of QR code – Scan to Bind.

This action would bind your android device to the Mag X Geo locator.

Tap on “Scan to Bind icon on the android device and this would open QR scanner on the android screen, align the scanner screen with the QR code of the Mag X Geo and it would bind the Android device with Mag X Geo with the job id.

Now pictures can be taken using the android phone and all the pictures would be tied to the current job.

After Taking Pictures by clicking  icon, save the photo by clicking “OK” option.



Rod#	Pitch	Depth	Relative Depth	Depth Change
68	+10.5%	1.97m	2.26m	-0.12m
67	-2.3%	2.02m	2.39m	-0.02m
66	+3.6%	1.93m	2.41m	-0.11m
65	+3.8%	2.08m	2.52m	-0.10m
64	+3.0%	2.19m	2.62m	-0.04m
63	-0.5%	2.25m	2.58m	0.11m
62	-2.0%	2.21m	2.47m	0.11m
61	-0.4%	2.21m	2.36m	0.08m
60	+0.0%	2.13m	2.28m	0.06m

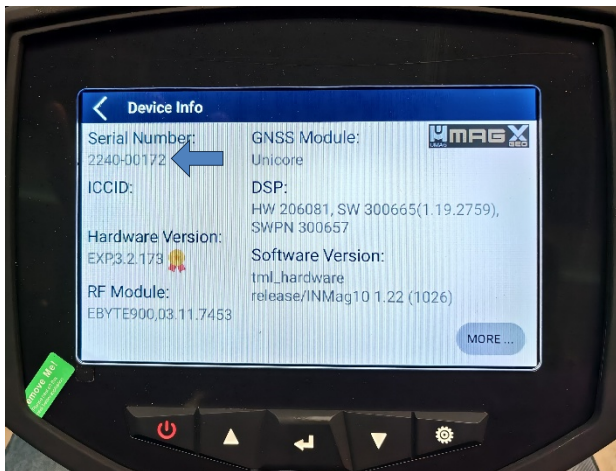
Rodwise View Screen



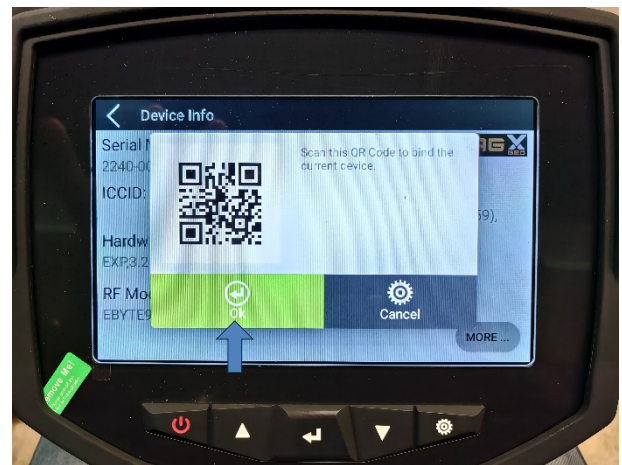
Mag X Geo Screen



Mag X Geo: Menu Screen



Device Info: Menu Screen



QR Code Screen

MAG Manage

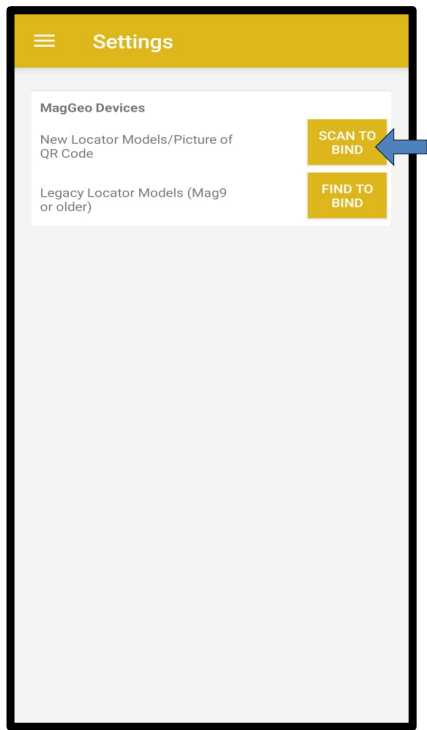
The Mag Manage role is designed for users to manage job data post drilling/logging.

For Mag Log, the role of Mag Manage is to generate the drilling reports. For this, the locator needs to be bind with user login id of UM Maps. For binding, Open the UM maps app, and go to Mag log, and go to Mag manage. Go to setting in Mag manage and it would show two options, and choose "New Locator Model /picture of QR code – Scan to Bind and "Legacy Locator Models – Find to Bind".

Once the user login id is bind with the requisite locator, it fetches the drilling data which has been carried out using the login id and binded locator. The reports can be viewed and generated using the Mag Manage.

In case of Mag X Geo, Mag Manage is also used to capture the pictures.

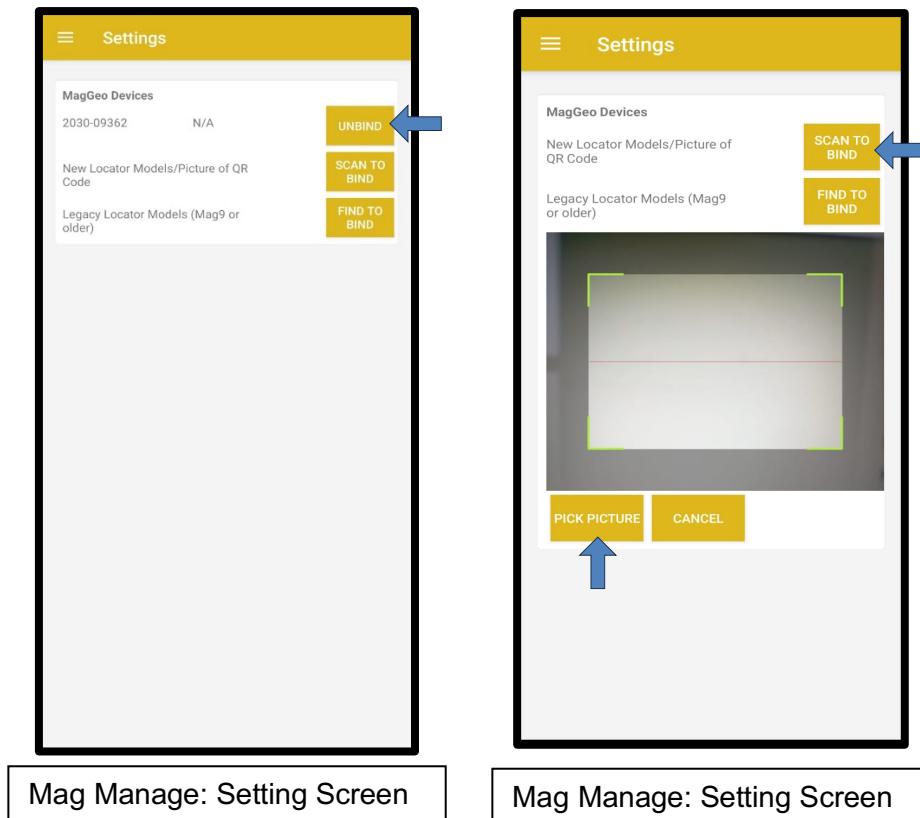
Note - If the user id is to be used with any other locator, it is required to unbind the user id with previous locator and bind with new locator.



Mag Manage: Setting Screen

FIND TO BIND - For binding legacy Mag 6/ Mag 5 locators by Bluetooth scanning

UNBIND - Mag6 locator already Bound with the User ID



More on Binding

It's important to understand the concept of binding, or else one might get confused about the ownership of the job data created on a locator.

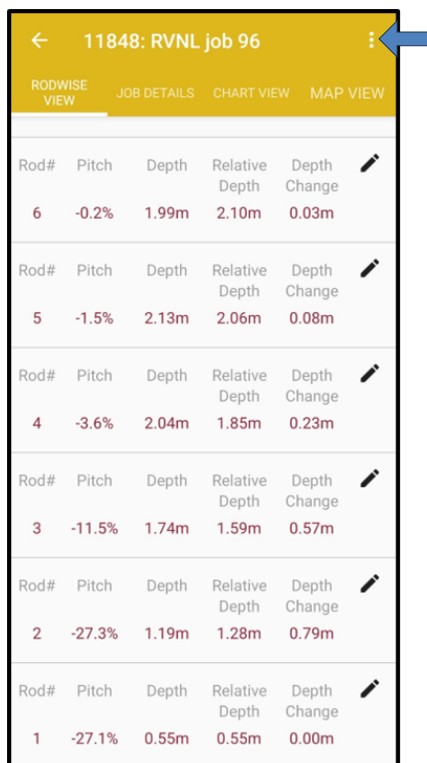
Binding is essentially a claim of ownership of a locator, therefore the job data produced by that locator. All data logged on a locator while the owner binds himself to the unit are only visible to the binder (owner). Note unbinding one self only stops his ownership of the unit, all the data created so far still belong to the previous owner (the unbound user). Though a locator can be bound to a new owner once it's unbound, the new owner will have access to those jobs created since his binding.

In short, one only has access to the jobs on a locator while he owns the locator.

NOTE: Edit the rod is possible only in the in Mag Manage, and GPS data can also be invalidated (incase of inaccuracy)

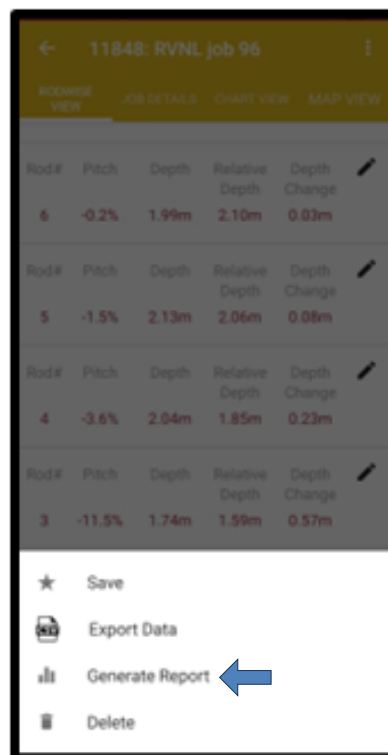
GENERATE A REPORT

To generate a report, move to the “Rod Wise View” option, tap on three dots on the upper right hand corner of the screen and tap “Generate Report”. The report would be visible on the screen. To see the Chart View and Rod Wise data in report format. Tap on Chart View or Rod Wise to view data.



11848: RVNL job 96					
RODWISE VIEW JOB DETAILS CHART VIEW MAP VIEW					
Rod#	Pitch	Depth	Relative Depth	Depth Change	
6	-0.2%	1.99m	2.10m	0.03m	
5	-1.5%	2.13m	2.06m	0.08m	
4	-3.6%	2.04m	1.85m	0.23m	
3	-11.5%	1.74m	1.59m	0.57m	
2	-27.3%	1.19m	1.28m	0.79m	
1	-27.1%	0.55m	0.55m	0.00m	

Mag Manage: Rodwise Screen



11848: RVNL job 96					
RODWISE VIEW JOB DETAILS CHART VIEW MAP VIEW					
Rod#	Pitch	Depth	Relative Depth	Depth Change	
6	-0.2%	1.99m	2.10m	0.03m	
5	-1.5%	2.13m	2.06m	0.08m	
4	-3.6%	2.04m	1.85m	0.23m	
3	-11.5%	1.74m	1.59m	0.57m	

Save
 Export Data
 Generate Report
 Delete

Mag Manage: Rodwise Screen



Report		
Job Name: 11848: RVNL job 96	Created Date: Aug-29-25, 06:38 pm	
Location: Khariya taluka virav to devchandpur bjc	Update Date: Sept-04-25, 09:52 am	
Company Name: RVNL	Client Name: BSNL	
Default rod length: 3.00m		
Data Points: 31	Depth: Meter (m)	Pitch: Percentage
horAcc Min:.01 Max:.02 Avg:.01		
verAcc Min:.02 Max:.04 Avg:.03		
Description: Bharatnet ABP work Badagaon varanasi		
MAP VIEW		
CHART VIEW		
RODWISE VIEW		
PICTURE VIEW		

Mag Manage: Report Screen

FOR MAP, CHART, RODWISE, PICTURE

Report

Job Name:

11848: RVNL job 96

Created Date:

Aug-29-25, 06:38 pm

Location:

Khariya taluka virav to devchandpur bjc

Update Date:

Sept-04-25, 09:52 am

Company Name:

RVNL

Default rod length:

3.00m

Client Name:

BSNL

Data Points:

31

Depth:

Meter (m)

Pitch:

Percentage

horAcc

Min.:01

Max.:02

Avg.:01

verAcc

Min.:02

Max.:04

Avg.:03

Description:

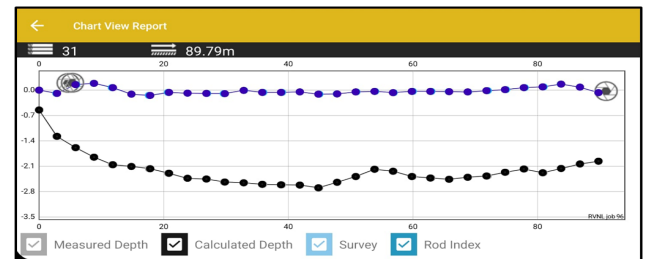
Bharatnet ABP work Badagaon varanasi

MAP VIEW

CHART VIEW

RODWISE VIEW

PICTURE VIEW



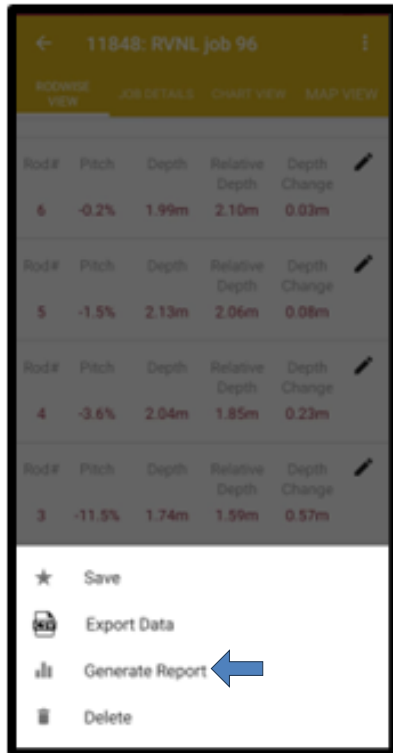
Rodwise View Report													
Rodwise Data Points (Depth Option: Calculated)													
Rod no.	Lat.	Long.	East.	North.	Alt.	Rod len.	Bore len.	X-Di st.	Pitch	Avg. Pitch	Calc. Pitch	Dej	h
1	25.446 16892	82.775 58844	678539.82	2815541.7 8	81.08 m	3.00m	0.00m	0.00	-27.1%	-27.1%	0.55 m	0.5	
2	25.446 14446	82.775 58076	678539.08	2815539.0 6	80.99 m	3.00m	3.00m	2.89	-27.3%	-27.2%	1.28 m	1.1	
3	25.446 11766	82.775 56879	678537.92	2815536.0 8	81.23 m	3.00m	6.00m	5.84	-11.5%	-19.5%	1.59 m	1.7	
4	25.446 09278	82.775 56184	678537.26	2815533.3 1	81.27 m	3.00m	9.00m	8.83	-3.6%	-7.6%	1.85 m	2.0	

Mag Manage: Report Screen



SHARE REPORT IN PDF OR CSV FORMAT

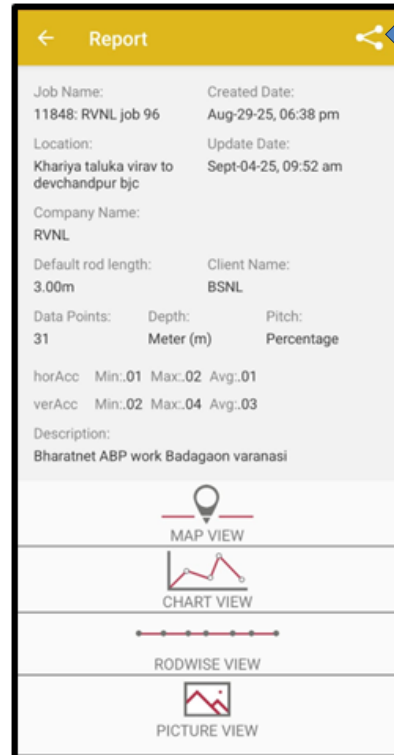
To share a report in PDF format, tap on share icon on upper right corner. For CSV report sharing, move to the “Rod Wise View” option, tap on three dots on the upper right-hand corner of the screen and tap “Export Data”, and share on your preferred mode as per the options available.



Rod#	Pitch	Depth	Relative Depth	Depth Change
6	-0.2%	1.99m	2.10m	0.03m
5	-1.5%	2.13m	2.06m	0.08m
4	-3.6%	2.04m	1.85m	0.23m
3	-11.5%	1.74m	1.59m	0.57m

★ Save
📄 Export Data
📊 Generate Report
🗑 Delete

Mag Manage: Rodwise Screen



Report

Job Name: 11848: RVNL job 96
Created Date: Aug-29-25, 06:38 pm
Location: Khariya taluka virav to devchandpur bjc
Update Date: Sept-04-25, 09:52 am
Company Name: RVNL
Default rod length: 3.00m
Client Name: BSNL
Data Points: 31
Depth: Meter (m)
Pitch: Percentage
horAcc Min.:01 Max.:02 Avg.:01
verAcc Min.:02 Max.:04 Avg.:03
Description: Bharatnet ABP work Badagaon varanasi

MAP VIEW
CHART VIEW
RODWISE VIEW
PICTURE VIEW

Mag Manage: Report Screen