

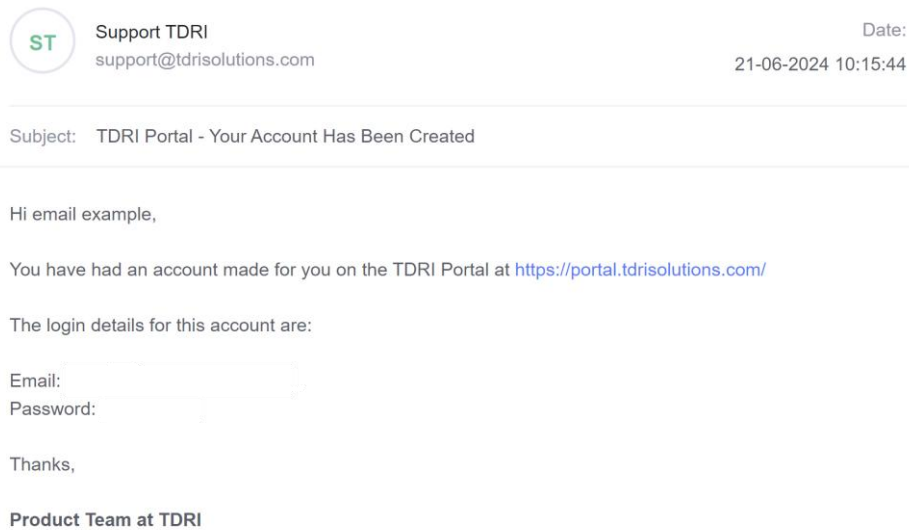


TDRI: Data & Portal Guide

Version 2.6 Published: June 2025

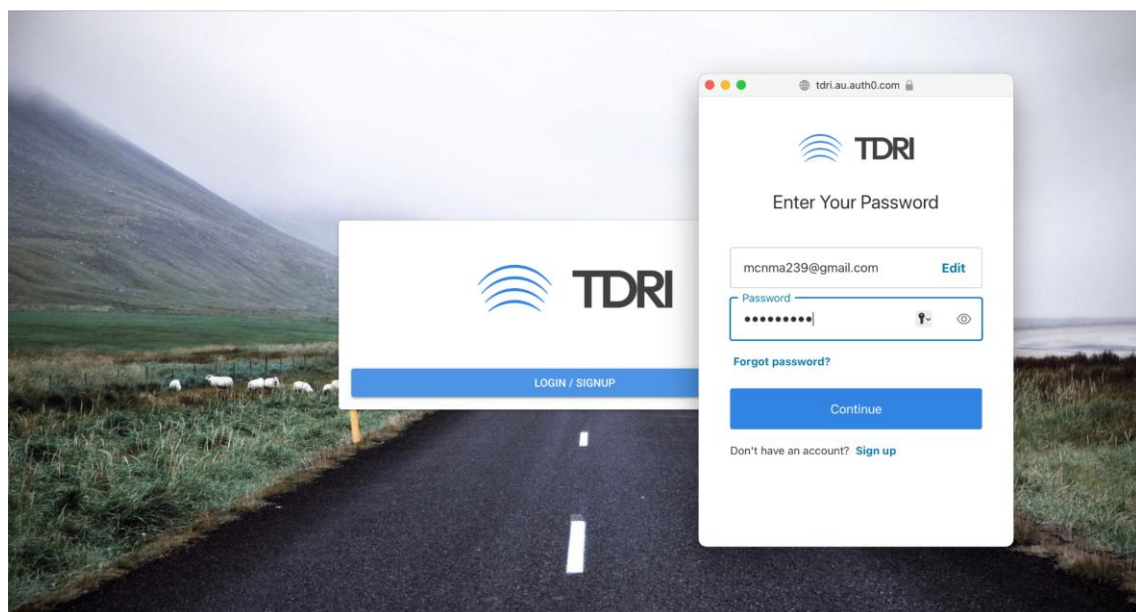
Portal Access

When your account has been created by TDRI, you will receive an email with login details:



These can occasionally land in the junk / spam folder of your inbox, so check that if you haven't received the email in your inbox.

Once the email is received, copy the password provided, then follow the link to our portal in the email. Once redirected, press the 'Login/Signup' button, then populate your email and password provided in the popup window and press 'Continue'.

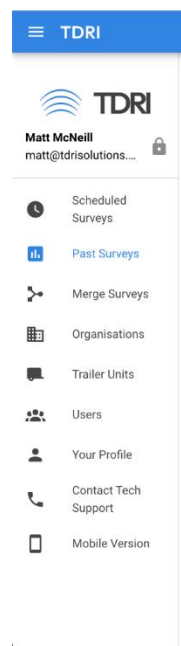


Password Reset

If you need to reset your password, press 'Forgot Password' in the login popup after clicking Log In / Sign Up on our web portal. This will allow you to reset your password.

Portal Views / Pages

When you first login you should be presented with the portal view as shown below. There are a number of different menu options available:



Scheduled Surveys: Any surveys that have been planned but not yet completed for your organisation.

Past Surveys: where completed survey maps linked to your organisation can be found. This is where you will spend most of your time, viewing and exporting data.

Merge Surveys: contains a merge function that allows you to merge multiple individual surveys into one longer survey.

Organisations: where you can see the organisations / projects that you have access to.

Users: where Organisation Admins can manage users that have access to their respective organisations / projects.

Your Profile: where you can change your profile password.

Contact Tech Support: where you can send portal related issues and queries.

Past Surveys View

When on the Past Surveys view, you will see your surveys that have been completed:

The screenshot shows the TDRI Past Surveys view. On the left is a sidebar with navigation links: Scheduled Surveys, Past Surveys (active), Merge Surveys, Organisations, Trailer Units, Users, Your Profile, Contact Tech Support, and Mobile Version. The main content area is titled 'Past Surveys' and includes a search bar, an 'Organisation' dropdown, and a 'LOAD ALL' button. Below this is a table of surveys with columns for Name, Date, and Status. The table lists 10 surveys, all dated 09/Jan/2023, except for the last one dated 08/Jan/2023. Each row has a checkbox and a trash icon. To the right of the table is a map of New Zealand with various locations marked with blue and red dots and numbered. The map includes labels for cities like Auckland, Hamilton, Tauranga, and Taupo.

Name	Date	Status
☒ DEMO_SH1 Tirau to Te Kauwhata - Continued 2	09/Jan/2023	
☒ DEMO_SH1 Tirau to Te Kauwhata - Merged	09/Jan/2023	
☒ DEMO_SH1 Tirau to Te Kauwhata - Continued 1	09/Jan/2023	
☒ DEMO_SH1 Tirau to Te Kauwhata	09/Jan/2023	
☒ DEMO_SH1 Taupo to Putaruru - Continued 2	09/Jan/2023	
☒ DEMO_SH1 Taupo to Putaruru - Continued 1	09/Jan/2023	
☒ DEMO_SH1 Taupo to Putaruru - Merged	09/Jan/2023	
☒ DEMO_SH1 Taupo to Putaruru	09/Jan/2023	
☒ DEMO_SH1 Turangi to Taupo - Continued 1	08/Jan/2023	

In this view, the first / latest 200 surveys will load automatically. Should your organisation / project have more surveys within it, you can load the rest by pressing the 'Load All' button.

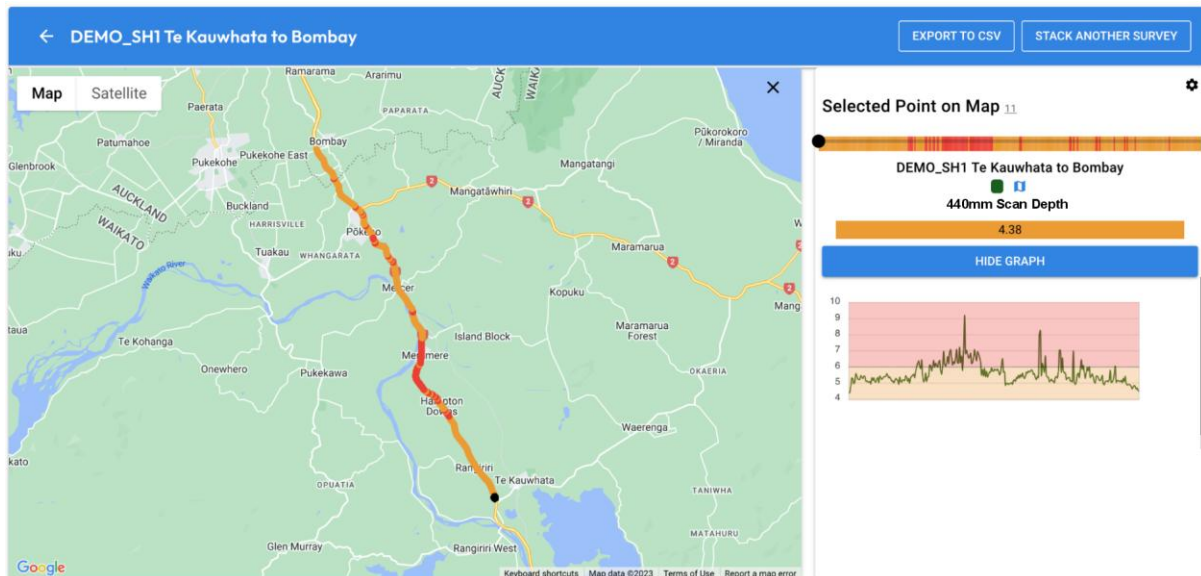
You can filter the surveys by typing in the search bar on the top right, or by using the 'Organisation' dropdown, should you belong to multiple organisations / projects.

You can open a survey results page directly by clicking on the line item itself or open it in a new tab by clicking on the launch icon button to the left.

A horizontal card representing a survey item. It features a launch icon (a square with a diagonal line) on the left, followed by the text 'DEMO_SH1 Tirau to Te Kauwhata - Merged', and the date '09/Jan/2023' on the right.

Survey Results Page

When you launch the survey results page, it will show a Google Maps plan view adjacent to a sectional view that can be expanded to show the respective survey's moisture readings.



Plan View

The plan view can be switched between Google Map and Satellite views, depending on how you wish to view and locate the survey data. This view also shows the survey route, colour coded based on relative moisture levels along different chainages, with a black dot showing the corresponding route location to the toggled moisture reading in the section view.

Section View

The sectional graph shows the respective moisture readings along the survey route. By moving the black circle selector from left to right, you can toggle the moisture readings along the surveyed route in plan view.

Fidelity Level

As you zoom in and out of the plan view, the sectional graph moisture readings increase and decrease in aggregation. Zooming in on the survey route in plan view loads more data points. The graph will always show the highest reading of all raw (loaded and unloaded) data points that are inside in the current fidelity length (in metres).

You can hover over the number in grey at the top right hand corner of the screen to see your current fidelity level and an explanation of how these work.

Selected Point on Map 12



Using the TDRI Relative Moisture Index (RMI)

The readings from the TDRI Moisture Scanner represent relative moisture levels, as an average of the measured 1.2m wide section of pavement down to 440mm.

The Relative Moisture Index (RMI) is a scale from 0 to 20. RMI does not represent absolute moisture content but instead reflects how wet or dry a location is relative to other nearby readings.

RMI enables meaningful, comparative assessments within networks. It is especially powerful for identifying outliers and anomalies in areas of similar pavement structure.

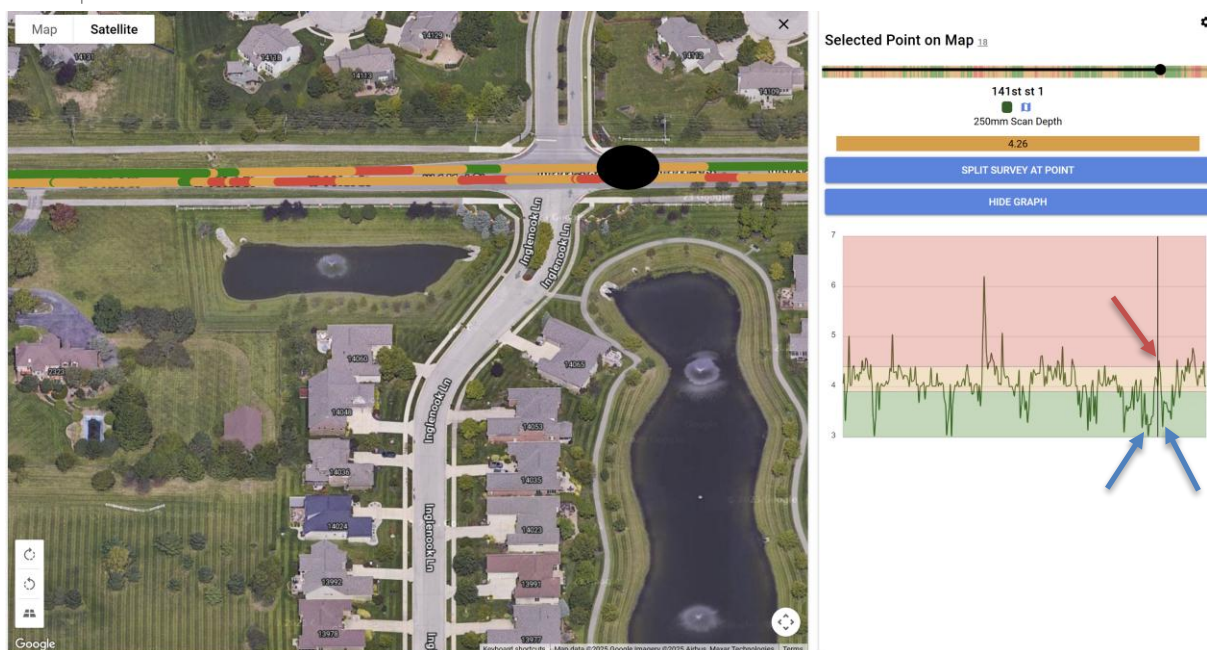
How to Interpret RMI Values in Context

RMI should always be interpreted in the context of construction type and pavement performance. Avoid applying fixed thresholds universally.

Instead:

- **Compare each RMI reading to nearby values along the same road segment or corridor.**
- **Group and analyse readings by similar construction profiles.**
- **Consider the % difference between a given point, and those surrounding it.**

Example:

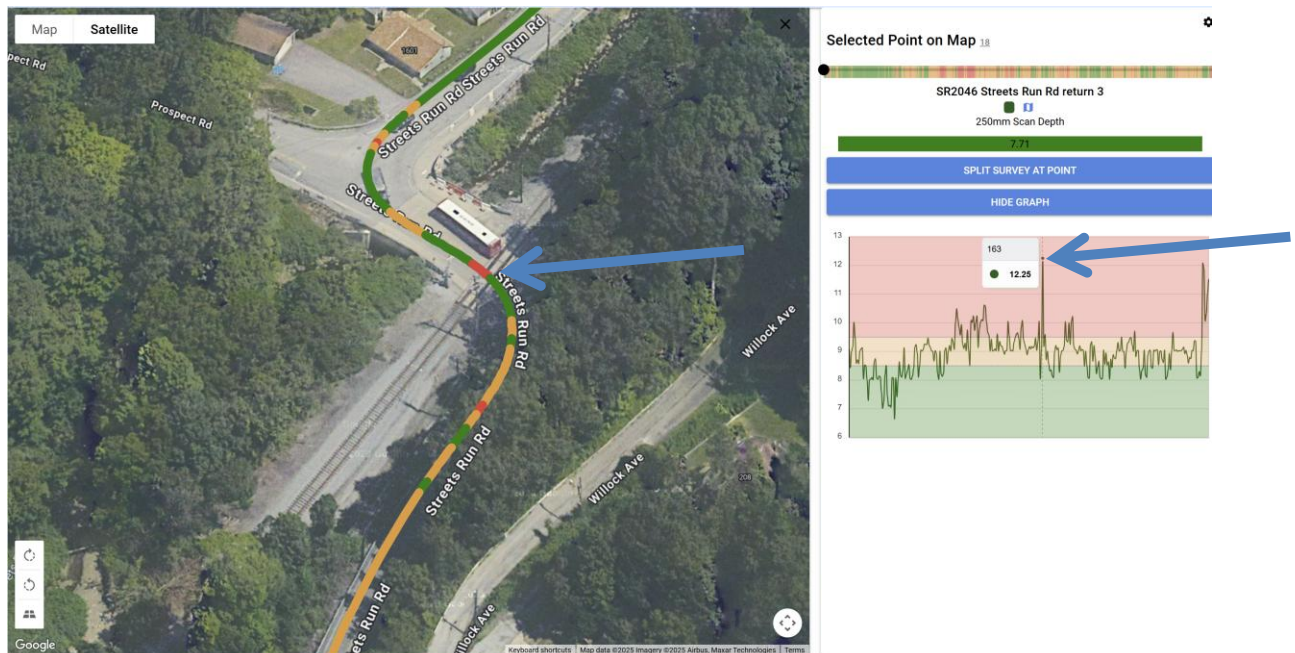


A section of roadway near retainment ponds shows RMI levels peaking at 4.5 . The sections both east and west of this show RMI values from 3-3.5 . This is an increase of up to 50% in the relative moisture level in this area, which warrants further investigation.

Identifying Outliers

Structure or utilities in or under the pavement surface will significantly contribute to very high or very low RMI values. Review available imagery and data to identify outlying values and eliminate them from moisture level examinations.

Example: Train Tracks



The train tracks in this image are producing a spike in the RMI value which is not due to moisture.

Using RMI with Other Data

RMI gains additional diagnostic power when combined with other datasets:

Surface Condition Surveys

Correlate RMI with visual inspections and performance data (e.g., cracks, potholes, roughness). Areas with both elevated RMI and visible defects can now be investigated. It is important to determine whether elevated RMI levels are causal or symptomatic, particularly in the case where potholes or cracking have broken the pavement surface.

Drainage Assessments

RMI elevation in specific areas may signal blocked culverts, poor shoulder drainage, or perched water tables. If these are identified before surface issues are measurable, there is an opportunity for the remedial work on drainage to reduce the elevated risk of failure due to moisture.

Structural Evaluation

High RMI alongside high deflections measure with a TSD or falling weight deflectometer (FWD) may indicate structural weakness due to subsurface moisture.

Best Practices

- Always compare RMI values within segments of similar pavement and subgrade construction.
- Treat RMI values as relative not absolute indicators of moisture presence.
- Use change detection, clustering, and mapping to highlight zones of abnormal moisture.
- Avoid using fixed thresholds without contextual justification such as core sampling.

Concerning Moisture Thresholds

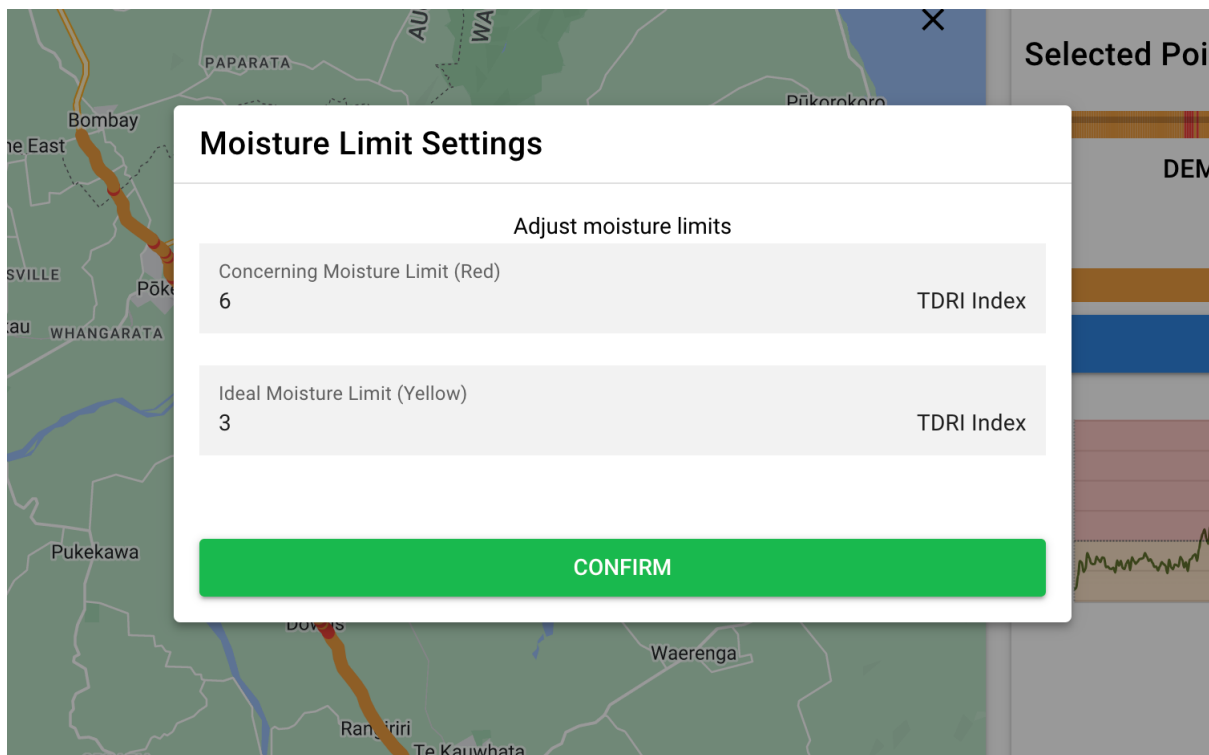
The colours shown on road segments along the survey route and in the vertical ranges of the sectional graph represent ideal and concerning moisture thresholds that the respective readings fall within.

Green = Ideal Moisture Level

Orange = Moderate Moisture Level

Red = Concerning Moisture Level

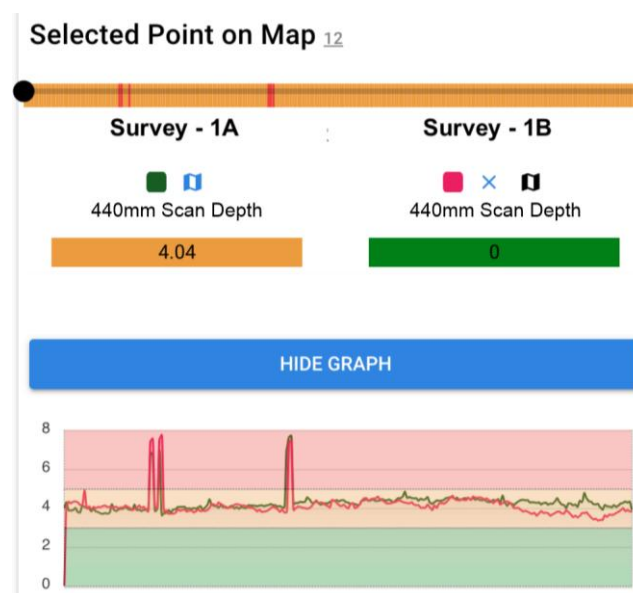
The client can determine what it considers to be ideal and concerning moisture levels for different pavement types (i.e deeper state highway structures, compared to shallower low volume roads). A good starting point is to identify the average reading across the scan and set the concerning limit 20-30% above, and the ideal limit 20-30% below the average. You can change these by clicking on the cog icon in the top right of the section view.



Stacking Surveys

For scans of the same road section, you can stack the moisture readings of one on top of another for comparison.

To do this, press the 'Stack Another Survey' button in the blue header of the survey results page. In the pop-up dialogue you can select available surveys to stack. Once selected, the stacked results can be seen as follows.



Exporting Data

Should you wish to integrate your moisture readings into other platforms, you can export surveys using the 'Export to CSV' button in the blue header of the survey results page.

Please note that merged surveys can not be exported. Only unmerged surveys can be exported, as these hold the raw data.

Raw survey data can also be downloaded / exported from the portal and will display with the following columns in the CSV file:

- Time of scan
- GPS Coordinates
- Road ID
- Road Offset (in Metres)
- Direction (Ascending or Descending)
- Moisture Index Value

Additional Portal Help

Should you require additional assistance with navigating the TDRI portal or using scan data, just email us at support@tdrisolutions.com and our support team will get in touch.