

Evaluation of Continuous Friction Measuring Equipment (CFME) for Supporting Pavement Friction Management Programs

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ABSTRACT

It is the responsibility of pavement engineers to design pavements that provide safe and smooth riding surfaces over their entire life cycle. Each year many people around the world lose their lives in vehicle crashes, which are one of the leading causes of death in the United States (US). One of the contributing factors in many of these crashes is inappropriate friction between tires and the pavement. To minimize the impact of this factor, state Departments of Transportation (DOTs) must monitor the friction of their pavement networks systematically and regularly.

Several devices are used around the world for measuring friction. Locked-wheel skid trailers are the predominant technology for roadways in the U.S. However, Continuous Friction Measuring Equipment (CFME) is emerging as a practical alternative, especially for network-level monitoring. This type of technology has been used for monitoring runway friction for many years and is starting to be used also for measuring roadway friction.

This thesis evaluates the different operational characteristics of CFME to provide guidelines for highway agencies interested in using this technology for supporting their friction management programs. It follows a manuscript format and is composed of two papers. The first part of the thesis presents a methodology to objectively synchronize and compare CFME measurements using cross-correlation. This methodology allows for comparing the “shape” of the friction profiles, instead of only the average friction values. The methodology is used for synchronizing friction measurements and assessing the repeatability and reproducibility of the CFME using friction measurements taken on a wide range of surfaces at the Virginia Smart Road. The proposed approach provides highway agencies with a rigorous method to process CFME measurements.

The second part of the thesis evaluates the impact of several operational characteristics on the CFME measurements using a field experiment. The results of the experiment confirmed that the

measurements are significantly affected by (1) the direction of testing while testing on sections of road with a significant grade, (2) water film thickness, and (3) testing speed. The experiment showed that measurements taken downhill on a 6% grade were significantly higher than those taken uphill. The analysis also verified that, consistent with previous studies, the measured friction decreases with higher water depth and testing speeds. It also showed that the change of friction with speed is approximately linear over the range of speeds used in the experiment.

In general, the thesis results suggest that CFME can provide repeatable and reproducible friction profiles that can be used to support friction management programs and other asset management business functions. However, care should be taken with regard to the operational conditions during testing since the measurements are affected by several factors. Further research is needed to (1) quantify the effect of these, and potentially other, operational factors; and (2) establish standard testing condition and approaches for correcting measurements taken under other conditions.

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Chapter 1 - INTRODUCTION

Frictional properties of pavements play a significant role in road safety as the friction between tire and pavement is a critical factor in reducing crashes. To reduce the number of fatalities, injuries, and the amount of property damages due to car crashes, the Federal Highway Administration (FHWA) recommends that highway agencies implement safety management programs that include pavement friction.

Car crashes can be due to several factors related to the driver, the vehicle, the environment, and the roadway infrastructure. As lack of sufficient friction between the tire and pavement during wet weather conditions is one of the factors that can increase the risk of car crashes, it is important for Departments of Transportation (DOTs) to monitor the friction of their pavement networks frequently and systematically. To that effect, there are many devices that can be used for measuring friction. Better understanding of these measuring systems may help DOTs choose the best option based on their needs.

Continuous friction measurement equipment (CFME) is currently used extensively on runway pavements and has been successfully used on highways in European countries. These devices have the capability to test friction at different speeds and provide abundant information on the surface frictional properties. One type of CFME, fixed-slip devices, is designed to measure the friction under conditions similar to those produced by an anti-lock braking system (ABS). They also provide more spatial details than the locked-wheel systems that are currently used in most DOTs and could be a more efficient alternative for supporting proactive pavement friction management programs.

BACKGROUND

Friction is an important performance parameter of the pavement surface. It is defined as the force that provides resistance to slipping when the tires are prevented from rolling (1). The friction between tire and pavement is a critical factor in reducing crashes (2, 3). Most of the skidding problems occur when the road surface is wet due to friction deficiencies. According to some sources, up to 13.5% of fatal crashes and 25% of all crashes happen during wet weather conditions (4).

Friction Management

Pavement friction is one of the surface characteristics that is monitored by highway agencies as part of their asset management efforts due to its importance in reducing car crashes.

Measurements are generally collected as part of the state's wet accident reduction program (WARP) on areas with a high rate of car crashes. This means that data collection is mostly being done at the project level on specific areas. Statistics show that 55.4% agencies collect friction data at the project level. Only 33.9% of agencies collect network-level friction data (5).

Types of friction measuring devices

There are many devices currently used for measuring friction, which can be categorized into three groups based on the measurement principle used: (1) **side-force friction testers** (e.g. Mu-meter, SAAB [1]); (2) **slip-speed testers**, including devices with 100% slip (e.g., Locked-wheel trailers [ASTM E 274]), fixed slip (e.g. GripTester [6] and Dynatest Highway Friction tester [7]), and variable slip (e.g., Roar [8]); and (3) **small slider testers** (e.g. Dynamic Friction Tester [ASTM E 1969], and British Pendulum). Full-scale friction measurement devices apply the first two principles.

Impact of Pavement Surface Texture on Frictional properties

Pavement micro and macrotexture are the main pavement surface characteristics that affect tire-pavement friction. The reduction in friction with increasing testing speed would be lower for pavements with a higher macrotexture since they have more channels for the water to escape through underneath the tire. Macrotexture data can be used to predict the changes of friction with speed (9).

Macrotexture can be measured using both highway speed profilers and "static" devices. While static devices can be used for project level measurements, the high-speed devices are more appropriate for network-level data collection. The standard device for measuring macrotexture is the CTMeter (ASTM E 2157). This static texture-measuring device is controlled by a computer and has a displacement sensor mounted on an arm that rotates at a fixed elevation from the surface collecting a high-resolution profile. The profile is recorded in the computer memory and the software reports the processed data as Mean Profile Depth (MPD) and Root Mean Square

(RMS). This device was found to have good correlation with Mean Texture Depth (MTD), which has been found to be highly correlated to the speed constant in the Permanent International Association of Road Congress (PIARC or World Road Association) experiment described in the next section (10).

Harmonization of friction measurements

ASTM has defined the harmonization of measurements as “the adjustments of the outputs of different devices used for the measurement of a specific phenomenon so that all devices report the same value” (ASTM E 2100). There have been several studies done in order to harmonize various friction measurement equipments.

One of the most comprehensive efforts to compare and make harmonization between the various methods used around the world to measure friction and texture has been conducted by the PIARC. The objective of the study was to harmonize the different measurement methods and develop a procedure to convert the measurements to a common scale, which was defined as the International Friction Index (IFI) (10).

In Europe, the PIARC effort has been followed by the “Harmonization of European Routine and research Measurement Equipment for Skid resistance of roads and highways” (HERMES) and the “Tyre and Road Surface Optimisation for Skid resistance and Further Effects” (TYROSAFE) efforts. HERMES was conducted by the Forum of European National Highway Research Laboratories (FEHRL) and included fifteen friction measuring and seven texture-measuring devices (11). The main objectives of the TYROSAFE project are to raise awareness, to coordinate and prepare for European harmonization, and to optimize the assessment and management of essential tire/road interaction parameters in order to increase the safety and support of the greening of European road transport (12).

In the U.S., NASA has hosted a friction workshop at Wallops Flight Facility in Virginia for many years. This facility has more than 30 different test surfaces. A wide range of friction, texture, and profiling equipment has participated in this workshop, which has resulted in a significant database of friction and texture measurements (13, 14).

In addition, the Virginia Tech Transportation Institute (VTTI) has conducted friction and texture measurements on the Virginia Smart Road since 2000. Most recently, VTTI has hosted a series of annual equipment comparisons (Rodeos) as part of the Pavement Surface Properties Consortium. Consortium representatives met for one week in May at the Virginia Smart Road at VTTI with the goal of comparing and verifying surface property measurements on the surfaces available at the facility (15).

Continuous Friction Measurement Equipment (CFME)

Over the last several years, agencies around the world have started using CFME for highway friction management (mainly fixed-slip technology). CFME has the advantage of operating under conditions similar to those of vehicles equipped with ABS. They are designed to test the friction at a slip ratio between 10 to 20%, which is around the critical slip of most ABSs. Another advantage of these systems over locked-wheels is that they continuously measure the friction across the entire stretch of a road, providing greater detail about the spatial variability of the tire-pavement frictional properties. However, they cannot measure the lateral friction on curves as side force equipment does. This can be an important disadvantage since it has been shown that curves and intersections lose friction faster than other road locations (16).

To better understand the function of ABSs, the interaction between friction and the slip ratio is illustrated in Figure 1.1. At zero slip (free rolling), there is no friction. Friction starts to increase as the slip increases and reaches a peak friction value around critical slip (approximately 10 to 20%). ABSs are designed to maintain the slip near the peak by turning the brakes on and off. After the peak, friction starts to decrease until it reaches the full sliding, which corresponds to a 100% slip (fully locked) condition. The coefficient of friction values around this point is lower than at the peak friction. Locked-wheel skid testers test the friction with a 100% slip ratio. In general, the friction before the peak is affected mainly by tire properties, while surface properties have the main effect after the peak (2).

Examples of CFME include GripTester and Dynatest HFT 6875. The GripTester measures the longitudinal friction continuously along the wheel path. The device has a stub axle on which the measuring wheel is mounted. The transmission chain allows measurements to be taken at a fixed slip ratio. During testing, the stub axle deforms and the horizontal drag and vertical load are

measured by strain gauges to determine the friction number. A water nozzle mounted in front of the test tire dispenses a controlled amount of water during the test (17).

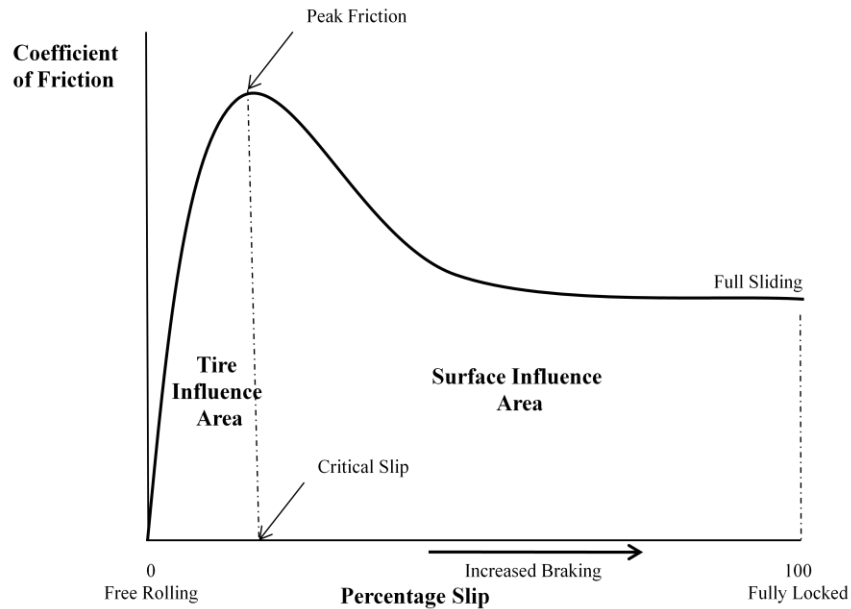


Figure 1.1 Friction versus slip (after [2]).

The Dynatest 6875H is a truck mounted CFME that can be used for testing highway friction. This device uses a special purpose smooth tire, which complies with ASTM E 1551 testing at a 14% fixed slip. This device is similar to the company’s runway friction testers; however, the measuring wheel has been moved closer to the driving wheel (7).

PROBLEM STATEMENT

The majority of DOTs in the United States currently use locked-wheel trailers for project- and network-level friction measurements. Agencies use two types of tire for the tests: smooth tires (ASTM E-524) and ribbed tires (ASTM E-521). Although this technology has been very useful for many years, the locked-wheel devices have two main limitations: (1) they can only measure friction at discrete locations along the road and (2) they completely lock the wheel during testing, which does not accurately represent conditions experienced in current vehicles equipment with ABSs. For these reasons, the use of slip-wheel CFMEs devices has gained popularity in other countries for roadway applications, especially in Europe, and they are starting to be used in the

U.S. as well. These devices can measure friction continuously and, thus, can provide more spatial details than locked-wheel devices for network-level friction management.

The use of CFME also brings some challenges. For example, although CFME provides valuable information about the test surface, processing the large amount of data collected may be cumbersome and time consuming because of a lack of available practical software for roadway applications. Furthermore, the friction measurements do not agree directly with historical data collected with locked-wheel trailers and there is a need to understand the various factors that affect the measurements.

OBJECTIVE

The purpose of this thesis is to evaluate the capabilities of available CFME and their ability to provide information useful for supporting Pavement Friction Management Programs.

Specifically, this research aims to answer the following questions:

1. What is the most appropriate way to measure the repeatability and reproducibility of CFME measurements?
2. What is the repeatability and reproducibility of available CFME?
3. What is the effect of water film thickness on the measurements?
4. How does speed affect the repeatability of the measurements?
5. What is the effect of the road grade on the friction readings?

RESEARCH APPROACH

A field experiment was designed to answer the research questions posed. This experiment included collecting many tire-pavement friction measurements under different operational conditions and pavement surfaces, and analyzing the collected data using signal processing and statistical data analysis techniques not commonly used in the past for friction analysis.

Data Collection

The data for this experiment was collected at the Virginia Smart Road. This research facility provides several different concrete and asphalt surfaces for testing. The measurements were taken using two GripTesters and one Dynatest Highway Friction Tester (HFT). Details regarding

the data collection procedure for the different parts of the experiments are provided in each manuscript.

Data Analysis

Several statistical and signal processing techniques were used to process the data. Although most of these techniques were previously used in other fields, their application for processing CFME measurements is relatively new.

Cross-Correlation

Cross-correlation is a signal processing method that can be used to determine the accuracy (repeatability and reproducibility) of continuous friction measurements. This technique is currently used for road profile measurements (18). This method is generally used to determine the similarity of two waveforms by comparing the “shape” of the waveforms. This method can also be used to determine how much one waveform needs to be shifted to obtain the best match with another waveform (19). For this purpose, cross-correlation has the potential to be used in order to synchronize the CFME measurements.

Paired tests

Paired tests on the hypothesis of equality of the means were conducted to compare measurements taken under different operational conditions. This statistical technique is used to determine if one population has a different mean and consequently behaves differently than others (20). These tests are used in the third chapter of the thesis to evaluate the effect of changes in various operational factors on CFME measurements. If changes in any of the operational factors result in a different mean than the other measurements, the measurements are sensitive to that operational factor. This procedure was used to assess the sensitivity of CFME measurements to the effect of grade and water film thickness.

ORGANIZATION OF THE THESIS

This thesis follows a manuscript format. It includes two manuscripts, which are included as separate chapters. The first chapter is the introduction and provides background information regarding the overall study.

The second chapter presents a methodology for comparing CFME based on a cross-correlation of measurements. Cross-correlation is used to align repeated measurements and to compare their friction profiles. This methodology is then used to assess the repeatability and reproducibility of the GripTester, one of the most common CFME, and to compare these measurements with those collected through another system, a Dynatest Highway Friction Tester (HFT).

The third chapter evaluates the effect of various potentially significant operational factors on the CFME measurements. The study quantifies the effect of grade, water film thickness, and measurement speed on the CFME measurements. Based on the results, speed adjustment factors are defined for different types of surfaces; these factors can be used to correct friction measurements conducted at different speeds.

The fourth chapter summarizes the entire research effort and the main findings and conclusions of the studies presented in chapters 2 and 3. Some recommendations for future research are also presented.

SIGNIFICANCE

To be able to effectively use tire-pavement friction data for supporting asset management decisions, equipment users need to know how repeatable the measurements are and what operational factors may affect them. This is particularly important for CFME, because the use of this technology for roadways is relatively new in the United States. The systematic assessment of the effect of the most significant operation conditions represents a step forward towards equipment harmonization. In that respect, this thesis provides DOTs with:

1. An objective technique for comparing CFME measurements.
2. Recommendations regarding operational characteristics of CFME.
3. Speed adjustment factors for CFME.

The developed methodology contributes to the development of pavement friction management programs by providing an objective method for equipment users to compare and process their friction measurements.

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Chapter 2 - IMPLEMENTATION OF CROSS-CORRELATION TO COMPARE CONTINUOUS FRICTION MEASURING EQUIPMENT (CFME)¹

ABSTRACT

Lack of sufficient friction between tire and pavement is known to be one of the contributing factors in vehicle crashes. The application of new technologies can be used to determine low friction spots or vulnerable accident sites at both the project- and network-levels. Continuous friction measurement is one of the newest technologies currently used in European countries. These systems have the capability to test at both low and highway speeds. The continuous friction measuring devices are designed to measure friction under conditions similar to those produced by an anti-lock braking system (ABS).

Although Continuous Friction Measuring Equipment (CFME) provides valuable information about surface friction, processing the relatively large amount of data is time consuming. Traditional methods, such as comparing the average friction, provide a quick and simple data analysis method; however, they neglect other important characteristics such as friction spatial variation and the ability to detect low-friction spots. This paper proposes a methodology based on cross-correlation to compare CFME measurements.

The data used in the study were collected during the annual rodeo that took place at the Virginia Smart Road. Two GripTester and one Dynatest 6875H Highway Friction Tester were used for data collection. Cross-correlation was used to synchronize the measurements. Repeatability and reproducibility of the measurements were evaluated based on the maximum cross-correlation value.

¹ This manuscript (TRB Paper #11-2083) has been accepted for presentation at the TRB 90th Annual Meeting to be held in Washington, D.C., January 23-27, 2011 and is scheduled to be published in the Proceedings of the Meeting. Co-authors include Gerardo Flintsch, Edgar de Leon, Kevin McGhee, and Samer Katicha.

INTRODUCTION

Pavement frictional properties play a significant role in road safety, and it has long been recognized that adequate friction between tire and pavement is a critical factor in reducing crashes. There are many devices used around the world to measure friction. These devices can be classified into four groups: locked-wheel, fixed slip, side force, and variable slip. Locked-wheel trailers simulate the sudden braking that causes the vehicle's wheel to lock resulting in the vehicle sliding. This concept represents the typical vehicular response to sudden braking if the vehicle is not equipped with an anti-lock braking system (ABS). The side force friction measurement device simulates the ability of a vehicle to maintain control on curves. Fixed slip and variable slip devices are designed to measure the friction around the critical slip of an ABS.

Currently, the majority of Departments of Transportation (DOTs) in the United States use locked-wheel trailers for project- and network-level friction measurements. However, these devices provide a single reading of friction over a 100 ft pavement section. Furthermore, the complete locking of the wheel cannot accurately represent conditions experienced in current vehicles that include an ABS. For this reason, use of the fixed slip devices has gained popularity in Europe and more recently in the United States. Furthermore, these continuous friction-measuring equipments (CFMEs) can provide more spatial details and can be an ideal option for project- and network-level friction management.

OBJECTIVE

The main objective of this paper is to use cross-correlation to evaluate the repeatability and reproducibility of CFME using measurements taken at the Virginia Smart Road on different surfaces.

BACKGROUND

Skid resistance is an important factor contributing to the reduction of crashes (1, 2). Approximately 13% of fatal accidents and 25% of all accidents happen during wet pavement conditions (3). Pavement macrotexture and microtexture, age of the surface, traffic, seasonal variation, and aggregate properties are the factors affecting the friction levels (4).

Providing adequate levels of surface texture and friction, as well as low levels of roughness, noise, splash, and spray, is an important factor in the design of pavement surfaces. This requires a compromise as pavement texture can increase the level of roughness and the driver's comfort. In addition, studies have confirmed that pavement macrotexture and unevenness relate to fuel consumption rate (5, 6).

Since the contact area between the tire and the pavement is relatively small, a small amount of water on the road surface can reduce the actual contact area and may cause skidding problems. Factors such as road surface type, water film thickness, type of tire, speed, tire road slip ratio, and wheel load can intensify this effect (7).

The Federal Highway Administration (FHWA) policies require states to implement safety measures to reduce accidents on roads. This requires each state to develop a Highway Safety Improvement Program (HSIP) with the objective of reducing fatal and injury-causing accidents. Knowing that, state agencies have to select the system that best meets these requirements.

Over the last several years, agencies around the world have started using CFME. CFME has the advantage of operating under conditions similar to those of most currently equipped ABS vehicles. They are designed to test the friction with a slip ratio between 10 to 20%, which is around the critical slip of most ABSs. Another advantage of these systems over locked-wheels is that they continuously measure friction across the entire stretch of a road, providing greater detail about spatial variability. However, they cannot measure the lateral friction at curves like side force equipment does. This can be an important disadvantage since it has been shown that curves and intersections are losing friction faster than other road locations (8).

To better understand the function of ABSs, the interaction between friction and the slip ratio is illustrated in Figure 2.1. At zero slip (free rolling), there is no friction. Friction starts to increase as the slip increases and reaches a peak friction value around critical slip (approximately 10 to 20%). ABSs are designed to maintain the slip near the peak by turning the brakes on and off. After the peak, friction starts to decrease until it reaches the full sliding, which corresponds to a 100% slip (fully locked) condition. The coefficient of friction values around this point is lower than at the peak friction. Locked-wheel skid testers are testing the friction with a 100% slip ratio.

In general, the friction before the peak is due to tire properties while surface properties have the main effect after the peak (1).

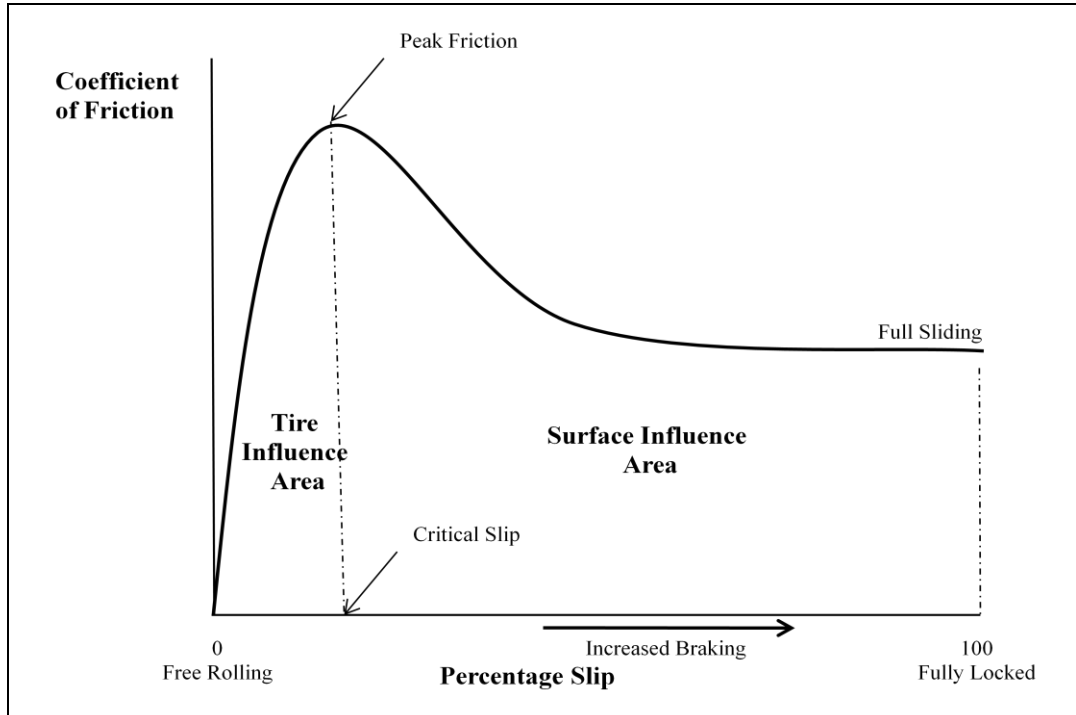
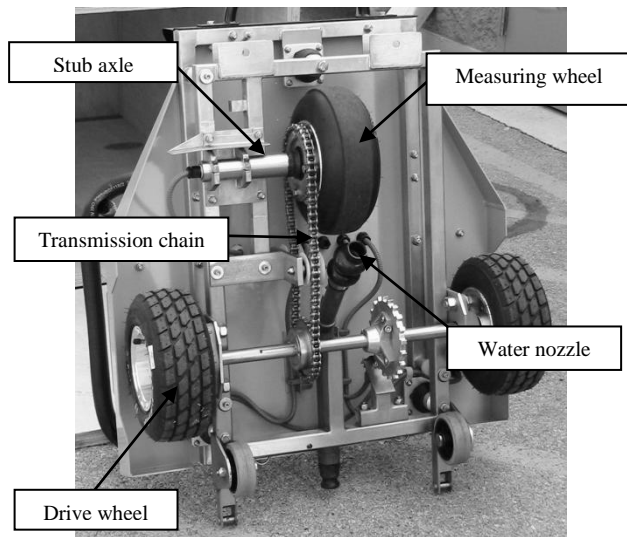


Figure 2.1 Friction vs. slip (after [1]).

The GripTester is a type of CFME used extensively in the UK and Germany. This device is used to continuously measure the longitudinal friction along the wheel path and operates at a fixed slip ratio (15.6% for the device used in this study). This device has the capability to test at highway speeds (50 mph) as well as low speeds (20 mph) using a constant water film thickness. The collected data are recorded in 3 ft intervals by default and can be adjusted by the user (9).

Figure 2.2a illustrates the GripTester parts. The device has a stub axle on which the measuring wheel is mounted. The transmission chain maintains the slip ratio around 15%. The static load on the test wheel is 250 ± 30 N when it is towed. During testing, the stub axle deforms and the horizontal drag and vertical load are measured by two strain gauges to determine the friction number. A water nozzle mounted in front of the test tire pours a controlled amount of water on the road surface during the test (10).



a) GripTester



b) Dynatest 6875H

Figure 2.2 CFME instruments.

Dynatest recently built a CFME that can be used for testing highway friction. This device uses a special-purpose, smooth-tread tire, which complies with ASTM E 1551 testing at a 14% fixed slip. This device is similar to runway friction testers; however, the measuring wheel has been moved closer to the driving wheel (Figure 2.2b).

Because CFME provides large amounts of data, it was hypothesized that the analysis can best be performed using signal processing methods instead of other traditional statistical methods. Cross-correlation is one of the signal processing methods that has been successfully implemented for assessing the repeatability and reproducibility of profiler measurements (11). This paper proposes a similar methodology for processing continuous friction measurements.

DATA COLLECTION

The data used in this study were collected at the Virginia Smart Road during the annual rodeos of the Pavement Surfaces Properties Consortium. The Smart Road provides various types of asphalt and concrete test surfaces. Most of the data were collected using the GripTester across twelve different test sections using $10 \times 4-5$ smooth-tread test tires (ASTM E-1844). One set of measurements was obtained using the Dynatest 6875H Highway Friction Tester, which is another smooth tire CFME. Test sections included six SUPERPAVE surface mixes (SM), one Open Graded Friction Course (OGFC), one Stone Matrix Asphalt (SMA), two Epoxy Overlays,

and two sections of transversely tined Continuously Reinforced Concrete Pavements (CRCP). Figure 2.3 shows a close-up of the tested surfaces. Measurements were collected from both the eastbound and westbound directions while using a 0.5 mm water film thickness.

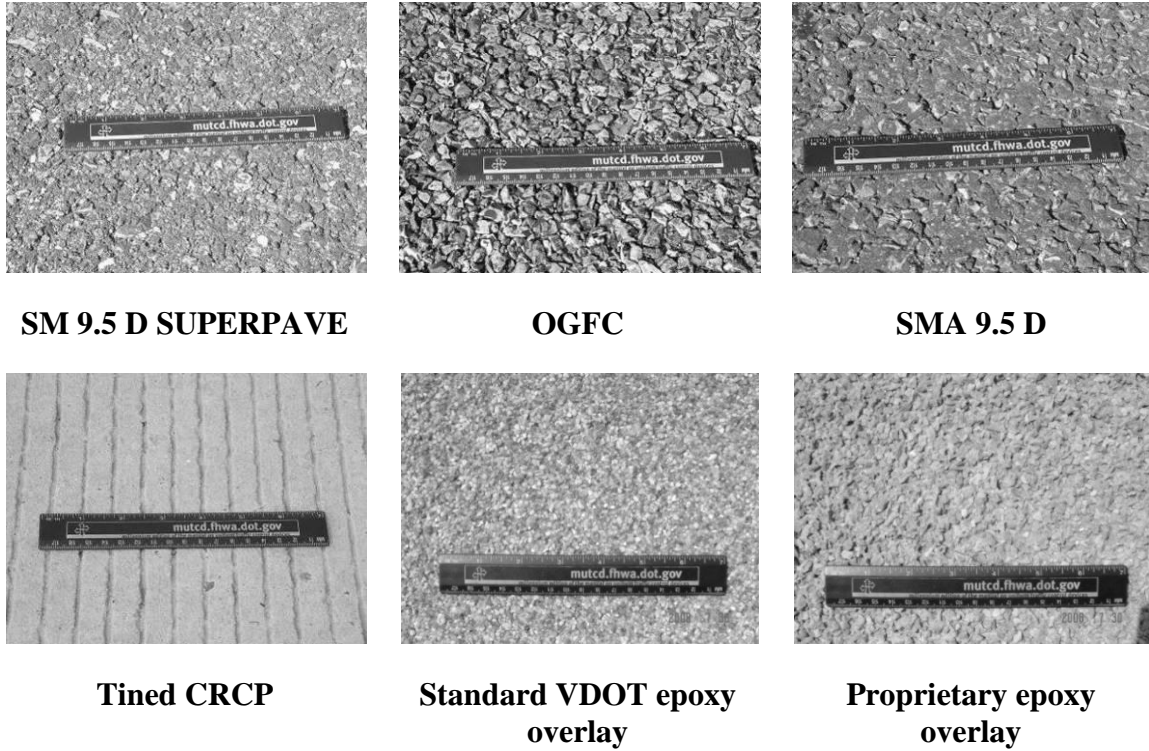


Figure 2.3 Close-up of test sections.

In order to evaluate the reproducibility of the test, two sets of measurements were also taken at 40 mph with two different GripTester units. Table 2.1 summarizes the tests conducted using the GripTester.

Table 2.1 Summary of GripTester Tests

Date	Test Unit	Water Depth (mm)	# Surfaces	# Replication	Speed (mph)
2010	GripTester (404)	0.5	12	5 at each speed	30, 40 & 50
2009	GripTester (404)	0.5	10	3	40
2009	GripTester (405)	0.5	10	3	40

DATA ANALYSIS

Cross-Correlation

One of the signal processing methods that can be used to determine the accuracy of continuous friction measurements is cross-correlation. This technique has been successfully implemented to determine the repeatability and reproducibility of the profiler measurements (11).

Cross-correlation is a measure used to verify the similarity of two waveforms. It is defined as follows (12):

$$\varphi_{xy}(\tau) = E[x(t)y(t+\tau)] = \lim_{L \rightarrow \infty} \frac{1}{L} \int_0^L x(t)y(t+\tau)dt; \quad \tau \geq 0 \quad (1)$$

where,

$E[\cdot]$ = expected value

τ = shift factor

$x(t), y(t)$ = two waveforms defined in the range of $t = [0, \infty)$

Since the friction measurements are discrete, the cross-correlation function can be estimated by:

$$\varphi_{xy}(m) = E[x_n y_{n+m}] = \lim_{L \rightarrow \infty} \frac{1}{L} \sum_{n=0}^{L-1} x_n y_{n+m}; \quad m \geq 0 \quad (2)$$

where,

m = shift between the measurements.

Equation 2 can be normalized by dividing it by the standard deviation of the two waveforms (measurements). To make the computations more efficient, the measurements can be shifted to have a mean of zero (11).

Synchronization of the Measurements Using Cross-Correlation

Cross-correlation can be used to determine how much one waveform needs to be shifted to obtain the best match with another waveform. The amount of shifting that provides the highest cross-correlation is selected. After shifting the signal, the integral of the product of both signals is calculated based on Equation 1. The integral would be maximized for the optimal signals

match. This procedure can be used to determine the optimum shift to synchronize the measurements.

Figure 2.4 illustrates the operation by showing two GripTester measurements which were taken at 40 mph in the eastbound direction of the Smart Road. As can be seen in Figure 2.4, the second run is slightly shifted to the right. The simple visual way to synchronize the measurements is to read the shift from the plot and try to align the spectrum as best as possible. This can be accomplished by reading the offsets from the peaks. These peaks occur at the location of the joints located in the pavement. As shown in the figure, the offsets are between 80 ft and 160 ft, depending on the selected peak. However, cross-correlation can be used to find the optimum offset, which maximizes the correlation between all the measurements (11).

Figure 2.5 illustrates the cross-correlation between the two measurements. It was calculated using the MATLAB cross-correlation function. The peak cross-correlation is 0.7851 and it occurs at a -99 ft offset. This offset is used to synchronize the measurements. Figure 2.6 shows the aligned measurements after shifting the second run 99 ft to the left.

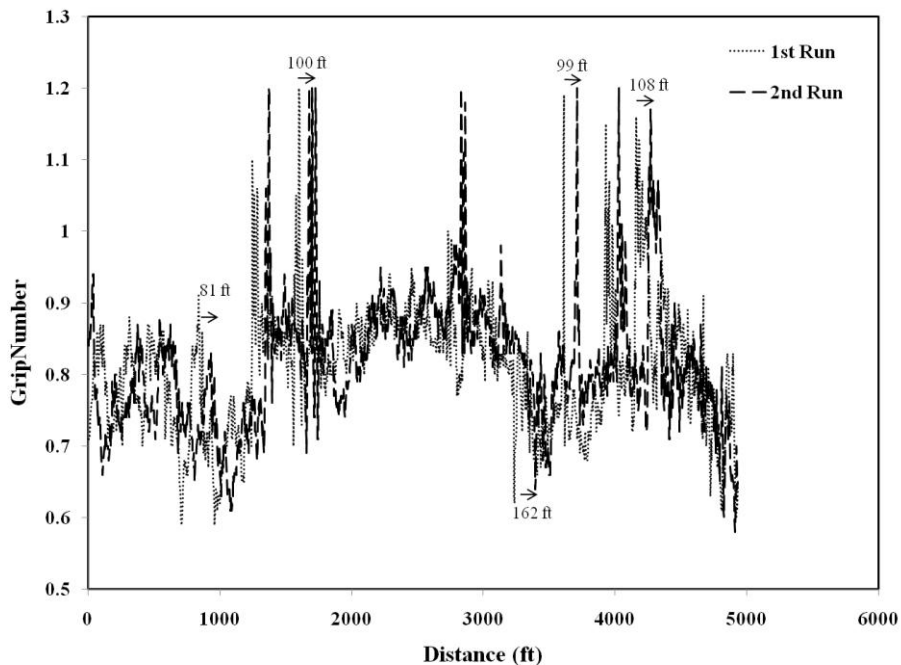


Figure 2.4 GripTester measurements taken at 40 mph.

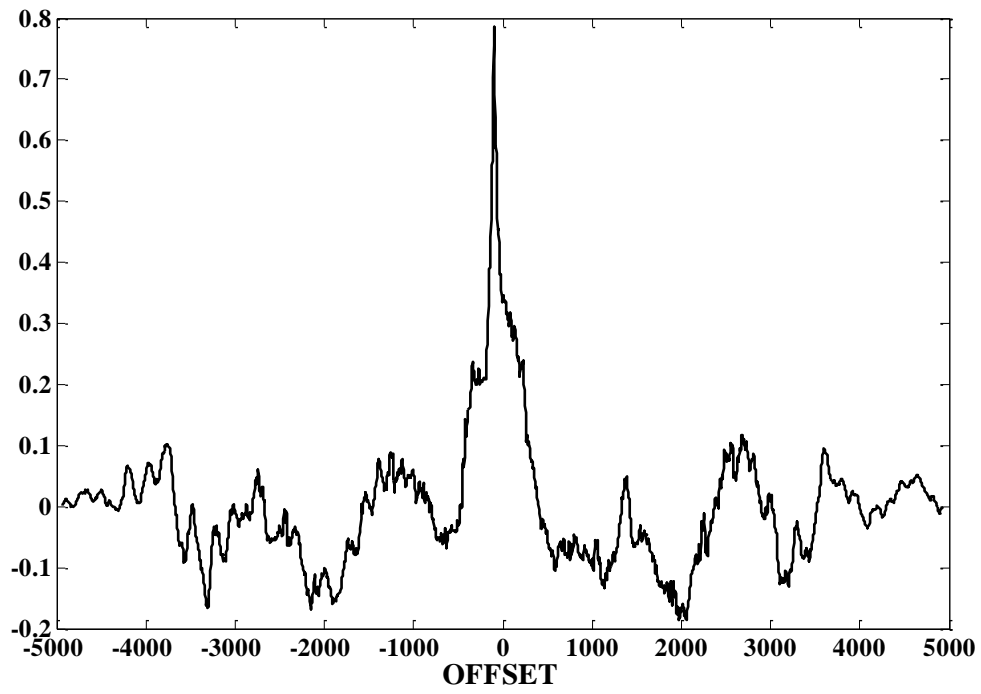


Figure 2.5 Normalized cross-correlation vs. offset (ft).

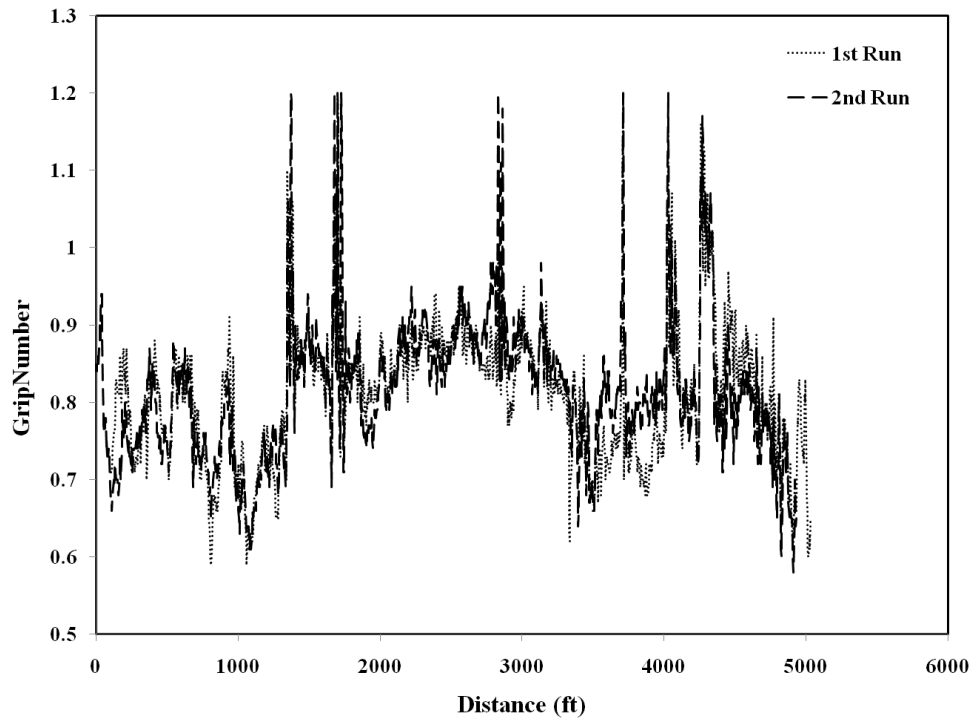


Figure 2.6 GripTester measurements after shifting.

Evaluation of Repeatability and Reproducibility of Measurements

The repeatability and reproducibility of the measuring devices are always a concern for equipment users. *Repeatability* is the measure of agreement between different measurements taken with the same equipment, while *reproducibility* is the agreement between different equipment measurements.

As shown in Figure 2.6, shifted measurements seem to better follow the same trend; however, there are still differences between individual points. This will decrease the maximum correlation level. The maximum cross-correlation value after synchronization can be used as a rating of agreement between the measurements (11).

Using this procedure for comparison of the measurements is more rigorous than using the average friction since it requires the measurements to follow the same trend at each location. This is important especially when testing is conducted to identify localized areas with low friction. Two pieces of equipment that show the same average friction values may not be sensitive to low friction spots. Although using the cross-correlation is helpful for research purposes, it might be more convenient for certain applications such as network-level evaluation to use the average friction and standard deviation. Therefore, repeatability was evaluated using both the cross-correlation method and the average standard deviation.

Table 2.2 shows the average of the standard deviation of the variances for every segment of the five repeated runs. Each run was divided into 100 ft segments, and the average friction was calculated for each segment. The variance of the average friction was then calculated for each segment. The average variance of the entire run was used to calculate the standard deviation at each speed, which was then used as an estimate of the repeatability of the measurements.

Table 2.2 Average Standard Deviations for Evaluation of Repeatability

Direction	Speed		
	30 mph	40 mph	50 mph
Eastbound	0.025	0.031	0.041
Westbound	0.026	0.027	0.038

Table 2.2 shows that the average measurements are more repeatable at lower speeds. This may be due to the sensitivity of GripTester to irregularities on the pavement surface that cause the unit to jump. Since the weight of the system is relatively low, it can bounce off the pavement when it hits the joints. This would be more pronounced at higher speeds.

Table 2.3 shows the results of the maximum cross-correlation for all the possible combinations of runs. This process was conducted at each speed for both eastbound and westbound directions. A comparison of the average cross-correlations at each speed shows that runs performed at 40 mph are in general more repeatable. This speed is the standard speed for skid testing based on the ASTM E 274.

Table 2.3 Maximum Cross-correlation Value for Evaluation of Repeatability

		Eastbound					Westbound						
		# of run	1	2	3	4	5	# of run	1	2	3	4	5
30 mph	1	-	0.74	0.68	0.69	0.59	1	-	0.64	0.73	0.68	0.52	
	2	-	-	0.72	0.67	0.62	2	-	-	0.80	0.72	0.57	
	3	-	-	-	0.66	0.71	3	-	-	-	0.75	0.63	
	4	-	-	-	-	0.58	4	-	-	-	-	0.60	
	5	-	-	-	-	-	5	-	-	-	-	-	
	Average		0.66						0.66				
40 mph	1	-	0.88	0.76	0.77	0.73	1	-	0.78	0.74	0.64	0.79	
	2	-	-	0.78	0.75	0.72	2	-	-	0.79	0.61	0.86	
	3	-	-	-	0.70	0.72	3	-	-	-	0.64	0.75	
	4	-	-	-	-	0.81	4	-	-	-	-	0.64	
	5	-	-	-	-	-	5	-	-	-	-	-	
	Average		0.76						0.72				
50 mph	1	-	0.70	0.65	0.78	0.75	1	-	0.78	0.78	0.67	0.49	
	2	-	-	0.75	0.70	0.72	2	-	-	0.77	0.73	0.52	
	3	-	-	-	0.54	0.59	3	-	-	-	0.73	0.58	
	4	-	-	-	-	0.78	4	-	-	-	-	0.51	
	5	-	-	-	-	-	5	-	-	-	-	-	
	Average		0.70						0.66				

To compare the reproducibility of the measurements, two sets of measurements were taken in 2009 using two different GripTester units. The measurements were taken at 40 mph with each unit performing three runs. The maximum cross-correlation was calculated. Table 2.4 shows all the possible correlations between the runs of unit 1 and unit 2. The units have an average correlation of 0.74. This value is similar to the cross-correlation found between different runs within the same unit. This suggests that most of the differences between the two units are due to measurement error instead of equipment differences and that reproducibility is appropriate.

Table 2.4 Maximum Cross-correlation Value for Evaluation of Reproducibility

Eastbound				Westbound			
# of run	1	2	3	# of run	1	2	3
1	0.64	0.72	0.72	1	0.75	0.76	0.75
2	0.71	0.77	0.78	2	0.73	0.74	0.74
3	0.73	0.74	0.79	3	0.72	0.73	0.73

Comparison of GripTester and Dynatest 6875H Highway Friction Tester Measurements using Cross-correlation

It is always desirable for equipment users to know how their unit compares to other devices. This is more important when users start to implement a new system for their network evaluation. Since CFME is relatively new in the United States, it is important to have a systematic way to compare the measurements taken with various devices. This can be accomplished using cross-correlation.

Figure 2.7 compares measurements obtained at 40 mph using the Dynatest 6875H Highway Friction Tester to those obtained using the GripTester. Measurements were taken during two different days, so temperature may have had an effect on the measurements. As can be seen in Figure 2.7, the Dynatest measurements are lower as compared to those of the GripTester. However, they seem to follow the same trend across the sections. For example, one of the sections located at 1,000 ft has a relatively low friction, which has been reflected in the spectrums of both measurements.

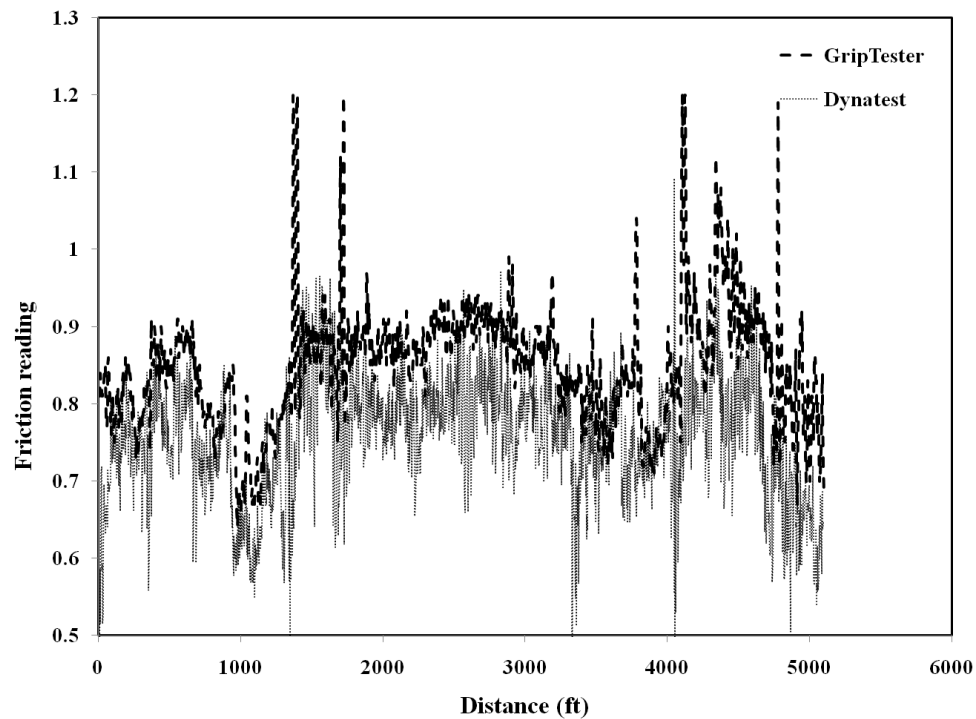


Figure 2.7 Comparison of GripTester and Dynatest measurements.

In order to have an objective comparison between two equipment measurements, the maximum cross-correlation (0.44) is used as shown in Figure 2.8. It is noteworthy that GripTester measurements have more pronounced peaks than Dynatest measurements. This might be due to the relatively low weight of the GripTester, which can result in more bouncing leading to sudden increases or decreases in friction values. This can affect the reproducibility if the average friction is used to compare it with the other equipment. Implementation of a filter that can remove the extraneous measurements may improve the methodology.

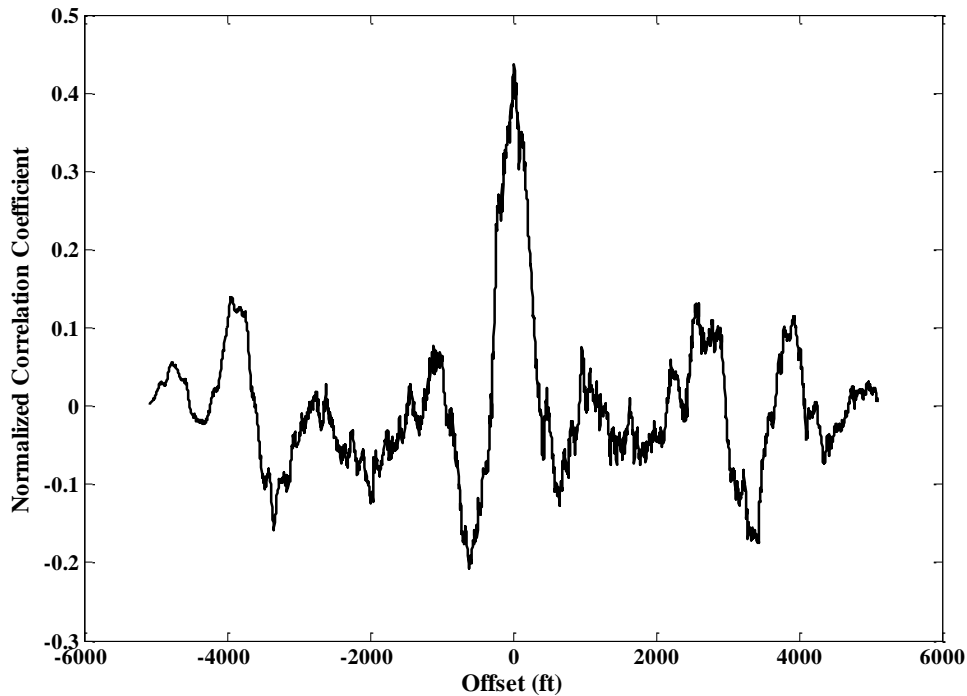


Figure 2.8 Normalized cross-correlation between GripTester and Dynatest.

FINDINGS AND CONCLUSIONS

This paper evaluated the implementation of cross-correlation for an objective comparison of continuous friction measurements. The following summarizes the primary findings of the study:

1. Synchronization of the measurements was conducted using cross-correlation. This is an easy and objective method to align different measurements.
2. Two different methods used for the evaluation of the repeatability of the GripTester's measurements were compared. The first method was based on the standard deviation of the average friction for different runs. This method showed that the measured values taken at lower speeds have a lower standard deviation and are more repeatable. This can be due to the low weight of the system, which makes it bounce off the pavement more easily when it hits the joints. This has a greater effect at a higher speed. The alternative method was based on the cross-correlation of the measurements. In this case, measurements obtained at 40 mph resulted in higher

cross-correlation (i.e., higher repeatability) values of approximately 0.75. The standard speed for skid testing is 40 mph and is recommended for use with the CFMEs since the measurements seem to follow a similar trend at this speed.

3. Two different GripTester units were compared in order to evaluate the reproducibility of the measurements. This resulted in a relatively high average cross-correlation of 0.74. This value is similar to the cross-correlation calculated for repeatability, thus suggesting the two different units provide practically the same test results.
4. GripTester measurements were compared to Dynatest HFT measurements. The cross-correlation showed that the equipments' measurements reasonably follow the same trend.

Comparison of the CFME measurements using cross-correlation provides a more rigorous method than comparing the average of runs because it allows a comparison of the “shape” of the friction profiles instead of just the average values. This is important for comparing the ability of two systems to detect localized areas of low friction, which is important for supporting friction management programs.

ACKNOWLEDGEMENTS

The data used for this paper were collected during the annual rodeo as part of the Pavement Surfaces Properties Consortium. This experiment has been made possible thanks to the contributions of the Virginia Transportation Research Council (VTRC); the Federal Highway Administration (FHWA); the Connecticut, Georgia, Mississippi, Pennsylvania, South Carolina, and Virginia DOTs; and the Virginia Tech Transportation Institute (VTI). The authors would like to thank William Hobbs and Jack Verhoeven for their contribution in data collection.

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Chapter 3 - ASSESSMENT OF OPERATIONAL CHARACTERISTICS OF CONTINUOUS FRICTION MANAGEMENT EQUIPMENT FME²

ABSTRACT

There are many devices used around the world to measure friction. The majority of Departments of Transportation (DOTs) in the United States currently use locked-wheel trailers for project- and network-level friction measurements. However, these devices can only measure friction at discrete locations along the road and completely lock the wheel during testing, which does not accurately represent conditions experienced in vehicles currently equipped with Anti-lock Brakes (ABS). For these reasons, the use of the fixed slip devices has gained popularity in other countries, especially in Europe, and they are starting to be used in the United States. Continuous friction measuring equipment (CFME) can also provide more spatial details for proactively managing tire-pavement friction.

The objective of the research described in this paper is to evaluate various operational characteristics of CFME to provide guidance for highway agencies attempting to implement them in their pavement management programs. The data used in the study were collected at the Virginia Smart Road using the GripTester.

The study evaluated the effect of grade, water film thickness, and speed on the friction measurements on several types of pavement surfaces. The experiment showed that grade affects the GripTester measurements suggesting that measuring with the GripTester would be more accurate on flat surfaces. It also confirmed previous results that measurements were shown to be sensitive to water film thickness and testing speed. Friction measurements are lower as the water depth increases. This paper provides a methodology to perform speed corrections using speed adjustment factors.

² This manuscript has not been submitted for publication at the time of submission of the Thesis. Authors include Edgar de Leon, Gerardo Flintsch, and Kevin McGhee.

INTRODUCTION

It has been long recognized that the lack of sufficient friction between tire and pavement during wet weather conditions is a contributing factor in a significant number of crashes. Studies have shown that the friction between tire and pavement is a significant factor in reducing crashes (1&2). Therefore, it is important that Departments of Transportation (DOTs) monitor the friction of their pavement networks frequently and systematically by establishing pavement friction management programs. Continuous friction measuring equipment (CFME) has emerged as a practical alternative for supporting the development of proactive pavement friction monitoring programs. Since this type of friction measuring device has not been used much for roadways in the U.S., a good understanding of the measuring systems may help DOTs develop efficient programs and choose the best equipment based on their needs.

OBJECTIVE

This paper discusses an experiment to investigate the different operational factors that can affect CFME measurements and quantify the impact of these factors on measurements taken on different surfaces. Specifically, it analyzes the effect of grade, water film thickness, and speed on the friction measurements.

BACKGROUND

Friction is one of the most important performance parameters of the pavement surface. Tire pavement friction—or skid resistance—is defined as the force that provides resistance to slipping when the tires are prevented from rolling (3). Skidding problems usually occur due to friction deficiencies when the road surface is wet. Some sources have reported that up to 13.5% of fatal crashes and 25% of all crashes happen during wet weather conditions (4).

The Federal Highway Administration (FHWA) policies provide states with guidance on how to implement safety measures to reduce accidents on roads. Current guidance recommends that each state develops a “data-driven” Highway Safety Improvement Program (HSIP) with the objective of reducing fatal and injury-causing accidents. FHWA Technical Advisory T 5040.38, 2010 also suggests that in order “to provide roadway data that will establish the relative severity of locations identified for highway safety improvement projects, a state highway agency should implement a program to manage pavement friction on its public roads.” The aim of this program

is to minimize friction-related vehicle crashes by ensuring that pavements provide adequate friction properties throughout their lives. A proactive friction management program can help identify areas that have elevated friction-related crash rates, investigate road segments with friction deficiencies, and prioritize the use of resources to reduce friction-related vehicle crashes in a cost-effective manner (5). An important part of the process is the selection of the most appropriate friction measuring equipment. Although most DOTs are now using locked-wheel trailers, CFME may provide a more effective alternative for network-level data collection.

Types of friction measuring devices

The devices that are currently used for measuring friction can be categorized into three groups based on the measurement principle used:

1. **Side-force friction testers:** Measure transverse friction with a tire that is angled to the direction of travel; the wheel can rotate freely but since it is out of angle it would slip.
2. **Slip-speed testers:** Measure longitudinal friction with the tire that is forced to rotate slower than the test vehicle causing it to slip or skid. Depending on the percentage of slip, these systems are divided into three groups:
 - a. Locked-wheel: measures the longitudinal friction by completely locking the brake of the measuring wheel, regardless of the test vehicle speed.
 - b. Fixed slip: measures longitudinal friction while forcing the measuring wheel to rotate at a fixed percentage of the free-rolling; thus, the slip speed is a fixed percentage of the test vehicle speed.
 - c. Variable slip: measures longitudinal friction by forcing the measuring wheel to rotate at different degrees of slip with respect to the measuring wheel (variable rotational speeds).
3. **Small Sliders testers:** Use rubber pads or sliders attached to a falling pendulum or rotating disk, which are slowed upon contact with the pavement surface.

The rubber slider devices usually have a small contact area and are used for static testing. Thus, they are not appropriate for network-level friction measurement. Full-scale friction measurement devices use only the first two principles.

Agencies around the world have used CFMEs (mainly fixed-slip technology) for airport monitoring for many years and have also started using them for highways. CFME has the advantage of operating under conditions similar to those of vehicles equipped with ABS. They are designed to test the friction at a slip ratio between 10 to 20%, which is around the critical slip of most ABSs. Another advantage of this type of CFME over locked-wheels is that it can operate continuously over the entire stretch of a road, providing greater detail about the spatial variability of the tire-pavement frictional properties. However, they cannot measure the lateral friction at curves like side force equipment does. This can be an important disadvantage since it has been shown that curves and intersections lose friction faster than other road locations (5).

DATA COLLECTION

The data for this study was collected at the Virginia Smart Road using a GripTester. The GripTester is used for measuring the longitudinal friction continuously along the wheel path. It has a system that allows measurements be taken at a fixed slip ratio (15.6% for the device used in this study). The device has the capability to test at highway speeds (e.g., 50 mph) as well as low speeds (up to about 20 mph) using a constant water film. The measured data is recorded in 3 ft intervals by default and can be adjusted by the user (6).

Figure 3.1 shows the GripTester with the towing truck and water tank. This CFME uses the standard $10 \times 4-5$ smooth-tread test tires (ASTM E-1844). The device has a stub axle on which the measuring wheel is mounted. The transmission chain maintains a fixed slip ratio during the measurements. The static load on the test wheel is 250 ± 30 N when it is towed. During testing, the stub axle deforms and the horizontal drag and vertical load are measured by two strain gauges to determine the friction number. A water nozzle mounted in front of the test tire pours a controlled amount of water on the road surface during the test (7).



Figure 3.1 GripTester

The length of roadway tested covered different pavement test sections, with different surfaces, including dense-graded hot-mix asphalt surfaces (SUPERPAVE surface mixes [SM]), one Open Graded Friction Course (OGFC), one Stone Matrix Asphalt (SMA), and two sections of transversely tined Portland Cement Continuously Reinforced Concrete Pavements (PCC). (Figure 3.2 shows a close-up of the texture on these surfaces.) The road has a maximum longitudinal grade of 6% in some areas.

Several measurements were collected in order to assess the effect of various operational factors. Table 3.1 shows the summary of these tests.

Table 3.1 Summary of the tests

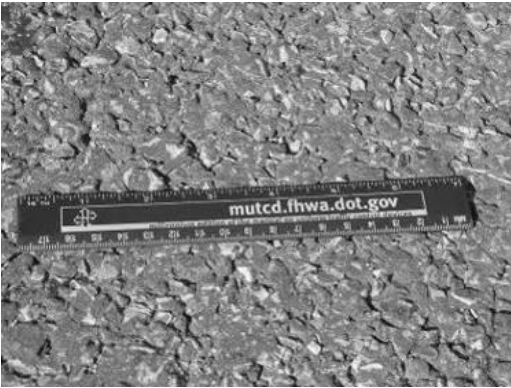
Test purpose	Test lane	Number of runs	Water (mm)	Speed (mph)
Effect of slope	East-bound	5 runs @ 2 directions	0.5	40
Effect of water film thickness	East-bound	5 runs	0.25, 0.5, 1	40
Effect of speed	East-bound	5 runs @ 2 directions	0.5	25, 40, 55



Dense-graded SM 9.5 D



OGFC



SMA 9.5 D



Tined PCC

Figure 3.2 Close-up of the surface on the various sections tested

RESULTS AND ANALYSIS

GripTester measurements were collected every 3 ft using 0.5 mm of water film thickness. Figure 3.3 shows a sample plot of data taken at 40 mph on the eastbound lane of the Smart Road. As can be seen from the plot, there are some spikes in the data. These spikes occur mainly at locations where there are section transitions, concrete joints, or other irregularities. Since the device has a relatively low weight, it bounces off the pavement each time it goes over these surface discontinuities, resulting in very localized very high (or very low) grip values.

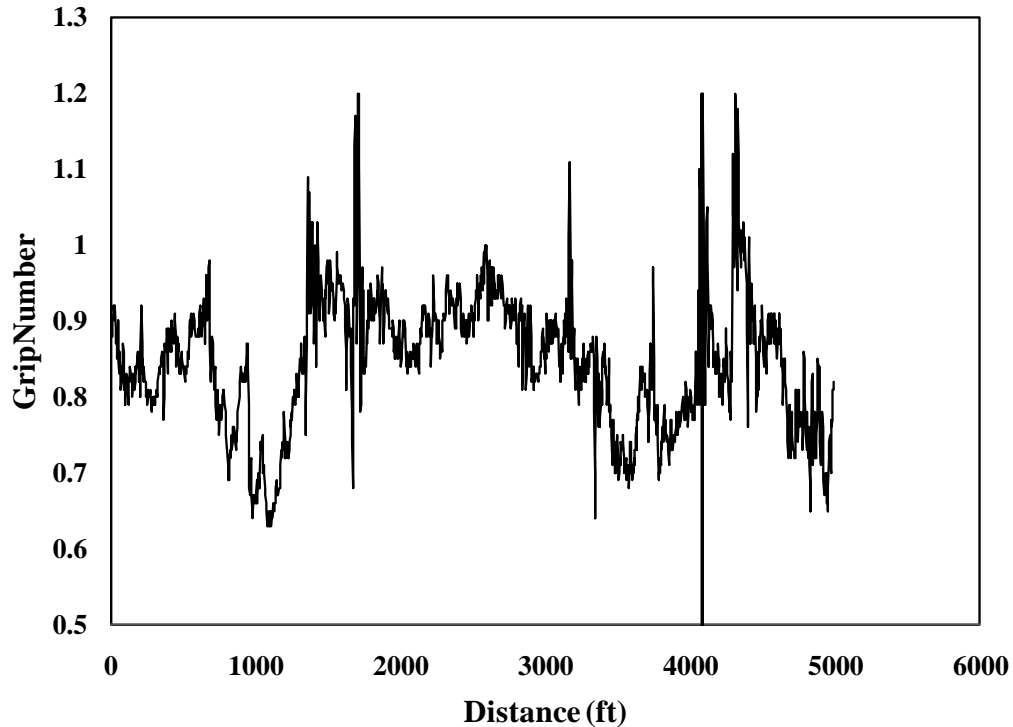


Figure 3.3 GripTester measurement

Effect of Grade on CFME Measurements

Data collected for other studies suggested that the longitudinal roadway grade is one of the factors that can affect the measurement. To verify, or reject, this observation, a series of tests were conducted on exactly the same path driving in the up and down directions. Five sets of measurements were collected on the eastbound lane of the Smart Road going downhill. Another five runs were measured on the same path but going uphill. All of the measurements were collected at 40 mph using 0.5 mm of water film thickness.

The averages of the five runs taken on the downhill and uphill directions are compared in Figure 3.4. The figure shows that, overall, the downhill grip measurements are higher than the uphill measurements.

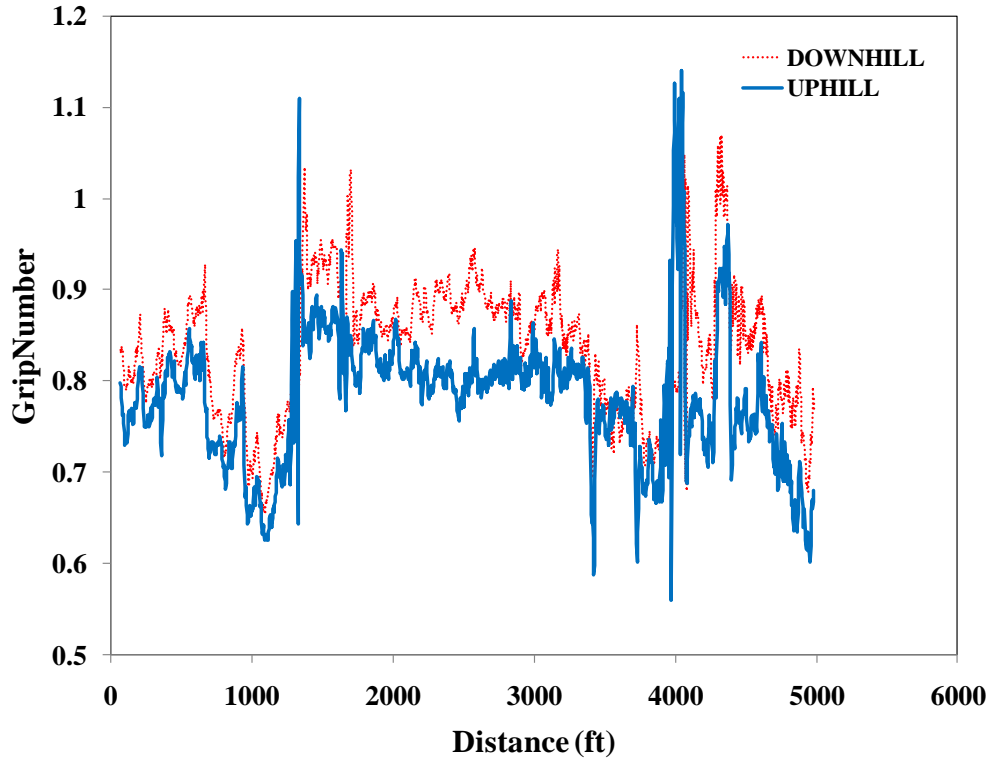


Figure 3.4 GripTester measurement at both uphill and downhill directions

Paired tests on the hypothesis of equality of the means were conducted to determine if the uphill and downhill measurements are statistically different. The analysis showed that there was enough statistical evidence to reject the null hypothesis that the populations (measurements in this case) have the same mean ($\mu_1 = \mu_2 = \dots = \mu_t$) with a 95% confidence level. The Scheffé's S test was then used to determine which population has a different mean than the others.

Scheffé's procedure uses the S statistic computed as follows:

$$S = \sqrt{(t-1)F_{t-1, n_0-t, \alpha} s_w^2 \left(\frac{1}{n_i} + \frac{1}{n_j} \right)} \quad (1)$$

where,

n_i and n_j = size of the samples (number of measurement data points in this example)

s_w^2 = t-sample pooled variance and t is the number of samples.

If the difference between the pairs of sample means are greater than the S value, they would be declared different with the $(1-\alpha)\%$ level of confidence (8).

All possible comparisons among the downhill and uphill runs were done using the Scheffé's procedure in the SAS software. Table 3.2 summarizes the results of the SAS software. A 95% level of confidence was used for the comparisons ($\alpha=0.05$). The software assigns letters to the measurement groups, and measurements with different letters have significantly different means.

Table 3.2 SAS outputs for Scheffé's procedure multiple comparisons

Direction	30 ft Segmentation				300 ft Segmentation			
	Scheffé Grouping	Mean	n (size)	# run	Scheffé Grouping	Mean	n (size)	# run
DOWNHILL	A	0.85	151	1	A	0.84	17	1
	A				A			
	B A	0.84	151	2	A	0.84	17	2
	B A				A			
	B A	0.84	151	3	A	0.84	17	3
	B A				A			
	B A	0.84	151	5	A	0.84	17	5
	B A				A			
UPHILL		0.82	151	4	A	0.82	17	4
	C	0.79	151	8	B	0.78	17	8
	C				B			
	C	0.78	151	6	B	0.78	17	6
	C				B			
	C	0.78	151	7	B	0.77	17	7
	C				B			
	C	0.78	151	9	B	0.77	17	9
C				B				
	0.77	151	10	B	0.77	17	10	

The measurements were aggregated into relatively short segments and the average friction was used for each segment. The averaging was done using two segment lengths, 9 m (30 ft) and 90 m (300 ft). While the former segmentation is probably appropriate for project-level data collection, the latter simulates a typical network-level data collection application. The averaging increases the chance that the measurements being compared were taken at the same location. A more

accurate shifting to maximize alignment of the measurements can be achieved using cross-correlation (9).

Overall, the results suggest that the measurements taken going downhill are statistically different from those collected in the uphill direction. However, there is not a significant difference between the measurements collected in the same direction. Although the 30 ft segments in the downhill direction have been divided into two groups, these groups overlap, suggesting that the differences between the means of these measurements are not very significant. There is no overlapping among the measurements taken driving in the different directions.

Effect of Water Film Thickness on CFME Measurements

Another factor that has been proven to affect friction measurements is the water film thickness. Water present on the pavement surface decreases the contact area between the tire and pavement and, accordingly, the tire-pavement friction. The extreme of this phenomenon—when there is no direct contact between tire and pavement—is called hydroplaning. Since the GripTester has a small tire, the contact area between the tire and pavement is relatively small and the sensitivity to water film thickness is expected to be relatively small.

Three series' of measurements were collected at 0.25, 0.5, and 1 mm of water film thickness on the surface to evaluate the sensitivity of this system to the water depth. Five runs were measured for each water film thickness at 40 mph. Figure 3.5 compares the average friction profiles for the five runs for each water film thickness. To eliminate the effect of grade, measurements were taken in the same direction. The figure shows that that the measurements taken with 1 mm water film thickness have the lowest friction and the measurements taken with 0.25 mm of water film thickness have the highest friction.

Scheffé's procedure was again used to make the multiple comparisons. The mean of friction measurements taken with the different water film thicknesses was found to be statistically different with a 95% level of confidence.

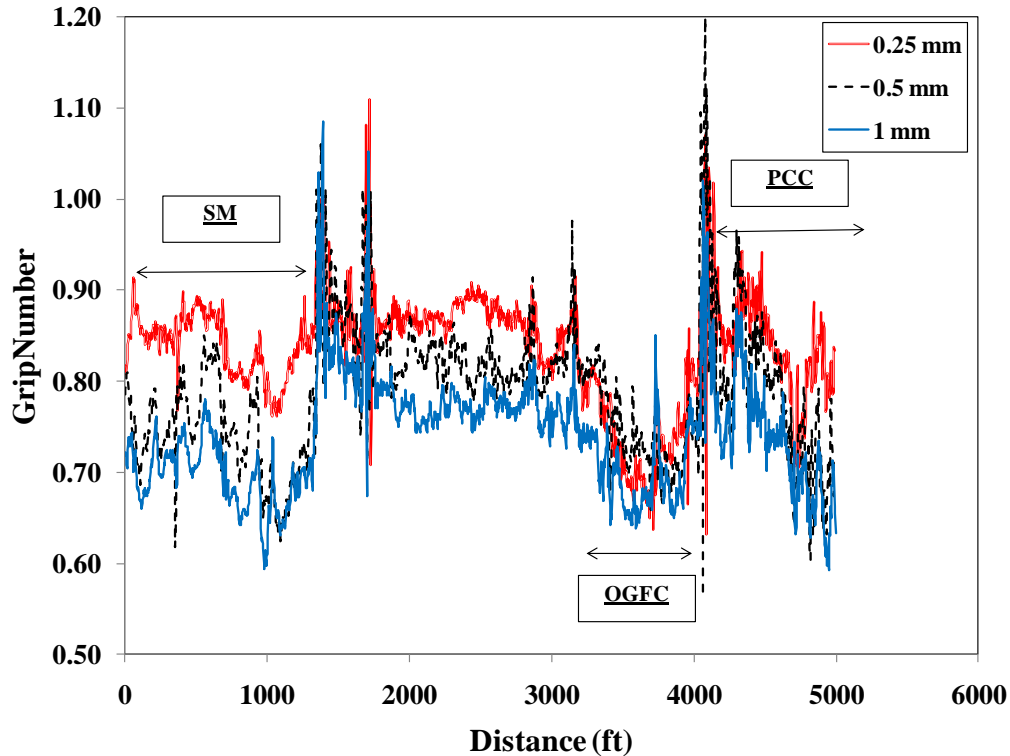


Figure 3.5 GripTester measurements taken with different water film thicknesses

It was also desirable to determine how the tire-pavement friction changes with the water film thickness. Figure 3.5 shows that the difference between the measurements taken with a 0.25 mm and 0.5 mm water film thicknesses is more significant than the difference between those taken with 0.5 and 1 mm water film thicknesses. This suggests that the relationship may not be linear and that the effect of water is less significant after a specific threshold of water film thickness is reached. The water that the system delivers on the pavement fills the surface cavities and voids. However, at some point, the surface would be saturated and it cannot accept more water. At this point, the friction values stabilize and do not decrease much by increasing the rate of water delivery. To verify this hypothesis, the average friction measurements for each run were plotted against the corresponding water film thickness in Figure 3.6. Both linear and power models have been fit to the data. The coefficient of determination (R^2) is higher for the power model. This behavior is similar to the response of locked-wheels to the changes of water film thickness (10).

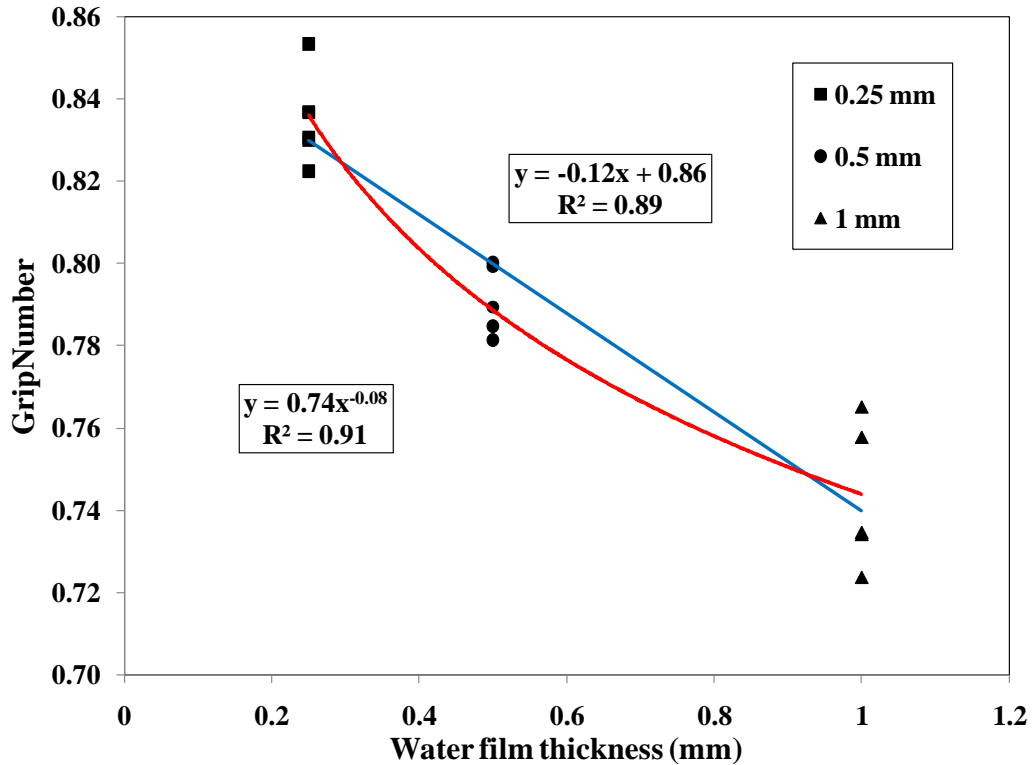


Figure 3.6 GripNumber vs. water film thickness (mm)

It is also interesting to assess the impact of the water depth on the various surfaces measured. The different surfaces are expected to respond differently to the changes of water because they have different texture. For example, Figure 3.5 suggests that the dense-graded HMA surfaces (SM) appear more sensitive to changes in water film thickness than the OGFC. The average friction values for each section are plotted against water film thickness for three types of surfaces—SM, OGFC, and PCC. Linear regression models were fit to the data (Figure 3.7). The models for the SM and tinned PCC are almost parallel, indicating that water depth has a similar effect on both surfaces. On the other hand, the slope is almost zero for the OGFC, indicating that friction measurements on these types of surfaces are not affected by water depth. This is probably due to the drainage capabilities of these surfaces combined with the small amount of water used for the test.

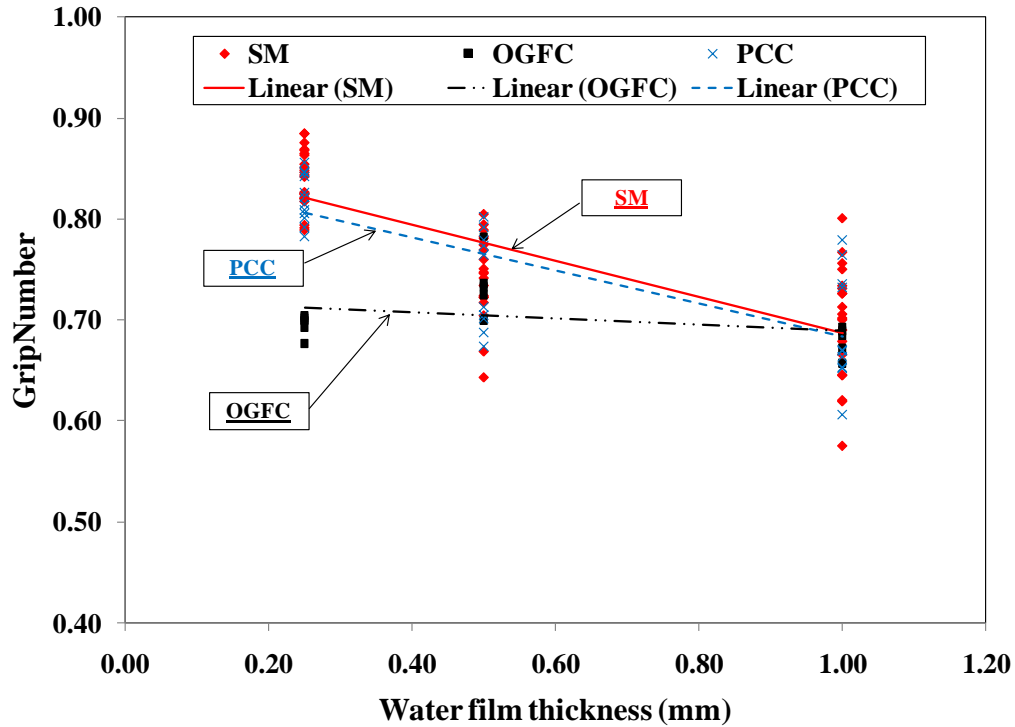


Figure 3.7 GripNumber vs. water film thickness (mm) for different surfaces

Effect of Speed on CFME Measurements

Many studies have confirmed that speed is one of the factors affecting the skid trailer measurements (1). The measurements collected at higher speeds are lower than those collected at lower speeds on the same surface. This makes it difficult to compare the measurements collected at different speeds and most standards specify a specific testing speed. For example, ASTM E 274 recommends 40 mph as the standard speed for skid test using the locked-wheel skid trailers. While there is no standard speed for testing with CFME, the limited tests conducted suggest that GripTester measurements collected at 40 mph have the highest repeatability (9). However, in practice, speed limits and geometry of the test site can influence the testing speed. Speed limit in urban areas is usually around 25 or 35 mph while on interstate highways it can be 60 mph or higher. In both cases, testing at 40 mph is difficult and can be dangerous. A solution is to develop speed adjustment factors to bring the measurements from different speeds to the standard speed to allow comparisons (11).

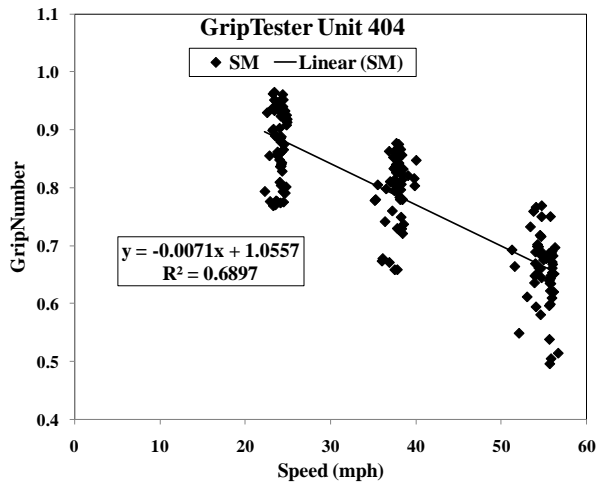
GripTester measurements were collected in a series of 5 runs at 3 different test speeds: 25, 40, and 55 to quantify the effect of speed on the measurements and to determine the speed adjustment factors. All the measurements were collected on the eastbound lane of the Virginia Smart Road in both the uphill and downhill directions.

After collecting the data, the average GripNumber and speed was calculated for each surface. This data was then used to obtain linear regression models to predict GripNumber as a function of speed for the four different surfaces—SM, SMA, OGFC, and PCC. Although the International Friction Index (IFI) uses an exponential relationship, linear models were used to simplify the procedure. Tests of hypothesis on slope and intercept were used to determine the significance of the linear relationships for different groups of surfaces (12).

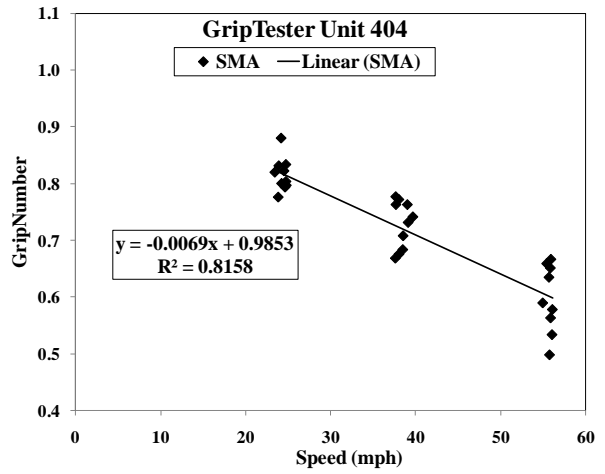
The slope for all of the regression lines was found to be statistically significant (p-values less than 0.05) verifying that there is a significant effect of speed on the measurements. The slopes of the best-fit regression lines are summarized in Table 3.3. These slopes represent the changes in GripNumber for each mile per hour change in speed. Thus, these gradients can be used as a correction factor for each type of surface. Figure 3.8 shows the average measurements and the least-square linear type models for different surfaces. It should be noticed that, except for the SM, the measurements cover only one pavement section. The speed adjustment factors for the OGFC, SMA, and PCC should be verified on other surfaces before implementation.

Table 3.3 Speed adjustment factors for GripTester measurements on various pavement surfaces

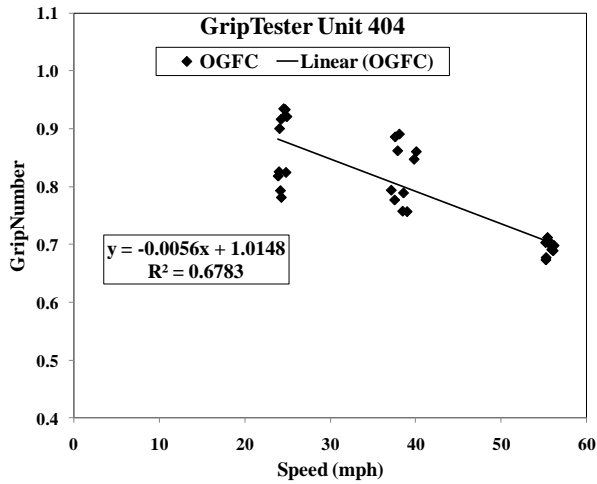
Surface type	SM	SMA	OGFC	PCC
Adjustment Factor (GN/mph)	0.0071	0.0069	0.0056	0.008
R²	0.69	0.82	0.68	0.86



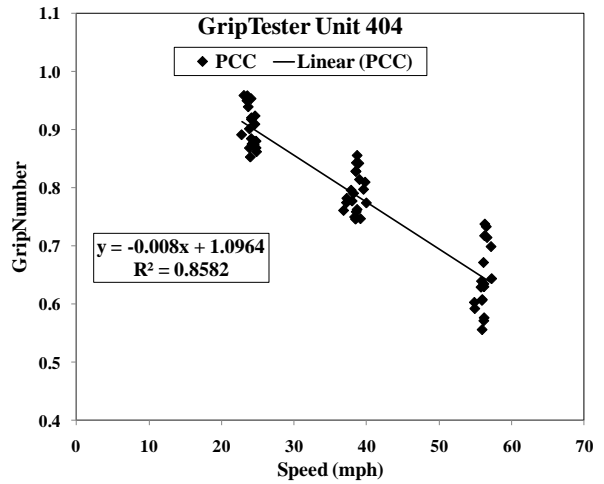
(a) SM



(b) SMA



(c) OGFC



(d) PCC

Figure 3.8 Linear regression of friction vs. speed for different types of surfaces

Similar to what previous studies found for the locked-wheel skid trailers (11), the relationship between GripNumber and speed can be approximately predicted using a linear model for the range of speeds considered.

FINDINGS AND CONCLUSIONS

This paper evaluated different operational factors affecting CFME measurements. The study was conducted using a GripTester and the measurements were taken on a variety of surface textures available at the Virginia Smart Road. The following are the main findings of the study:

1. The direction of testing has a significant impact on the GripTester measurements taken on a road with a high grade. The results show that measurements taken in the downhill direction on a 6% grade are statistically different (and higher) than those taken in the uphill direction.
2. The thickness of the water film also has a significant effect on the GripTester measurements. It was found that the measured GripNumber (friction) decreases as the depth of water increases. While measurements on dense-graded hot-mix asphalt and tinned concrete surfaces shown similar behavior, the measurements on the Open Graded Friction Course were found not to be affected by the water film thickness.
3. The experiment conducted verified that the friction measurements are affected by testing speed and that the effect is surface-dependent. Speed adjustment factors were developed for different types of surfaces. Using the adjustment factors, operators can collect the measurement at any desired speed and convert them to the standard speed.

The experiment suggests that it would be important to establish standard testing conditions and approaches for correcting measurements taken under other conditions. Further tests under a wide range of conditions are recommended to quantify the effect of the three operational factors studied as well as other potentially significant ones.

ACKNOWLEDGEMENTS

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Chapter 4 - SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

It is important for highway agencies to monitor the pavement friction periodically and systematically to support their safety management programs. The collected data can help implement preservation policies that improve the safety of the roadway network and decrease the number of skidding-related crashes. This thesis evaluates different operational characteristics of CFME to provide guidance for highway agencies interested in using this technology for supporting their friction management programs.

The study consisted on an extensive field experiment that included measurements on various pavement surfaces, while using different devices at the Virginia Smart Road, and is divided into two parts. The first part evaluates available methodologies to objectively synchronize and compare CFME measurements and a rigorous method to process them. The second part assesses the impact of several operational characteristics (road grade, water film thickness, and testing speed) on the CFME measurements using a field experiment.

FINDINGS

The following is a summary of the findings and recommendations:

1. Comparison of repeated GripTester measurements based on the standard deviation of the average friction for different runs showed that the measured values taken at lower speeds have a lower standard deviation and are more repeatable. This may be due to the low weight of the device, which makes it bounce off the pavement more easily when it hits road discontinuities producing artificially low or high friction values. This effect is pronounced at higher speeds.
2. Comparisons using cross-correlation of the measurements showed that measurements obtained at 40 mph resulted in the highest cross-correlation. This suggests that the standard speed for locked-wheel skid testing (40 mph) may possibly be optimal for the GripTester.
3. Comparison of GripTester and Dynatest HFT measurements using cross-correlation showed that the equipments' measurements reasonably follow the same trend.

4. The analysis suggests that the method for comparing CFME measurements using cross-correlation is more rigorous than comparing the average measurements for the various runs because it allows comparing the actual “shape” of the friction profiles.
5. The thickness of the water film has a significant effect on the GripTester measurements; the GripNumber (friction) decreases as the depth of water increases. While measurements on dense-graded hot-mix asphalt and tinned concrete surfaces show similar behavior, the measurements on the Open Graded Friction Course were found not to be affected by the water film thickness.
6. The direction of testing on roadways with a high grade also has a significant impact on the GripTester measurements. The analysis showed that measurements taken in the downhill direction are statistically different (and higher) than those taken in the uphill direction.
7. Consistent with previous studies, the experiment also verified that the friction measurements are affected by testing speed, that the effect is surface-dependent, and that the relationship is approximately linear for the range of speeds used in the experiment.

CONCLUSIONS

The following are the two main conclusions of the study:

- Cross-correlation provides a practical and rigorous method for conducting objective comparisons of continuous friction measurements. This methodology can be used to spatially synchronize the measurements and assess their repeatability and reproducibility.
- Several operation factors, namely direction of testing on grades, water film thickness, and testing speed, have a significant effect on measured tire-pavement friction.

In general, the study suggests that CFME provides appropriate repeatability and can be a good alternative for collecting friction data for supporting network-level friction management programs if appropriate care is taken on the measuring conditions. This thesis proposes practical analysis methodology and guidelines for highway agencies willing to use these systems in the future.

RECOMMENDATIONS FOR FUTURE RESEARCH

The following is a list of recommendations for additional research to continue with the evaluation and development of CFME:

- More research needs to be done to determine other operational characteristics that may affect the CFME measurements and to verify the results on a wider range of surfaces and road conditions. Various pavement surface types in different locations with different geometries should be tested to accurately quantify the effect of these factors on the CFME measurements.
- It was found that measurements on high grades significantly affect the GripTester measurements. This could be due to equipment design or operational elements. An experiment to check this by conducting measurements on sections with different grades and conditions could shed some light on possible equipment improvements.
- Measurements taken with the GripTester have many artificially low and high values (spikes) due to the bouncing of the trailer. Implementation of a filter for eliminating the extraneous measurements could have a significant impact on the quality of the measurements.
- Given the significant impact of the various investigated operational conditions on the measurements, it would be very useful to establish standard testing conditions and approaches for correcting measurements taken under other conditions. A rigorous quantification of all significant factors would require additional testing on a range of conditions wider than the one used in this thesis.

APPENDICES

Appendix A: Repeatability Assessment Data

30 mph Downhill GT Measurements Averaged every 100 ft						Variance
0.91	0.91	0.91	0.88	0.87	0.85	0.000706
0.88	0.88	0.88	0.84	0.81	0.82	0.001004
0.89	0.89	0.88	0.86	0.82	0.87	0.000707
0.89	0.89	0.89	0.89	0.84	0.88	0.000387
0.88	0.88	0.86	0.88	0.85	0.89	0.000274
0.90	0.90	0.89	0.94	0.90	0.91	0.000304
0.89	0.89	0.87	0.87	0.89	0.90	0.000178
0.83	0.83	0.85	0.83	0.81	0.86	0.000342
0.80	0.80	0.85	0.83	0.83	0.81	0.000493
0.83	0.83	0.82	0.82	0.83	0.83	1.39E-05
0.79	0.79	0.78	0.77	0.75	0.79	0.000264
0.80	0.80	0.82	0.79	0.77	0.83	0.000501
0.82	0.82	0.83	0.80	0.81	0.85	0.000381
0.89	0.89	0.88	0.87	0.86	0.90	0.000265
0.96	0.96	0.92	0.94	0.92	0.91	0.000326
0.94	0.94	0.92	0.91	0.89	0.93	0.000289
0.92	0.92	0.93	0.90	0.88	0.93	0.000422
0.89	0.89	0.89	0.85	0.84	0.90	0.000693
0.90	0.90	0.91	0.87	0.88	0.89	0.000211
0.90	0.90	0.88	0.86	0.87	0.87	0.000228
0.91	0.91	0.93	0.87	0.89	0.89	0.000636
0.89	0.89	0.93	0.89	0.87	0.90	0.000468
0.84	0.84	0.91	0.90	0.85	0.89	0.000874
0.87	0.87	0.95	0.92	0.87	0.94	0.001468
0.90	0.90	0.97	0.93	0.88	0.96	0.001349
0.92	0.92	0.97	0.97	0.92	0.95	0.000712
0.93	0.93	0.93	0.93	0.89	0.93	0.000265
0.92	0.92	0.90	0.93	0.90	0.93	0.000235
0.92	0.92	0.91	0.99	0.90	0.96	0.001375
0.88	0.88	0.92	0.95	0.87	0.91	0.000991
0.92	0.92	0.94	0.93	0.91	0.91	0.000262
0.92	0.92	0.97	0.93	0.90	0.94	0.000713
0.85	0.85	0.93	0.92	0.86	0.92	0.001368
0.82	0.82	0.89	0.91	0.87	0.89	0.001142
0.85	0.85	0.83	0.89	0.89	0.87	0.000658

30 mph Downhill GT Measurements Averaged every 100 ft						Variance
0.86	0.86	0.85	0.80	0.83	0.78	0.000907
0.86	0.86	0.84	0.81	0.85	0.75	0.001993
0.88	0.88	0.86	0.82	0.89	0.80	0.001486
0.88	0.88	0.83	0.82	0.86	0.78	0.00126
0.83	0.83	0.82	0.82	0.83	0.79	0.000266
0.86	0.86	0.86	0.87	0.85	0.91	0.000453
0.94	0.94	0.92	0.90	0.93	0.90	0.000281
0.89	0.89	0.87	0.85	0.88	0.85	0.000309
1.03	1.03	1.05	1.02	1.03	0.98	0.000599
0.88	0.88	0.87	0.86	0.85	0.87	0.00014
0.88	0.88	0.92	0.87	0.89	0.89	0.000285
0.91	0.91	0.89	0.87	0.87	0.89	0.000239
0.84	0.84	0.84	0.82	0.82	0.82	0.000124
0.87	0.87	0.88	0.82	0.82	0.81	0.001024
0.84	0.84	0.86	0.81	0.79	0.77	0.001443
0.86	0.86	0.92	0.85	0.82	0.83	0.001671
AVERAGE VARIANCES:						0.000647
Standard Deviation:						0.025

30 mph Uphill GT Measurements Averaged every 100 ft					Variance
0.82	0.79	0.77	0.77	0.76	0.000501
0.80	0.80	0.77	0.79	0.76	0.000285
0.80	0.82	0.77	0.78	0.76	0.000708
0.92	0.95	0.93	0.92	0.89	0.000558
0.84	0.85	0.85	0.85	0.82	0.000124
0.85	0.84	0.86	0.86	0.83	0.000254
0.87	0.86	0.88	0.89	0.85	0.000253
0.78	0.77	0.77	0.76	0.76	8.21E-05
0.88	0.85	0.84	0.83	0.84	0.000481
0.85	0.80	0.79	0.78	0.78	0.000838
0.89	0.81	0.80	0.83	0.90	0.002065
0.69	0.68	0.70	0.72	0.77	0.001372
0.73	0.67	0.67	0.65	0.67	0.001054
0.78	0.75	0.73	0.71	0.72	0.0008
0.78	0.66	0.73	0.72	0.70	0.002176
0.83	0.67	0.75	0.70	0.75	0.003693
0.87	0.75	0.82	0.77	0.83	0.002519
0.82	0.76	0.83	0.81	0.81	0.000677
0.82	0.77	0.81	0.81	0.80	0.000322
0.83	0.83	0.84	0.82	0.83	4.34E-05

30 mph Uphill GT Measurements Averaged every 100 ft					Variance
0.81	0.80	0.81	0.78	0.81	0.000173
0.82	0.75	0.77	0.77	0.78	0.000629
0.85	0.80	0.82	0.82	0.84	0.0004
0.84	0.83	0.82	0.81	0.82	0.000163
0.83	0.87	0.84	0.81	0.86	0.000574
0.83	0.82	0.85	0.80	0.85	0.000381
0.87	0.83	0.86	0.82	0.87	0.000511
0.88	0.84	0.86	0.84	0.87	0.000349
0.82	0.84	0.84	0.82	0.87	0.000414
0.81	0.84	0.82	0.79	0.85	0.000512
0.85	0.85	0.83	0.82	0.83	0.000263
0.92	0.85	0.85	0.83	0.85	0.001159
0.90	0.86	0.85	0.85	0.84	0.000588
0.83	0.83	0.81	0.79	0.81	0.000283
0.87	0.85	0.87	0.83	0.84	0.000359
0.89	0.88	0.86	0.87	0.86	0.000136
0.90	0.90	0.89	0.88	0.91	0.000122
0.89	0.89	0.89	0.89	0.89	2.68E-06
0.78	0.75	0.78	0.80	0.79	0.000343
0.75	0.72	0.72	0.74	0.84	0.002515
0.77	0.74	0.74	0.77	0.83	0.001241
0.80	0.79	0.79	0.80	0.84	0.000447
0.77	0.79	0.77	0.77	0.83	0.000695
0.81	0.79	0.79	0.78	0.82	0.000293
0.84	0.79	0.81	0.81	0.84	0.000571
0.90	0.89	0.87	0.89	0.90	9.48E-05
0.88	0.88	0.86	0.86	0.86	0.00013
0.86	0.86	0.86	0.84	0.85	7.68E-05
0.84	0.87	0.81	0.80	0.83	0.000664
0.88	0.84	0.84	0.84	0.83	0.000346
0.90	0.85	0.88	0.85	0.85	0.000553

AVERAGE VARIANCES:

0.000663

Standard Deviation:

0.026

40 mph Downhill GT Measurements Averaged every 100 ft					Variance
0.82	0.78	0.81	0.78	0.78	0.000354
0.77	0.73	0.71	0.81	0.78	0.001521
0.78	0.73	0.75	0.76	0.77	0.000406
0.83	0.77	0.79	0.79	0.79	0.000385

40 mph Downhill GT Measurements Averaged every 100 ft					Variance
0.80	0.74	0.77	0.79	0.85	0.001626
0.86	0.81	0.80	0.81	0.83	0.000616
0.84	0.80	0.81	0.81	0.83	0.000304
0.76	0.72	0.73	0.72	0.77	0.000567
0.74	0.69	0.71	0.70	0.71	0.000318
0.79	0.72	0.76	0.79	0.75	0.000944
0.70	0.62	0.66	0.67	0.63	0.000954
0.77	0.70	0.69	0.71	0.67	0.001245
0.79	0.75	0.73	0.71	0.70	0.001307
0.90	0.89	0.85	0.87	0.85	0.000584
0.87	0.87	0.86	0.86	0.87	6.34E-05
0.87	0.86	0.87	0.86	0.86	7.55E-05
0.88	0.84	0.86	0.85	0.87	0.000287
0.93	0.92	0.84	0.86	0.85	0.001614
0.91	0.86	0.84	0.84	0.86	0.000762
0.87	0.80	0.76	0.81	0.82	0.001348
0.89	0.86	0.82	0.84	0.83	0.000667
0.91	0.87	0.86	0.86	0.83	0.000868
0.91	0.86	0.89	0.86	0.84	0.000791
0.91	0.86	0.88	0.88	0.88	0.000268
0.89	0.87	0.85	0.88	0.89	0.0003
0.90	0.90	0.89	0.89	0.91	8.4E-05
0.90	0.89	0.91	0.88	0.85	0.000517
0.90	0.87	0.88	0.85	0.84	0.000512
0.90	0.95	0.98	0.88	0.86	0.002267
0.81	0.86	0.87	0.82	0.78	0.001542
0.89	0.88	0.88	0.89	0.85	0.000254
0.88	0.87	0.86	0.86	0.84	0.000216
0.89	0.85	0.85	0.83	0.82	0.000848
0.88	0.82	0.82	0.74	0.71	0.004513
0.87	0.84	0.76	0.78	0.80	0.001895
0.84	0.72	0.72	0.71	0.72	0.00297
0.82	0.78	0.81	0.73	0.73	0.001877
0.86	0.86	0.86	0.79	0.77	0.001954
0.79	0.84	0.78	0.73	0.76	0.001786
0.81	0.84	0.80	0.73	0.78	0.001915
0.88	0.89	0.87	0.83	0.83	0.000859
0.91	0.90	0.86	0.85	0.88	0.000581
0.84	0.82	0.79	0.79	0.79	0.000487
1.08	1.05	1.01	1.02	1.01	0.000844

40 mph Downhill GT Measurements Averaged every 100 ft					Variance
0.82	0.77	0.81	0.85	0.81	0.000798
0.82	0.80	0.80	0.88	0.83	0.000879
0.83	0.81	0.82	0.85	0.82	0.000323
0.80	0.81	0.78	0.79	0.77	0.000357
0.76	0.74	0.72	0.76	0.71	0.000521
0.71	0.67	0.68	0.70	0.65	0.000548
0.79	0.74	0.75	0.78	0.76	0.000406

AVERAGE VARIANCES:

0.00094

Standard Deviation:

0.031

40 mph Uphill Measurements Averaged every 100 ft					Variance
0.70	0.71	0.75	0.68	0.70	0.000557
0.71	0.66	0.68	0.67	0.65	0.000599
0.69	0.67	0.65	0.70	0.67	0.000375
0.89	0.88	0.94	0.89	0.88	0.000519
0.79	0.78	0.79	0.79	0.78	3.67E-05
0.79	0.78	0.77	0.81	0.79	0.00018
0.83	0.84	0.82	0.83	0.84	7.96E-05
0.76	0.78	0.76	0.76	0.77	5.63E-05
0.82	0.80	0.80	0.81	0.81	8.13E-05
0.72	0.72	0.75	0.74	0.71	0.000251
0.79	0.77	0.81	0.78	0.76	0.00041
0.69	0.63	0.74	0.88	0.62	0.011214
0.69	0.65	0.68	0.69	0.64	0.000579
0.72	0.71	0.73	0.70	0.73	0.000201
0.65	0.66	0.71	0.67	0.69	0.000531
0.65	0.72	0.71	0.68	0.70	0.000677
0.74	0.79	0.79	0.77	0.77	0.000461
0.74	0.73	0.76	0.73	0.77	0.000273
0.79	0.74	0.76	0.76	0.80	0.000597
0.78	0.77	0.77	0.79	0.80	0.000204
0.74	0.73	0.73	0.78	0.74	0.000426
0.69	0.67	0.69	0.70	0.70	0.000202
0.77	0.76	0.78	0.76	0.78	8.35E-05
0.81	0.79	0.78	0.79	0.81	0.000166
0.81	0.79	0.80	0.81	0.83	0.000211
0.78	0.77	0.78	0.77	0.77	4.38E-05
0.79	0.80	0.84	0.79	0.78	0.000614
0.85	0.81	0.85	0.80	0.77	0.000984

40 mph Uphill Measurements Averaged every 100 ft					Variance
0.81	0.81	0.78	0.78	0.76	0.000442
0.80	0.82	0.76	0.77	0.80	0.00067
0.84	0.81	0.76	0.76	0.81	0.001396
0.87	0.84	0.81	0.78	0.81	0.001123
0.82	0.87	0.81	0.79	0.83	0.00084
0.76	0.90	0.84	0.78	0.83	0.002898
0.89	0.89	0.90	0.85	0.84	0.000573
0.87	0.87	0.86	0.86	0.84	0.000139
0.85	0.88	0.86	0.86	0.85	0.000122
0.86	0.87	0.85	0.84	0.86	0.000111
0.71	0.71	0.72	0.67	0.72	0.000458
0.67	0.69	0.74	0.64	0.66	0.001283
0.71	0.73	0.75	0.68	0.69	0.000812
0.81	0.82	0.83	0.77	0.79	0.000451
0.75	0.79	0.81	0.79	0.79	0.000508
0.82	0.78	0.83	0.83	0.78	0.000643
0.87	0.81	0.86	0.78	0.80	0.001519
0.90	0.87	0.88	0.88	0.88	0.000185
0.88	0.86	0.85	0.84	0.85	0.000248
0.85	0.84	0.82	0.82	0.83	0.000103
0.81	0.78	0.76	0.74	0.73	0.000999
0.84	0.81	0.82	0.79	0.81	0.000391
0.88	0.83	0.85	0.85	0.84	0.000367

AVERAGE VARIANCES:

0.000723

Standard Deviation:

0.027

50 mph Downhill GT Measurements Averaged every 100 ft					Variance
0.70	0.78	0.80	0.71	0.74	0.002127
0.65	0.73	0.76	0.69	0.70	0.001656
0.65	0.75	0.76	0.73	0.69	0.00221
0.68	0.71	0.77	0.63	0.70	0.002505
0.65	0.72	0.82	0.66	0.70	0.004552
0.71	0.82	0.82	0.72	0.75	0.002926
0.71	0.75	0.81	0.74	0.79	0.00172
0.60	0.67	0.78	0.66	0.67	0.004433
0.62	0.66	0.64	0.61	0.68	0.000724
0.63	0.62	0.71	0.69	0.73	0.002637
0.53	0.53	0.64	0.63	0.64	0.003656
0.60	0.63	0.63	0.70	0.65	0.001342

0.70	0.73	0.62	0.78	0.73	0.003338
0.86	0.86	0.85	0.85	0.88	0.00014
0.83	0.85	0.84	0.86	0.84	0.000115
0.79	0.80	0.78	0.78	0.81	0.000176
0.83	0.82	0.80	0.79	0.83	0.000258
0.81	0.87	0.82	0.79	0.87	0.001359
0.81	0.80	0.82	0.82	0.81	9.73E-05
0.75	0.76	0.79	0.80	0.77	0.000442
0.76	0.78	0.80	0.78	0.78	0.000163
0.81	0.82	0.83	0.79	0.81	0.000171
0.86	0.82	0.82	0.79	0.82	0.000538
0.88	0.82	0.83	0.82	0.83	0.000606
0.87	0.83	0.83	0.83	0.83	0.000383
0.87	0.83	0.86	0.87	0.86	0.00025
0.81	0.79	0.83	0.84	0.82	0.000347
0.81	0.77	0.83	0.83	0.83	0.000664
0.81	0.81	0.82	0.82	0.85	0.000254
0.71	0.84	0.74	0.80	0.82	0.002976
0.78	0.83	0.72	0.82	0.84	0.002237
0.76	0.73	0.73	0.83	0.85	0.003265
0.82	0.70	0.70	0.77	0.79	0.002799
0.77	0.62	0.71	0.71	0.75	0.003136
0.73	0.71	0.76	0.77	0.82	0.002082
0.67	0.74	0.70	0.74	0.76	0.001443
0.73	0.72	0.70	0.74	0.71	0.000263
0.80	0.72	0.71	0.79	0.72	0.001966
0.79	0.63	0.67	0.73	0.71	0.003385
0.79	0.68	0.72	0.77	0.73	0.001762
0.83	0.83	0.85	0.82	0.79	0.000467
0.77	0.79	0.77	0.80	0.81	0.000435
0.78	0.78	0.72	0.78	0.77	0.000789
0.94	0.95	0.97	0.94	0.93	0.000183
0.70	0.67	0.65	0.68	0.73	0.000893
0.74	0.74	0.68	0.77	0.77	0.00145
0.73	0.79	0.73	0.79	0.76	0.000956
0.79	0.77	0.76	0.80	0.76	0.000328
0.70	0.63	0.62	0.76	0.77	0.005044
0.61	0.55	0.49	0.71	0.66	0.007394
0.62	0.65	0.60	0.72	0.74	0.003865

AVERAGE VARIANCES:

0.001704

Standard Deviation:

0.041

50 mph Uphill GT Measurements Averaged every 100 ft					Variance
0.60	0.63	0.58	0.59	0.63	0.000455
0.58	0.63	0.59	0.63	0.65	0.00082
0.62	0.69	0.60	0.72	0.64	0.002609
0.86	0.88	0.85	0.89	0.84	0.000491
0.74	0.76	0.73	0.78	0.71	0.00069
0.74	0.78	0.72	0.77	0.70	0.001399
0.78	0.81	0.78	0.78	0.77	0.000198
0.74	0.75	0.73	0.72	0.74	0.00013
0.79	0.80	0.77	0.76	0.78	0.000258
0.76	0.74	0.67	0.69	0.65	0.002249
0.81	0.74	0.79	0.73	0.73	0.001248
0.70	0.65	0.60	0.53	0.60	0.004201
0.68	0.63	0.59	0.57	0.63	0.00183
0.71	0.69	0.69	0.66	0.69	0.00036
0.62	0.60	0.62	0.58	0.63	0.000445
0.68	0.63	0.64	0.61	0.73	0.002163
0.79	0.72	0.73	0.69	0.79	0.002024
0.76	0.67	0.64	0.66	0.72	0.002447
0.75	0.69	0.69	0.73	0.76	0.001187
0.78	0.74	0.71	0.73	0.74	0.000646
0.65	0.63	0.65	0.64	0.69	0.000539
0.57	0.56	0.57	0.64	0.62	0.001178
0.75	0.74	0.71	0.76	0.74	0.000401
0.82	0.77	0.76	0.76	0.75	0.00067
0.85	0.79	0.78	0.78	0.77	0.001041
0.81	0.77	0.72	0.73	0.71	0.001612
0.85	0.77	0.76	0.76	0.75	0.001739
0.86	0.76	0.75	0.77	0.76	0.002003
0.83	0.74	0.72	0.73	0.70	0.002719
0.82	0.74	0.73	0.72	0.73	0.001524
0.78	0.74	0.76	0.74	0.74	0.000303
0.80	0.75	0.78	0.76	0.75	0.000463
0.80	0.79	0.79	0.76	0.75	0.000403
0.74	0.76	0.73	0.71	0.69	0.000641
0.82	0.83	0.82	0.78	0.82	0.000289
0.79	0.78	0.78	0.76	0.79	0.000204
0.79	0.77	0.80	0.76	0.79	0.000211
0.81	0.73	0.77	0.80	0.81	0.001205
0.72	0.74	0.69	0.82	0.64	0.004466

0.73	0.66	0.72	0.68	0.57	0.004254
0.72	0.67	0.73	0.68	0.62	0.002035
0.77	0.66	0.76	0.74	0.65	0.003257
0.71	0.68	0.75	0.78	0.66	0.002319
0.77	0.71	0.75	0.84	0.82	0.002687
0.80	0.69	0.79	0.80	0.86	0.003551
0.85	0.81	0.82	0.83	0.75	0.001466
0.82	0.78	0.79	0.76	0.77	0.000576
0.79	0.70	0.73	0.70	0.74	0.001453
0.76	0.65	0.68	0.71	0.66	0.001875
0.74	0.68	0.74	0.75	0.74	0.000726
0.80	0.73	0.80	0.77	0.82	0.001199

AVERAGE VARIANCES:

0.001429

Standard Deviation:

0.038

Appendix B: SAS Outputs for Scheffe's Test

Scheffe's Test for 30 ft segmentation

NOTE: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	1350
Error Mean Square	0.001983
Critical Value of F	1.88680
Minimum Significant Difference	0.0211

Means with the same letter are not significantly different.

Scheffe Grouping	Mean	N	trt
A	0.846026	151	1
A			
B A	0.843841	151	2
B A			
B A	0.842119	151	3
B A			
B A	0.838675	151	5
B			
B	0.823576	151	4
C	0.788411	151	8
C			
C	0.782318	151	6
C			
C	0.779669	151	7
C			
C	0.775894	151	9
C			
C	0.772980	151	10

Scheffe's Test for 300 ft segmentation

NOTE: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	144
Error Mean Square	0.000509
Critical Value of F	1.94545
Minimum Significant Difference	0.0324

Means with the same letter are not significantly different.

Scheffe Grouping	Mean	N	trt
A	0.842353	17	1
A			
A	0.841765	17	2
A			
A	0.838235	17	3
A			
A	0.836471	17	5
A			
A	0.822353	17	4
B	0.784706	17	8
B			
B	0.778235	17	6
B			
B	0.774118	17	7
B			
B	0.771176	17	9
B			
B	0.769412	17	10

Appendix C: Measurements at Different Water Film Effect

0.25 mm water

Chainage	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3	0.81	0.81	0.88	0.79	0.81	0.8
6	0.8	0.78	0.88	0.8	0.8	0.79
9	0.79	0.76	0.89	0.81	0.81	0.79
12	0.8	0.78	0.88	0.81	0.8	0.8
15	0.8	0.84	0.89	0.81	0.81	0.79
18	0.81	0.9	0.87	0.81	0.82	0.81
21	0.82	0.9	0.87	0.81	0.82	0.82
24	0.81	0.89	0.92	0.83	0.81	0.82
27	0.8	0.93	0.91	0.83	0.83	0.81
30	0.8	0.9	0.92	0.83	0.82	0.83
33	0.8	0.88	0.93	0.84	0.82	0.82
36	0.82	0.87	0.89	0.85	0.85	0.82
39	0.82	0.84	0.89	0.85	0.84	0.84
42	0.8	0.85	0.87	0.9	0.88	0.85
45	0.8	0.85	0.84	0.9	0.9	0.9
48	0.8	0.85	0.89	0.9	0.9	0.91
51	0.79	0.89	0.89	0.89	0.89	0.91
54	0.84	0.88	0.89	0.91	0.88	0.89
57	0.88	0.89	0.94	0.94	0.92	0.91
60	0.88	0.88	0.94	0.92	0.89	0.94
63	0.88	0.85	0.96	0.96	0.9	0.92
66	0.9	0.85	0.93	0.96	0.89	0.94
69	0.9	0.82	0.89	0.91	0.86	0.91
72	0.9	0.83	0.9	0.89	0.87	0.89
75	0.92	0.83	0.9	0.86	0.85	0.88
78	0.9	0.83	0.88	0.88	0.88	0.88
81	0.88	0.85	0.89	0.89	0.88	0.92
84	0.87	0.85	0.91	0.89	0.86	0.92
87	0.84	0.85	0.89	0.92	0.87	0.9
90	0.87	0.85	0.9	0.91	0.85	0.92
93	0.89	0.83	0.89	0.91	0.85	0.88
96	0.9	0.83	0.88	0.87	0.84	0.87
99	0.9	0.82	0.89	0.86	0.84	0.85
102	0.88	0.84	0.88	0.86	0.86	0.84
105	0.87	0.85	0.88	0.86	0.84	0.85
108	0.82	0.84	0.89	0.86	0.85	0.85
111	0.81	0.86	0.88	0.89	0.84	0.86
114	0.83	0.85	0.88	0.89	0.86	0.85
117	0.85	0.84	0.87	0.89	0.85	0.85
120	0.88	0.86	0.84	0.88	0.84	0.86

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
123	0.87	0.86	0.85	0.87	0.84	0.85
126	0.86	0.86	0.86	0.88	0.82	0.84
129	0.84	0.87	0.84	0.87	0.84	0.84
132	0.83	0.86	0.85	0.89	0.84	0.84
135	0.84	0.84	0.84	0.88	0.86	0.85
138	0.84	0.84	0.84	0.87	0.85	0.85
141	0.84	0.84	0.84	0.88	0.84	0.84
144	0.84	0.84	0.83	0.84	0.84	0.85
147	0.83	0.86	0.85	0.85	0.83	0.83
150	0.84	0.85	0.87	0.88	0.85	0.84
153	0.84	0.85	0.88	0.85	0.84	0.85
156	0.84	0.85	0.89	0.86	0.82	0.82
159	0.85	0.83	0.86	0.88	0.83	0.83
162	0.85	0.84	0.86	0.86	0.81	0.84
165	0.84	0.84	0.85	0.85	0.81	0.82
168	0.84	0.85	0.85	0.84	0.82	0.84
171	0.84	0.85	0.86	0.83	0.81	0.84
174	0.84	0.84	0.84	0.86	0.81	0.84
177	0.86	0.86	0.86	0.87	0.81	0.86
180	0.86	0.83	0.85	0.86	0.81	0.86
183	0.86	0.86	0.83	0.87	0.83	0.85
186	0.86	0.87	0.84	0.85	0.84	0.86
189	0.87	0.85	0.83	0.86	0.83	0.84
192	0.85	0.88	0.83	0.86	0.84	0.86
195	0.86	0.86	0.85	0.87	0.84	0.87
198	0.85	0.86	0.83	0.87	0.86	0.89
201	0.84	0.87	0.86	0.85	0.84	0.91
204	0.85	0.84	0.86	0.87	0.85	0.89
207	0.84	0.84	0.85	0.83	0.84	0.9
210	0.86	0.84	0.86	0.83	0.8	0.88
213	0.84	0.84	0.85	0.86	0.84	0.93
216	0.84	0.84	0.87	0.83	0.85	0.96
219	0.85	0.81	0.87	0.86	0.85	0.92
222	0.83	0.82	0.84	0.88	0.88	0.91
225	0.85	0.82	0.87	0.85	0.86	0.86
228	0.85	0.83	0.86	0.87	0.86	0.89
231	0.87	0.84	0.87	0.85	0.85	0.89
234	0.88	0.84	0.87	0.86	0.84	0.87
237	0.86	0.85	0.84	0.86	0.85	0.88

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
240	0.88	0.85	0.77	0.84	0.82	0.85
243	0.87	0.84	0.69	0.87	0.85	0.85
246	0.86	0.82	0.75	0.86	0.85	0.85
249	0.86	0.81	0.82	0.84	0.83	0.84
252	0.86	0.82	0.9	0.88	0.84	0.84
255	0.87	0.84	0.91	0.87	0.83	0.84
258	0.86	0.86	0.89	0.86	0.83	0.85
261	0.84	0.86	0.89	0.87	0.85	0.84
264	0.84	0.85	0.93	0.84	0.84	0.84
267	0.84	0.85	0.91	0.85	0.85	0.83
270	0.85	0.85	0.87	0.83	0.84	0.82
273	0.85	0.85	0.89	0.83	0.84	0.81
276	0.86	0.85	0.92	0.85	0.84	0.8
279	0.88	0.84	0.9	0.86	0.85	0.84
282	0.86	0.83	0.88	0.89	0.86	0.85
285	0.86	0.85	0.86	0.88	0.85	0.84
288	0.86	0.86	0.85	0.85	0.84	0.84
291	0.86	0.85	0.83	0.85	0.82	0.81
294	0.86	0.85	0.81	0.83	0.82	0.82
297	0.87	0.84	0.83	0.84	0.83	0.82
300	0.87	0.84	0.86	0.86	0.83	0.84
303	0.86	0.83	0.86	0.85	0.83	0.84
306	0.86	0.84	0.87	0.87	0.84	0.83
309	0.86	0.85	0.88	0.85	0.83	0.83
312	0.86	0.85	0.88	0.85	0.82	0.81
315	0.86	0.86	0.87	0.87	0.84	0.82
318	0.87	0.88	0.86	0.84	0.84	0.85
321	0.86	0.86	0.85	0.86	0.83	0.84
324	0.86	0.87	0.84	0.86	0.83	0.85
327	0.87	0.86	0.86	0.83	0.81	0.82
330	0.86	0.86	0.85	0.86	0.82	0.82
333	0.86	0.86	0.85	0.85	0.82	0.82
336	0.86	0.83	0.85	0.85	0.81	0.82
339	0.84	0.8	0.84	0.87	0.84	0.84
342	0.85	0.73	0.86	0.85	0.84	0.84
345	0.85	0.77	0.86	0.89	0.85	0.86
348	0.85	0.84	0.85	0.88	0.85	0.87
351	0.85	0.89	0.87	0.87	0.82	0.85
354	0.85	0.92	0.86	0.89	0.84	0.85

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
357	0.88	0.89	0.87	0.86	0.86	0.87
360	0.87	0.89	0.86	0.88	0.85	0.86
363	0.87	0.88	0.85	0.87	0.86	0.86
366	0.89	0.88	0.84	0.79	0.83	0.83
369	0.88	0.88	0.83	0.65	0.77	0.81
372	0.89	0.9	0.84	0.57	0.68	0.73
375	0.87	0.92	0.82	0.66	0.7	0.74
378	0.84	0.89	0.81	0.81	0.8	0.81
381	0.77	0.88	0.82	0.9	0.85	0.86
384	0.71	0.87	0.83	0.93	0.89	0.9
387	0.78	0.84	0.84	0.88	0.89	0.87
390	0.87	0.83	0.83	0.87	0.88	0.86
393	0.92	0.82	0.85	0.89	0.88	0.89
396	0.9	0.83	0.85	0.87	0.88	0.9
399	0.87	0.87	0.85	0.86	0.86	0.88
402	0.88	0.85	0.87	0.95	0.87	0.85
405	0.89	0.86	0.86	0.98	0.9	0.9
408	0.9	0.87	0.87	0.95	0.88	0.89
411	0.9	0.86	0.88	0.92	0.89	0.87
414	0.95	0.87	0.86	0.86	0.9	0.88
417	0.94	0.89	0.88	0.86	0.88	0.85
420	0.92	0.89	0.86	0.85	0.86	0.84
423	0.92	0.86	0.86	0.83	0.85	0.82
426	0.89	0.87	0.86	0.88	0.84	0.81
429	0.87	0.86	0.84	0.88	0.87	0.86
432	0.86	0.83	0.87	0.85	0.88	0.84
435	0.85	0.84	0.85	0.88	0.88	0.84
438	0.88	0.83	0.84	0.9	0.89	0.86
441	0.9	0.85	0.84	0.89	0.89	0.87
444	0.88	0.86	0.81	0.88	0.89	0.88
447	0.89	0.86	0.83	0.89	0.89	0.88
450	0.88	0.86	0.84	0.87	0.9	0.9
453	0.88	0.86	0.83	0.85	0.88	0.88
456	0.89	0.84	0.86	0.87	0.88	0.86
459	0.91	0.85	0.84	0.87	0.89	0.84
462	0.89	0.84	0.85	0.87	0.87	0.81
465	0.88	0.86	0.86	0.88	0.88	0.84
468	0.89	0.84	0.85	0.87	0.88	0.85
471	0.87	0.85	0.87	0.89	0.87	0.87

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
474	0.89	0.85	0.86	0.89	0.9	0.89
477	0.9	0.82	0.86	0.88	0.89	0.89
480	0.89	0.84	0.87	0.89	0.88	0.9
483	0.9	0.84	0.88	0.87	0.89	0.9
486	0.91	0.85	0.88	0.89	0.89	0.88
489	0.89	0.85	0.88	0.89	0.89	0.89
492	0.89	0.85	0.89	0.91	0.88	0.87
495	0.88	0.86	0.9	0.91	0.89	0.88
498	0.9	0.86	0.9	0.9	0.9	0.86
501	0.89	0.88	0.89	0.9	0.9	0.86
504	0.9	0.88	0.89	0.9	0.91	0.88
507	0.92	0.86	0.86	0.9	0.9	0.86
510	0.91	0.88	0.87	0.9	0.9	0.87
513	0.92	0.86	0.85	0.9	0.91	0.86
516	0.91	0.86	0.85	0.92	0.91	0.86
519	0.91	0.87	0.87	0.92	0.91	0.87
522	0.92	0.86	0.86	0.92	0.91	0.86
525	0.92	0.86	0.86	0.92	0.9	0.87
528	0.93	0.83	0.87	0.92	0.89	0.86
531	0.91	0.84	0.88	0.93	0.9	0.87
534	0.9	0.84	0.87	0.9	0.91	0.89
537	0.89	0.82	0.89	0.91	0.89	0.87
540	0.88	0.85	0.87	0.91	0.91	0.89
543	0.9	0.83	0.83	0.92	0.9	0.88
546	0.89	0.84	0.87	0.91	0.9	0.88
549	0.88	0.86	0.87	0.9	0.9	0.89
552	0.88	0.85	0.82	0.91	0.89	0.86
555	0.86	0.88	0.87	0.88	0.89	0.87
558	0.87	0.88	0.93	0.89	0.87	0.85
561	0.86	0.88	0.9	0.91	0.88	0.85
564	0.88	0.91	0.86	0.88	0.89	0.87
567	0.89	0.9	0.79	0.88	0.87	0.85
570	0.89	0.91	0.76	0.88	0.86	0.84
573	0.91	0.89	0.81	0.85	0.85	0.82
576	0.9	0.89	0.83	0.88	0.83	0.81
579	0.87	0.89	0.85	0.88	0.87	0.85
582	0.87	0.89	0.89	0.89	0.87	0.83
585	0.83	0.9	0.86	0.91	0.87	0.85
588	0.84	0.9	0.84	0.9	0.88	0.87

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
591	0.86	0.9	0.8	0.94	0.86	0.86
594	0.86	0.9	0.77	0.92	0.87	0.88
597	0.88	0.91	0.82	0.91	0.88	0.88
600	0.87	0.91	0.84	0.93	0.88	0.88
603	0.88	0.92	0.82	0.91	0.9	0.89
606	0.89	0.89	0.8	0.92	0.89	0.88
609	0.89	0.88	0.78	0.92	0.88	0.88
612	0.91	0.9	0.78	0.91	0.89	0.88
615	0.91	0.87	0.78	0.9	0.88	0.89
618	0.89	0.89	0.77	0.9	0.88	0.89
621	0.89	0.88	0.79	0.91	0.89	0.89
624	0.88	0.87	0.77	0.91	0.89	0.91
627	0.88	0.89	0.78	0.9	0.9	0.91
630	0.89	0.89	0.79	0.91	0.89	0.9
633	0.89	0.88	0.77	0.89	0.89	0.91
636	0.9	0.89	0.77	0.89	0.87	0.88
639	0.91	0.89	0.77	0.9	0.86	0.87
642	0.91	0.86	0.76	0.87	0.87	0.88
645	0.9	0.9	0.78	0.89	0.84	0.85
648	0.86	0.93	0.77	0.88	0.88	0.86
651	0.87	0.89	0.77	0.85	0.89	0.87
654	0.86	0.91	0.78	0.88	0.86	0.85
657	0.86	0.96	0.77	0.91	0.87	0.87
660	0.89	0.93	0.78	0.9	0.89	0.89
663	0.86	0.89	0.77	0.91	0.87	0.9
666	0.87	0.84	0.78	0.89	0.88	0.89
669	0.89	0.8	0.78	0.85	0.88	0.89
672	0.89	0.82	0.77	0.87	0.84	0.85
675	0.89	0.82	0.8	0.9	0.87	0.85
678	0.9	0.87	0.79	0.86	0.89	0.9
681	0.88	0.93	0.79	0.84	0.84	0.88
684	0.85	0.88	0.79	0.97	0.84	0.86
687	0.89	0.86	0.78	0.97	0.92	0.92
690	0.87	0.82	0.78	0.92	0.92	0.92
693	0.82	0.79	0.78	0.83	0.89	0.89
696	0.88	0.8	0.78	0.78	0.84	0.85
699	0.94	0.77	0.8	0.81	0.77	0.78
702	0.9	0.8	0.79	0.83	0.79	0.78
705	0.86	0.8	0.77	0.82	0.82	0.84

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
708	0.8	0.79	0.78	0.88	0.81	0.82
711	0.75	0.8	0.77	1.02	0.89	0.86
714	0.79	0.78	0.78	0.97	0.95	0.88
717	0.81	0.8	0.79	0.9	0.92	0.85
720	0.84	0.79	0.79	0.83	0.86	0.83
723	0.91	0.79	0.8	0.86	0.79	0.8
726	0.89	0.78	0.8	0.87	0.79	0.81
729	0.87	0.78	0.8	0.82	0.8	0.85
732	0.81	0.8	0.8	0.84	0.78	0.83
735	0.76	0.79	0.78	0.86	0.8	0.83
738	0.8	0.79	0.79	0.86	0.82	0.81
741	0.81	0.79	0.78	0.86	0.8	0.8
744	0.8	0.78	0.78	0.87	0.82	0.81
747	0.84	0.79	0.79	0.84	0.81	0.8
750	0.81	0.77	0.79	0.83	0.8	0.8
753	0.8	0.79	0.79	0.83	0.8	0.8
756	0.81	0.79	0.8	0.84	0.78	0.78
759	0.79	0.79	0.79	0.84	0.81	0.8
762	0.78	0.78	0.81	0.85	0.81	0.79
765	0.77	0.78	0.8	0.86	0.81	0.79
768	0.78	0.79	0.82	0.84	0.82	0.8
771	0.8	0.78	0.83	0.84	0.8	0.78
774	0.79	0.79	0.84	0.84	0.8	0.79
777	0.8	0.79	0.84	0.82	0.79	0.79
780	0.79	0.78	0.83	0.84	0.78	0.79
783	0.78	0.78	0.82	0.83	0.81	0.81
786	0.8	0.78	0.84	0.84	0.8	0.8
789	0.8	0.78	0.83	0.82	0.81	0.8
792	0.8	0.77	0.83	0.82	0.81	0.8
795	0.81	0.77	0.84	0.82	0.8	0.79
798	0.79	0.79	0.84	0.82	0.81	0.8
801	0.8	0.8	0.85	0.84	0.8	0.79
804	0.81	0.79	0.84	0.85	0.81	0.8
807	0.81	0.81	0.84	0.84	0.82	0.81
810	0.81	0.8	0.84	0.83	0.81	0.8
813	0.81	0.8	0.84	0.81	0.81	0.8
816	0.82	0.81	0.84	0.81	0.79	0.78
819	0.82	0.81	0.83	0.82	0.79	0.79
822	0.82	0.81	0.84	0.84	0.79	0.78

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
825	0.81	0.81	0.81	0.84	0.8	0.79
828	0.78	0.82	0.79	0.83	0.8	0.79
831	0.77	0.81	0.82	0.83	0.8	0.8
834	0.78	0.8	0.79	0.81	0.78	0.8
837	0.78	0.8	0.78	0.82	0.78	0.8
840	0.81	0.78	0.78	0.82	0.79	0.81
843	0.82	0.78	0.74	0.84	0.8	0.81
846	0.81	0.79	0.75	0.84	0.82	0.82
849	0.81	0.78	0.73	0.82	0.82	0.83
852	0.8	0.8	0.71	0.82	0.81	0.82
855	0.8	0.8	0.73	0.82	0.81	0.82
858	0.83	0.81	0.72	0.83	0.81	0.81
861	0.83	0.81	0.72	0.83	0.81	0.8
864	0.82	0.81	0.72	0.81	0.81	0.8
867	0.81	0.82	0.72	0.8	0.8	0.79
870	0.81	0.82	0.76	0.8	0.8	0.79
873	0.8	0.83	0.79	0.8	0.8	0.79
876	0.78	0.85	0.8	0.82	0.79	0.79
879	0.79	0.83	0.82	0.83	0.8	0.79
882	0.79	0.83	0.82	0.84	0.8	0.79
885	0.8	0.83	0.81	0.83	0.81	0.79
888	0.81	0.83	0.78	0.83	0.82	0.8
891	0.81	0.84	0.75	0.83	0.81	0.8
894	0.81	0.84	0.77	0.83	0.82	0.8
897	0.83	0.85	0.77	0.84	0.82	0.8
900	0.83	0.85	0.74	0.84	0.83	0.8
903	0.83	0.84	0.75	0.85	0.85	0.8
906	0.82	0.85	0.75	0.84	0.86	0.82
909	0.83	0.83	0.75	0.83	0.84	0.82
912	0.83	0.83	0.79	0.85	0.83	0.81
915	0.85	0.84	0.8	0.85	0.83	0.82
918	0.85	0.83	0.81	0.85	0.84	0.84
921	0.83	0.85	0.8	0.86	0.82	0.84
924	0.85	0.85	0.79	0.85	0.85	0.85
927	0.86	0.81	0.77	0.85	0.85	0.84
930	0.86	0.86	0.75	0.84	0.84	0.84
933	0.86	0.84	0.75	0.83	0.83	0.83
936	0.87	0.81	0.76	0.83	0.82	0.82
939	0.86	0.85	0.76	0.83	0.81	0.82

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
942	0.86	0.85	0.79	0.85	0.82	0.81
945	0.86	0.89	0.79	0.84	0.84	0.83
948	0.88	0.95	0.79	0.84	0.84	0.83
951	0.86	0.91	0.78	0.86	0.84	0.84
954	0.87	0.89	0.77	0.82	0.85	0.85
957	0.87	0.82	0.76	0.84	0.81	0.82
960	0.85	0.82	0.77	0.86	0.82	0.84
963	0.89	0.83	0.76	0.83	0.81	0.85
966	0.87	0.83	0.74	0.87	0.79	0.81
969	0.85	0.88	0.75	0.87	0.81	0.8
972	0.87	0.88	0.74	0.86	0.8	0.78
975	0.82	0.84	0.74	0.86	0.81	0.76
978	0.79	0.85	0.72	0.82	0.8	0.8
981	0.78	0.82	0.71	0.85	0.77	0.8
984	0.74	0.83	0.7	0.86	0.79	0.82
987	0.73	0.81	0.68	0.83	0.79	0.83
990	0.72	0.78	0.7	0.83	0.78	0.82
993	0.75	0.79	0.71	0.8	0.78	0.83
996	0.83	0.78	0.72	0.81	0.76	0.81
999	0.83	0.78	0.75	0.83	0.78	0.81
1002	0.86	0.79	0.76	0.82	0.8	0.83
1005	0.84	0.78	0.76	0.84	0.79	0.8
1008	0.81	0.79	0.76	0.81	0.8	0.82
1011	0.83	0.78	0.74	0.81	0.8	0.83
1014	0.82	0.77	0.74	0.82	0.78	0.81
1017	0.81	0.78	0.72	0.8	0.79	0.83
1020	0.83	0.77	0.73	0.8	0.77	0.79
1023	0.81	0.78	0.72	0.82	0.75	0.77
1026	0.83	0.78	0.72	0.8	0.74	0.78
1029	0.81	0.77	0.72	0.81	0.71	0.76
1032	0.79	0.77	0.73	0.81	0.71	0.76
1035	0.8	0.74	0.76	0.78	0.72	0.77
1038	0.76	0.75	0.78	0.8	0.72	0.76
1041	0.73	0.76	0.78	0.78	0.76	0.79
1044	0.73	0.76	0.79	0.8	0.79	0.78
1047	0.7	0.76	0.8	0.82	0.79	0.8
1050	0.74	0.73	0.79	0.81	0.79	0.81
1053	0.75	0.75	0.82	0.81	0.78	0.79
1056	0.74	0.73	0.81	0.78	0.77	0.79

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1059	0.76	0.73	0.81	0.8	0.77	0.75
1062	0.75	0.75	0.81	0.8	0.75	0.75
1065	0.77	0.72	0.79	0.77	0.76	0.76
1068	0.76	0.74	0.8	0.79	0.76	0.75
1071	0.77	0.74	0.8	0.79	0.77	0.78
1074	0.78	0.74	0.8	0.79	0.78	0.78
1077	0.76	0.76	0.77	0.79	0.77	0.78
1080	0.77	0.76	0.77	0.78	0.76	0.76
1083	0.76	0.8	0.82	0.78	0.77	0.75
1086	0.73	0.8	0.81	0.77	0.76	0.74
1089	0.73	0.8	0.82	0.79	0.76	0.71
1092	0.72	0.78	0.84	0.78	0.78	0.7
1095	0.73	0.76	0.84	0.78	0.77	0.71
1098	0.73	0.79	0.84	0.78	0.78	0.72
1101	0.76	0.8	0.82	0.76	0.78	0.75
1104	0.78	0.81	0.82	0.79	0.77	0.76
1107	0.77	0.81	0.82	0.79	0.78	0.77
1110	0.79	0.79	0.82	0.8	0.77	0.76
1113	0.77	0.81	0.83	0.8	0.78	0.74
1116	0.79	0.81	0.84	0.79	0.78	0.73
1119	0.8	0.8	0.84	0.79	0.77	0.71
1122	0.81	0.83	0.82	0.78	0.78	0.73
1125	0.8	0.83	0.83	0.79	0.78	0.74
1128	0.79	0.83	0.84	0.81	0.77	0.74
1131	0.8	0.82	0.85	0.8	0.78	0.75
1134	0.82	0.81	0.85	0.81	0.78	0.73
1137	0.82	0.81	0.84	0.81	0.78	0.73
1140	0.85	0.81	0.84	0.79	0.78	0.73
1143	0.88	0.82	0.85	0.8	0.77	0.73
1146	0.89	0.83	0.85	0.8	0.77	0.75
1149	0.89	0.82	0.85	0.82	0.78	0.75
1152	0.85	0.82	0.86	0.81	0.8	0.79
1155	0.84	0.83	0.87	0.82	0.81	0.79
1158	0.81	0.82	0.86	0.81	0.8	0.78
1161	0.83	0.84	0.86	0.8	0.79	0.77
1164	0.88	0.83	0.87	0.81	0.77	0.76
1167	0.9	0.84	0.86	0.81	0.76	0.75
1170	0.9	0.82	0.83	0.81	0.76	0.75
1173	0.87	0.82	0.84	0.82	0.76	0.74

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1176	0.85	0.82	0.84	0.82	0.77	0.76
1179	0.85	0.81	0.85	0.81	0.77	0.77
1182	0.86	0.85	0.86	0.82	0.76	0.77
1185	0.89	0.85	0.86	0.81	0.78	0.78
1188	0.89	0.83	0.86	0.82	0.78	0.78
1191	0.86	0.85	0.87	0.8	0.8	0.8
1194	0.89	0.85	0.88	0.8	0.8	0.79
1197	0.87	0.85	0.88	0.8	0.78	0.78
1200	0.87	0.84	0.86	0.82	0.79	0.79
1203	0.88	0.84	0.86	0.83	0.8	0.79
1206	0.87	0.84	0.86	0.81	0.77	0.81
1209	0.87	0.83	0.87	0.85	0.76	0.79
1212	0.86	0.84	0.91	0.85	0.78	0.82
1215	0.87	0.85	0.9	0.82	0.77	0.83
1218	0.82	0.86	0.88	0.84	0.76	0.8
1221	0.83	0.86	0.83	0.85	0.81	0.83
1224	0.89	0.84	0.8	0.84	0.84	0.83
1227	0.88	0.85	0.86	0.84	0.84	0.83
1230	0.87	0.84	0.88	0.83	0.83	0.83
1233	0.87	0.85	0.88	0.84	0.82	0.81
1236	0.86	0.85	1.04	0.83	0.83	0.81
1239	0.86	0.84	1.04	0.84	0.83	0.79
1242	0.85	0.84	0.95	0.85	0.82	0.79
1245	0.86	0.85	0.87	0.85	0.83	0.82
1248	0.85	0.86	0.78	0.85	0.84	0.83
1251	0.86	0.86	0.8	0.84	0.84	0.83
1254	0.86	0.85	0.88	0.85	0.84	0.82
1257	0.87	0.84	0.94	0.85	0.83	0.82
1260	0.89	0.83	1.04	0.84	0.82	0.82
1263	0.87	0.85	1.16	0.85	0.82	0.81
1266	0.85	0.85	1.07	0.83	0.83	0.82
1269	0.84	0.83	0.94	0.84	0.83	0.82
1272	0.83	0.85	0.86	0.85	0.83	0.81
1275	0.83	0.83	0.85	0.86	0.84	0.84
1278	0.82	0.79	0.83	0.86	0.85	0.85
1281	0.82	0.82	0.82	0.85	0.84	0.84
1284	0.82	0.86	0.85	0.84	0.85	0.83
1287	0.84	0.86	0.87	0.84	0.84	0.83
1290	0.85	0.87	0.88	0.85	0.82	0.83

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1293	0.85	0.88	0.84	0.85	0.82	0.83
1296	0.82	0.86	0.82	0.82	0.83	0.84
1299	0.82	0.86	0.89	0.84	0.81	0.81
1302	0.84	0.83	0.89	0.83	0.8	0.79
1305	0.85	0.85	0.91	0.8	0.82	0.79
1308	0.82	0.87	0.88	0.83	0.82	0.77
1311	0.83	0.89	0.87	0.85	0.82	0.81
1314	0.84	0.91	0.87	0.85	0.85	0.86
1317	0.82	0.89	0.84	0.87	0.84	0.85
1320	0.84	0.87	0.85	0.87	0.85	0.87
1323	0.86	0.81	0.85	0.85	0.87	0.88
1326	0.86	0.78	0.87	0.85	0.86	0.87
1329	0.84	0.84	0.9	0.84	0.86	0.87
1332	0.86	0.87	0.88	0.85	0.84	0.86
1335	0.82	0.88	0.87	0.86	0.85	0.87
1338	0.83	1.1	0.86	0.87	0.86	0.85
1341	0.84	1.2	0.86	0.93	0.88	0.89
1344	0.87	1.15	0.88	0.91	0.92	0.93
1347	0.89	0.94	0.85	0.88	0.92	0.89
1350	0.88	0.83	0.86	0.81	0.88	0.86
1353	0.9	0.82	0.84	0.8	0.82	0.81
1356	0.87	0.82	0.85	0.87	0.82	0.79
1359	0.86	0.87	0.92	0.87	0.85	0.91
1362	0.8	1.03	0.93	0.84	0.83	0.96
1365	0.75	1.2	0.95	0.96	0.87	0.93
1368	0.81	1.2	0.95	1.03	0.98	1.03
1371	0.86	1.18	0.92	0.96	0.96	1.05
1374	0.85	1.03	0.91	0.86	0.92	0.97
1377	1	0.89	0.87	0.79	0.85	0.85
1380	1.2	0.85	0.87	0.81	0.78	0.77
1383	1.19	0.83	0.87	0.88	0.81	0.81
1386	0.99	0.78	0.86	0.88	0.85	0.9
1389	0.84	0.78	0.88	0.95	0.84	0.98
1392	0.8	0.84	0.86	1.11	0.9	1.14
1395	0.85	0.86	0.88	1.08	1.13	1.2
1398	0.89	0.86	0.87	0.93	1.2	1.19
1401	1.04	0.84	0.84	0.83	1.14	1.05
1404	1.2	0.88	0.89	0.82	0.95	0.91
1407	1.2	0.93	0.89	0.79	0.84	0.83

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1410	1.2	0.88	0.9	0.78	0.82	0.79
1413	1.2	0.86	0.86	0.78	0.82	0.79
1416	1.07	0.83	0.84	0.79	0.78	0.81
1419	0.87	0.83	0.86	0.84	0.76	0.85
1422	0.83	0.84	0.84	0.84	0.77	0.94
1425	0.83	0.85	0.86	0.85	0.84	0.93
1428	0.82	0.91	0.83	0.83	0.87	0.9
1431	0.88	0.94	0.83	0.83	0.83	0.86
1434	1.18	0.91	0.83	0.88	0.82	0.86
1437	1.19	0.91	0.85	0.85	1.01	0.91
1440	1	0.87	0.89	0.84	1.06	0.88
1443	0.9	0.91	0.86	0.82	0.95	0.87
1446	0.96	0.92	0.84	0.79	0.84	0.86
1449	0.95	0.87	0.84	0.84	0.82	0.85
1452	0.9	0.87	0.82	0.84	0.83	0.88
1455	0.86	0.84	0.84	0.89	0.83	0.87
1458	0.82	0.84	0.86	0.9	0.83	0.9
1461	0.87	0.87	0.86	0.87	0.84	0.89
1464	0.89	0.84	0.87	0.85	0.85	0.88
1467	0.96	0.88	0.85	0.81	0.85	0.88
1470	0.93	0.9	0.87	0.85	0.84	0.85
1473	0.91	0.87	0.87	0.88	0.93	0.89
1476	0.91	0.92	0.88	0.83	0.92	0.89
1479	0.89	0.91	0.89	0.83	0.87	0.86
1482	0.93	0.89	0.87	0.84	0.87	0.86
1485	0.94	0.87	0.85	0.82	0.85	0.83
1488	0.91	0.86	0.81	0.86	0.85	0.85
1491	0.9	0.87	0.83	0.85	0.84	0.91
1494	0.88	0.86	0.83	0.87	0.82	0.9
1497	0.88	0.89	0.8	0.91	0.89	0.95
1500	0.9	0.9	0.8	0.88	0.9	0.95
1503	0.9	0.89	0.79	0.88	0.87	0.92
1506	0.92	0.92	0.81	0.86	0.89	0.91
1509	0.91	0.91	0.8	0.83	0.88	0.87
1512	0.9	0.93	0.81	0.84	0.85	0.86
1515	0.89	0.92	0.84	0.84	0.85	0.85
1518	0.88	0.9	0.83	0.87	0.86	0.88
1521	0.88	0.9	0.83	0.89	0.86	0.87
1524	0.85	0.86	0.81	0.89	0.86	0.86

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1527	0.88	0.85	0.8	0.86	0.87	0.9
1530	0.88	0.81	0.81	0.84	0.84	0.86
1533	0.85	0.84	0.8	0.84	0.83	0.88
1536	0.88	0.89	0.82	0.83	0.85	0.88
1539	0.86	0.92	0.82	0.86	0.87	0.86
1542	0.88	0.92	0.79	0.87	0.88	0.85
1545	0.92	0.88	0.71	0.86	0.85	0.81
1548	0.9	0.86	0.65	0.85	0.83	0.81
1551	0.9	0.87	0.77	0.82	0.82	0.8
1554	0.87	0.85	0.83	0.8	0.81	0.8
1557	0.86	0.89	0.8	0.78	0.78	0.81
1560	0.86	0.91	0.86	0.82	0.77	0.78
1563	0.84	0.89	1.16	0.86	0.83	0.81
1566	0.87	0.89	1.2	0.88	0.87	0.82
1569	0.83	0.87	1	0.89	0.89	0.83
1572	0.83	0.87	0.85	0.86	0.88	0.85
1575	0.91	0.87	0.78	0.84	0.85	0.83
1578	0.94	0.87	0.74	0.84	0.84	0.84
1581	0.96	0.89	0.84	0.83	0.83	0.84
1584	0.89	0.88	1.2	0.84	0.85	0.84
1587	0.88	0.89	1.2	0.84	0.88	0.86
1590	0.88	0.86	1.2	0.84	0.87	0.85
1593	0.86	0.88	1.12	0.84	0.86	0.86
1596	0.93	0.85	0.93	0.84	0.85	0.85
1599	0.95	0.83	0.86	0.83	0.83	0.83
1602	0.92	0.83	0.8	0.84	0.85	0.84
1605	0.91	0.81	0.77	0.84	0.86	0.84
1608	0.88	0.86	0.78	0.85	0.85	0.84
1611	0.87	0.87	0.86	0.84	0.85	0.85
1614	0.87	0.87	1	0.83	0.83	0.84
1617	0.89	0.91	0.97	0.82	0.82	0.83
1620	0.91	0.88	0.91	0.83	0.83	0.82
1623	0.89	0.86	0.88	0.8	0.84	0.84
1626	0.89	0.86	0.84	0.78	0.81	0.8
1629	0.86	0.85	0.83	0.79	0.8	0.79
1632	0.83	0.88	0.84	0.78	0.78	0.79
1635	0.84	0.87	0.83	0.81	0.78	0.77
1638	0.82	0.86	0.83	0.83	0.82	0.82
1641	0.83	0.85	0.83	0.84	0.82	0.82

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1644	0.82	0.85	0.86	0.86	0.85	0.83
1647	0.83	0.84	0.85	0.83	0.84	0.84
1650	0.86	0.84	0.84	0.83	0.81	0.81
1653	0.86	0.96	0.86	0.84	0.81	0.82
1656	0.92	0.93	0.84	0.82	0.79	0.81
1659	0.91	0.84	0.85	0.83	0.81	0.82
1662	0.9	0.95	0.83	0.83	0.82	0.84
1665	0.88	1.03	0.83	0.82	0.82	0.83
1668	0.85	0.97	0.87	0.81	0.82	0.83
1671	0.89	0.87	0.85	0.78	0.8	0.79
1674	0.9	0.94	0.86	0.73	0.79	0.77
1677	0.91	0.94	0.88	0.7	0.76	0.74
1680	0.9	0.88	0.85	0.83	0.84	0.79
1683	0.9	0.87	0.85	0.85	0.87	0.85
1686	0.93	1.16	0.85	0.82	0.82	0.81
1689	0.92	1.2	0.83	0.91	0.81	0.77
1692	0.97	1.2	0.85	1.16	1.06	0.95
1695	0.96	1.16	0.85	1.2	1.2	1.12
1698	0.86	0.99	0.86	1.06	1.17	1.04
1701	0.88	0.9	0.87	0.95	1.03	0.96
1704	1.03	0.84	0.86	0.84	0.9	0.95
1707	1.03	0.79	0.86	0.78	0.81	0.87
1710	0.89	0.79	0.86	0.8	0.78	0.83
1713	0.9	0.97	0.87	1.08	0.98	0.94
1716	0.99	1.2	0.87	1.2	1.2	1.2
1719	0.92	1.05	0.85	1.2	1.2	0.64
1722	0.86	0.91	0.86	1.15	1.2	0.83
1725	1.03	0.92	0.85	0.94	1.02	1.2
1728	1.2	0.9	0.83	0.85	0.88	1.04
1731	0.08	0.85	0.85	0.79	0.82	0.86
1734	0.64	0.84	0.83	0.76	0.78	0.79
1737	1.2	0.81	0.81	0.78	0.79	0.78
1740	0.97	0.83	0.86	0.82	0.88	0.81
1743	0.74	0.91	0.85	0.94	1.05	0.89
1746	0.66	0.9	0.86	0.96	1.04	1.12
1749	0.67	0.91	0.89	0.92	0.95	1.2
1752	0.7	0.91	0.85	0.89	0.9	1.15
1755	0.83	0.89	0.85	0.84	0.88	0.96
1758	1.19	0.88	0.88	0.81	0.83	0.85

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1761	1.2	0.88	0.85	0.81	0.82	0.81
1764	1.19	0.86	0.86	0.79	0.8	0.83
1767	1.02	0.88	0.86	0.78	0.78	0.81
1770	0.9	0.86	0.84	0.79	0.8	0.81
1773	0.82	0.85	0.86	0.8	0.82	0.84
1776	0.81	0.88	0.83	0.84	0.85	0.87
1779	0.8	0.87	0.83	0.87	0.87	0.85
1782	0.8	0.87	0.86	0.85	0.86	0.87
1785	0.82	0.89	0.85	0.86	0.84	0.88
1788	0.89	0.89	0.87	0.86	0.85	0.86
1791	0.88	0.89	0.88	0.83	0.83	0.86
1794	0.86	0.89	0.85	0.84	0.83	0.84
1797	0.87	0.89	0.85	0.85	0.86	0.86
1800	0.88	0.89	0.84	0.82	0.84	0.88
1803	0.87	0.9	0.83	0.84	0.85	0.85
1806	0.86	0.89	0.85	0.85	0.86	0.87
1809	0.88	0.89	0.84	0.82	0.84	0.86
1812	0.85	0.89	0.84	0.85	0.85	0.84
1815	0.85	0.88	0.83	0.86	0.85	0.86
1818	0.89	0.88	0.83	0.86	0.84	0.84
1821	0.86	0.87	0.85	0.87	0.84	0.85
1824	0.87	0.88	0.84	0.88	0.85	0.86
1827	0.89	0.85	0.85	0.88	0.86	0.86
1830	0.88	0.85	0.84	0.88	0.87	0.88
1833	0.89	0.85	0.83	0.86	0.87	0.87
1836	0.89	0.82	0.84	0.87	0.87	0.86
1839	0.88	0.85	0.82	0.87	0.87	0.88
1842	0.89	0.87	0.82	0.88	0.87	0.87
1845	0.89	0.85	0.85	0.88	0.87	0.87
1848	0.89	0.92	0.84	0.86	0.85	0.86
1851	0.89	0.92	0.85	0.88	0.86	0.85
1854	0.9	0.87	0.85	0.87	0.86	0.87
1857	0.9	0.9	0.83	0.86	0.83	0.85
1860	0.88	0.88	0.84	0.87	0.84	0.85
1863	0.88	0.86	0.86	0.84	0.83	0.86
1866	0.88	0.89	0.85	0.83	0.8	0.82
1869	0.85	0.87	0.86	0.9	0.84	0.83
1872	0.86	0.88	0.82	0.9	0.86	0.88
1875	0.84	0.9	0.82	0.89	0.83	0.86

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1878	0.82	0.86	0.82	0.95	0.87	0.88
1881	0.87	0.88	0.81	0.94	0.89	0.92
1884	0.88	0.86	0.84	0.91	0.86	0.86
1887	0.87	0.86	0.84	0.95	0.88	0.87
1890	0.93	0.89	0.83	0.92	0.9	0.89
1893	0.9	0.88	0.85	0.9	0.87	0.86
1896	0.86	0.89	0.84	0.93	0.89	0.88
1899	0.92	0.88	0.84	0.91	0.88	0.88
1902	0.92	0.85	0.84	0.91	0.86	0.84
1905	0.92	0.85	0.84	0.95	0.89	0.88
1908	0.9	0.85	0.84	0.93	0.86	0.89
1911	0.85	0.87	0.84	0.93	0.85	0.87
1914	0.86	0.87	0.85	0.92	0.88	0.88
1917	0.84	0.86	0.85	0.89	0.86	0.84
1920	0.86	0.87	0.85	0.91	0.86	0.82
1923	0.91	0.86	0.84	0.94	0.89	0.86
1926	0.89	0.86	0.82	0.91	0.86	0.84
1929	0.89	0.87	0.84	0.94	0.88	0.86
1932	0.89	0.84	0.83	0.93	0.87	0.86
1935	0.87	0.86	0.82	0.9	0.83	0.83
1938	0.89	0.86	0.84	0.91	0.84	0.86
1941	0.89	0.84	0.83	0.89	0.83	0.83
1944	0.91	0.87	0.83	0.86	0.81	0.81
1947	0.91	0.86	0.82	0.9	0.87	0.86
1950	0.9	0.87	0.81	0.9	0.88	0.86
1953	0.89	0.88	0.83	0.89	0.87	0.86
1956	0.85	0.87	0.83	0.93	0.89	0.87
1959	0.83	0.87	0.83	0.89	0.86	0.86
1962	0.85	0.88	0.84	0.85	0.84	0.86
1965	0.86	0.88	0.82	0.87	0.87	0.86
1968	0.9	0.88	0.83	0.86	0.85	0.85
1971	0.9	0.88	0.84	0.87	0.85	0.85
1974	0.86	0.86	0.84	0.9	0.9	0.86
1977	0.88	0.88	0.86	0.89	0.88	0.87
1980	0.85	0.87	0.86	0.9	0.87	0.87
1983	0.85	0.88	0.84	0.89	0.88	0.87
1986	0.91	0.88	0.84	0.84	0.86	0.89
1989	0.9	0.86	0.83	0.87	0.87	0.87
1992	0.91	0.89	0.83	0.91	0.88	0.9

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
1995	0.92	0.88	0.84	0.91	0.88	0.9
1998	0.9	0.88	0.84	0.91	0.89	0.89
2001	0.9	0.89	0.85	0.86	0.86	0.89
2004	0.92	0.87	0.85	0.86	0.86	0.86
2007	0.92	0.87	0.84	0.87	0.87	0.88
2010	0.93	0.85	0.85	0.84	0.83	0.86
2013	0.91	0.85	0.84	0.86	0.85	0.85
2016	0.91	0.86	0.84	0.88	0.85	0.86
2019	0.91	0.88	0.85	0.87	0.84	0.86
2022	0.87	0.89	0.83	0.87	0.86	0.88
2025	0.89	0.84	0.84	0.87	0.87	0.87
2028	0.89	0.84	0.87	0.87	0.88	0.87
2031	0.88	0.87	0.85	0.88	0.88	0.88
2034	0.88	0.86	0.87	0.85	0.87	0.87
2037	0.86	0.85	0.9	0.84	0.85	0.86
2040	0.87	0.86	0.88	0.84	0.85	0.85
2043	0.86	0.87	0.87	0.83	0.85	0.86
2046	0.87	0.89	0.89	0.85	0.86	0.86
2049	0.89	0.89	0.91	0.86	0.87	0.87
2052	0.89	0.88	0.92	0.83	0.86	0.88
2055	0.9	0.86	0.9	0.84	0.84	0.84
2058	0.9	0.84	0.89	0.85	0.85	0.84
2061	0.9	0.87	0.89	0.82	0.85	0.86
2064	0.89	0.86	0.89	0.83	0.84	0.83
2067	0.86	0.87	0.89	0.82	0.83	0.83
2070	0.87	0.89	0.89	0.82	0.83	0.83
2073	0.88	0.89	0.89	0.84	0.84	0.83
2076	0.88	0.9	0.88	0.83	0.86	0.84
2079	0.88	0.91	0.86	0.83	0.85	0.83
2082	0.87	0.9	0.88	0.85	0.85	0.84
2085	0.87	0.9	0.88	0.83	0.85	0.84
2088	0.88	0.89	0.86	0.85	0.82	0.82
2091	0.88	0.89	0.9	0.86	0.82	0.83
2094	0.88	0.88	0.93	0.84	0.82	0.83
2097	0.88	0.87	0.9	0.87	0.83	0.83
2100	0.85	0.87	0.89	0.87	0.86	0.88
2103	0.86	0.88	0.88	0.87	0.86	0.87
2106	0.86	0.9	0.88	0.88	0.87	0.87
2109	0.88	0.91	0.86	0.86	0.89	0.88

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
2112	0.92	0.9	0.85	0.87	0.87	0.87
2115	0.91	0.89	0.85	0.86	0.87	0.86
2118	0.91	0.88	0.84	0.85	0.86	0.84
2121	0.93	0.89	0.83	0.85	0.85	0.84
2124	0.92	0.86	0.83	0.85	0.86	0.84
2127	0.91	0.89	0.84	0.83	0.84	0.83
2130	0.91	0.9	0.84	0.86	0.85	0.85
2133	0.91	0.88	0.84	0.86	0.87	0.86
2136	0.91	0.89	0.86	0.85	0.86	0.87
2139	0.91	0.87	0.89	0.85	0.87	0.87
2142	0.91	0.86	0.88	0.84	0.86	0.86
2145	0.93	0.87	0.87	0.86	0.84	0.86
2148	0.9	0.88	0.86	0.86	0.86	0.87
2151	0.92	0.88	0.84	0.84	0.85	0.87
2154	0.92	0.88	0.85	0.86	0.84	0.85
2157	0.91	0.88	0.85	0.87	0.87	0.87
2160	0.92	0.87	0.86	0.86	0.86	0.86
2163	0.92	0.86	0.85	0.86	0.86	0.85
2166	0.9	0.85	0.84	0.82	0.85	0.84
2169	0.93	0.85	0.86	0.81	0.83	0.82
2172	0.92	0.87	0.86	0.83	0.83	0.81
2175	0.93	0.87	0.87	0.84	0.84	0.83
2178	0.93	0.87	0.89	0.85	0.84	0.85
2181	0.9	0.87	0.88	0.86	0.85	0.86
2184	0.89	0.88	0.88	0.86	0.84	0.89
2187	0.91	0.86	0.89	0.86	0.84	0.89
2190	0.92	0.85	0.88	0.85	0.85	0.87
2193	0.91	0.87	0.89	0.85	0.84	0.87
2196	0.91	0.86	0.9	0.86	0.85	0.86
2199	0.91	0.85	0.9	0.86	0.85	0.85
2202	0.89	0.87	0.91	0.87	0.87	0.85
2205	0.88	0.86	0.89	0.86	0.87	0.86
2208	0.88	0.85	0.88	0.86	0.85	0.87
2211	0.88	0.86	0.88	0.87	0.86	0.87
2214	0.89	0.84	0.88	0.84	0.87	0.88
2217	0.9	0.85	0.89	0.84	0.84	0.86
2220	0.9	0.85	0.9	0.87	0.86	0.86
2223	0.9	0.84	0.89	0.86	0.88	0.88
2226	0.91	0.86	0.9	0.85	0.86	0.87

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
2229	0.88	0.87	0.89	0.86	0.87	0.86
2232	0.9	0.87	0.88	0.86	0.86	0.87
2235	0.91	0.87	0.89	0.86	0.86	0.86
2238	0.9	0.87	0.88	0.85	0.86	0.86
2241	0.89	0.88	0.88	0.82	0.85	0.85
2244	0.89	0.86	0.86	0.86	0.86	0.83
2247	0.88	0.87	0.86	0.86	0.87	0.85
2250	0.87	0.85	0.86	0.82	0.85	0.85
2253	0.87	0.83	0.85	0.82	0.84	0.84
2256	0.88	0.83	0.88	0.83	0.84	0.85
2259	0.88	0.82	0.87	0.83	0.84	0.85
2262	0.87	0.85	0.88	0.84	0.83	0.86
2265	0.86	0.84	0.87	0.85	0.84	0.87
2268	0.86	0.85	0.86	0.86	0.87	0.88
2271	0.86	0.88	0.87	0.84	0.87	0.88
2274	0.85	0.88	0.86	0.84	0.86	0.87
2277	0.86	0.88	0.87	0.84	0.86	0.86
2280	0.88	0.88	0.89	0.83	0.84	0.83
2283	0.88	0.86	0.9	0.83	0.84	0.82
2286	0.88	0.88	0.92	0.83	0.84	0.83
2289	0.88	0.88	0.92	0.83	0.84	0.84
2292	0.86	0.89	0.89	0.82	0.84	0.84
2295	0.86	0.9	0.9	0.83	0.82	0.82
2298	0.86	0.9	0.89	0.87	0.86	0.85
2301	0.86	0.91	0.88	0.86	0.87	0.87
2304	0.87	0.92	0.91	0.88	0.85	0.87
2307	0.86	0.9	0.9	0.88	0.87	0.89
2310	0.89	0.91	0.91	0.87	0.87	0.87
2313	0.89	0.91	0.9	0.88	0.87	0.86
2316	0.89	0.91	0.89	0.88	0.88	0.87
2319	0.91	0.91	0.88	0.88	0.86	0.88
2322	0.9	0.9	0.87	0.88	0.88	0.89
2325	0.89	0.88	0.89	0.87	0.89	0.89
2328	0.9	0.89	0.88	0.87	0.88	0.9
2331	0.91	0.89	0.88	0.88	0.89	0.9
2334	0.91	0.89	0.89	0.87	0.89	0.89
2337	0.91	0.9	0.87	0.86	0.86	0.88
2340	0.92	0.89	0.9	0.86	0.88	0.88
2343	0.91	0.89	0.89	0.86	0.87	0.88

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
2346	0.91	0.88	0.89	0.88	0.87	0.88
2349	0.89	0.88	0.89	0.89	0.89	0.89
2352	0.9	0.87	0.88	0.89	0.89	0.89
2355	0.9	0.88	0.91	0.89	0.89	0.88
2358	0.9	0.9	0.9	0.87	0.89	0.89
2361	0.91	0.9	0.9	0.88	0.88	0.88
2364	0.91	0.91	0.9	0.87	0.88	0.88
2367	0.9	0.9	0.89	0.87	0.87	0.88
2370	0.92	0.88	0.89	0.87	0.88	0.88
2373	0.91	0.88	0.89	0.86	0.87	0.87
2376	0.93	0.87	0.9	0.85	0.86	0.85
2379	0.92	0.88	0.88	0.85	0.86	0.86
2382	0.93	0.89	0.87	0.86	0.85	0.85
2385	0.93	0.9	0.88	0.88	0.87	0.87
2388	0.91	0.92	0.87	0.89	0.87	0.88
2391	0.92	0.89	0.89	0.9	0.88	0.88
2394	0.91	0.88	0.9	0.88	0.88	0.89
2397	0.93	0.9	0.9	0.88	0.87	0.87
2400	0.94	0.88	0.89	0.88	0.88	0.87
2403	0.95	0.89	0.89	0.87	0.88	0.86
2406	0.96	0.92	0.89	0.88	0.88	0.87
2409	0.93	0.91	0.89	0.88	0.88	0.87
2412	0.94	0.93	0.89	0.88	0.87	0.86
2415	0.93	0.9	0.87	0.91	0.91	0.89
2418	0.91	0.87	0.86	0.87	0.92	0.91
2421	0.93	0.88	0.9	0.86	0.88	0.88
2424	0.93	0.86	0.89	0.88	0.9	0.89
2427	0.94	0.87	0.88	0.86	0.9	0.9
2430	0.96	0.86	0.88	0.87	0.88	0.89
2433	0.96	0.87	0.88	0.89	0.9	0.91
2436	0.97	0.88	0.89	0.89	0.9	0.91
2439	0.96	0.87	0.88	0.92	0.91	0.91
2442	0.94	0.89	0.88	0.89	0.9	0.91
2445	0.97	0.87	0.88	0.9	0.86	0.88
2448	0.95	0.85	0.92	0.9	0.88	0.89
2451	0.95	0.88	0.9	0.89	0.87	0.87
2454	0.97	0.87	0.86	0.9	0.87	0.87
2457	0.94	0.87	0.88	0.88	0.88	0.89
2460	0.95	0.89	0.88	0.88	0.86	0.87

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
2463	0.94	0.87	0.87	0.9	0.88	0.89
2466	0.93	0.87	0.88	0.9	0.88	0.88
2469	0.93	0.86	0.89	0.92	0.9	0.87
2472	0.93	0.84	0.86	0.9	0.9	0.9
2475	0.95	0.87	0.86	0.9	0.87	0.87
2478	0.92	0.89	0.87	0.92	0.9	0.9
2481	0.94	0.87	0.87	0.9	0.89	0.9
2484	0.95	0.88	0.89	0.93	0.9	0.88
2487	0.89	0.89	0.88	0.93	0.92	0.89
2490	0.9	0.87	0.89	0.91	0.9	0.88
2493	0.93	0.88	0.89	0.91	0.9	0.9
2496	0.93	0.89	0.87	0.89	0.89	0.88
2499	0.97	0.88	0.88	0.88	0.88	0.88
2502	0.94	0.88	0.85	0.91	0.9	0.88
2505	0.94	0.88	0.85	0.89	0.92	0.88
2508	0.95	0.9	0.86	0.87	0.89	0.88
2511	0.92	0.9	0.86	0.89	0.89	0.86
2514	0.94	0.92	0.87	0.88	0.9	0.87
2517	0.92	0.9	0.87	0.88	0.89	0.87
2520	0.92	0.88	0.87	0.88	0.9	0.86
2523	0.91	0.92	0.85	0.87	0.9	0.88
2526	0.92	0.9	0.84	0.88	0.9	0.86
2529	0.91	0.9	0.83	0.89	0.89	0.88
2532	0.89	0.92	0.83	0.91	0.9	0.89
2535	0.92	0.89	0.86	0.92	0.9	0.9
2538	0.92	0.88	0.84	0.91	0.89	0.9
2541	0.91	0.89	0.85	0.91	0.9	0.9
2544	0.94	0.85	0.85	0.86	0.87	0.89
2547	0.93	0.86	0.83	0.85	0.85	0.85
2550	0.91	0.89	0.84	0.9	0.89	0.86
2553	0.91	0.85	0.83	0.87	0.88	0.9
2556	0.92	0.85	0.83	0.87	0.86	0.87
2559	0.88	0.88	0.84	0.87	0.87	0.88
2562	0.88	0.88	0.81	0.85	0.86	0.87
2565	0.91	0.88	0.84	0.87	0.88	0.86
2568	0.87	0.89	0.83	0.85	0.88	0.88
2571	0.88	0.91	0.84	0.83	0.87	0.86
2574	0.92	0.95	0.85	0.87	0.87	0.85
2577	0.89	0.96	0.84	0.88	0.89	0.88

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
2580	0.92	0.95	0.84	0.86	0.88	0.89
2583	0.92	0.91	0.84	0.85	0.84	0.86
2586	0.89	0.92	0.82	0.86	0.86	0.87
2589	0.91	0.92	0.83	0.86	0.86	0.88
2592	0.93	0.94	0.84	0.86	0.84	0.86
2595	0.91	0.96	0.84	0.87	0.85	0.87
2598	0.93	0.93	0.82	0.88	0.87	0.88
2601	0.94	0.93	0.84	0.89	0.86	0.88
2604	0.94	0.9	0.85	0.9	0.86	0.87
2607	0.93	0.88	0.85	0.87	0.86	0.88
2610	0.93	0.91	0.86	0.87	0.84	0.85
2613	0.94	0.92	0.86	0.89	0.87	0.86
2616	0.92	0.94	0.84	0.88	0.87	0.88
2619	0.93	0.95	0.84	0.89	0.88	0.87
2622	0.92	0.95	0.82	0.89	0.87	0.87
2625	0.88	0.92	0.84	0.88	0.86	0.84
2628	0.88	0.91	0.86	0.88	0.88	0.86
2631	0.86	0.89	0.87	0.84	0.86	0.85
2634	0.88	0.89	0.87	0.85	0.84	0.83
2637	0.88	0.92	0.86	0.86	0.86	0.85
2640	0.86	0.94	0.86	0.88	0.85	0.84
2643	0.88	0.94	0.87	0.88	0.86	0.86
2646	0.85	0.92	0.87	0.88	0.86	0.86
2649	0.86	0.9	0.88	0.89	0.87	0.87
2652	0.88	0.9	0.88	0.86	0.86	0.87
2655	0.89	0.9	0.88	0.86	0.84	0.83
2658	0.91	0.93	0.86	0.86	0.84	0.84
2661	0.93	0.92	0.85	0.86	0.83	0.83
2664	0.92	0.9	0.86	0.89	0.85	0.83
2667	0.89	0.91	0.86	0.88	0.86	0.84
2670	0.88	0.88	0.86	0.88	0.86	0.83
2673	0.87	0.88	0.86	0.86	0.86	0.85
2676	0.87	0.91	0.87	0.84	0.83	0.84
2679	0.91	0.89	0.89	0.84	0.83	0.83
2682	0.93	0.89	0.87	0.84	0.83	0.84
2685	0.94	0.91	0.87	0.86	0.84	0.83
2688	0.93	0.89	0.85	0.86	0.87	0.84
2691	0.93	0.87	0.83	0.85	0.84	0.82
2694	0.93	0.89	0.89	0.87	0.87	0.82

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
2697	0.9	0.87	0.88	0.83	0.86	0.84
2700	0.93	0.88	0.85	0.84	0.83	0.83
2703	0.93	0.89	0.84	0.86	0.87	0.84
2706	0.92	0.9	0.86	0.84	0.87	0.85
2709	0.94	0.9	0.88	0.85	0.85	0.83
2712	0.91	0.9	0.85	0.84	0.87	0.85
2715	0.92	0.89	0.84	0.82	0.85	0.85
2718	0.95	0.89	0.79	0.84	0.84	0.82
2721	0.91	0.89	0.82	0.83	0.86	0.84
2724	0.91	0.86	0.91	0.83	0.85	0.83
2727	0.93	0.88	0.88	0.83	0.85	0.82
2730	0.9	0.88	0.89	0.84	0.85	0.83
2733	0.93	0.87	0.87	0.86	0.88	0.85
2736	0.93	0.89	0.85	0.86	0.88	0.84
2739	0.9	0.89	0.87	0.86	0.88	0.85
2742	0.91	0.89	0.83	0.84	0.87	0.85
2745	0.91	0.89	0.82	0.85	0.85	0.83
2748	0.93	0.91	0.88	0.84	0.86	0.83
2751	0.94	0.92	0.87	0.84	0.84	0.83
2754	0.96	0.89	0.89	0.85	0.85	0.82
2757	0.96	0.9	0.93	0.85	0.86	0.83
2760	0.95	0.89	0.9	0.85	0.84	0.84
2763	0.93	0.88	0.9	0.85	0.86	0.84
2766	0.92	0.9	0.85	0.83	0.86	0.84
2769	0.94	0.88	0.84	0.86	0.85	0.82
2772	0.94	0.89	0.85	0.85	0.88	0.84
2775	0.93	0.87	0.83	0.87	0.87	0.85
2778	0.95	0.88	0.82	0.86	0.89	0.86
2781	0.95	0.89	0.79	0.86	0.88	0.86
2784	0.96	0.86	0.79	0.86	0.87	0.85
2787	0.95	0.87	0.81	0.84	0.88	0.85
2790	0.94	0.86	0.79	0.84	0.86	0.84
2793	0.92	0.83	0.81	0.86	0.88	0.84
2796	0.91	0.88	0.83	0.83	0.88	0.86
2799	0.92	0.86	0.82	0.85	0.88	0.85
2802	0.9	0.84	0.83	0.83	0.88	0.87
2805	0.91	0.85	0.83	0.85	0.87	0.85
2808	0.9	0.88	0.81	0.86	0.91	0.86
2811	0.87	0.88	0.81	0.85	0.89	0.86

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
2814	0.88	0.85	0.81	0.83	0.88	0.85
2817	0.86	0.85	0.81	0.8	0.85	0.84
2820	0.89	0.82	0.84	0.83	0.83	0.8
2823	0.91	0.82	0.82	0.85	0.86	0.82
2826	0.89	0.87	0.83	0.83	0.86	0.85
2829	0.93	0.85	0.82	0.82	0.85	0.84
2832	0.9	0.87	0.83	0.83	0.84	0.83
2835	0.9	0.96	0.82	0.83	0.83	0.84
2838	0.92	0.96	0.83	0.82	0.84	0.85
2841	0.88	0.91	0.83	0.82	0.83	0.84
2844	0.87	0.84	0.81	0.8	0.82	0.83
2847	0.88	0.83	0.81	0.79	0.81	0.83
2850	0.89	0.88	0.82	0.84	0.81	0.81
2853	0.9	0.87	0.81	0.85	0.85	0.84
2856	0.88	0.9	0.84	0.85	0.85	0.88
2859	0.9	1	0.82	0.9	0.87	0.87
2862	0.87	1	0.83	0.88	0.94	0.91
2865	0.85	0.94	0.83	0.88	0.93	0.92
2868	0.92	0.84	0.83	0.84	0.89	0.9
2871	0.89	0.85	0.87	0.81	0.83	0.86
2874	0.9	0.92	0.83	0.84	0.81	0.8
2877	0.96	0.92	0.82	0.85	0.87	0.83
2880	0.94	0.86	0.8	0.85	0.88	0.86
2883	0.89	0.82	0.78	0.93	0.92	0.86
2886	0.83	0.82	0.84	0.93	0.98	0.92
2889	0.84	0.84	0.84	0.9	0.94	0.93
2892	0.88	0.81	0.85	0.85	0.89	0.9
2895	0.87	0.84	0.86	0.81	0.82	0.86
2898	0.94	0.86	0.83	0.83	0.81	0.81
2901	0.96	0.82	0.86	0.82	0.84	0.85
2904	0.95	0.83	0.85	0.81	0.84	0.83
2907	0.9	0.83	0.85	0.8	0.83	0.81
2910	0.84	0.82	0.87	0.77	0.79	0.79
2913	0.87	0.82	0.85	0.81	0.79	0.77
2916	0.89	0.8	0.88	0.79	0.81	0.8
2919	0.9	0.82	0.87	0.78	0.78	0.8
2922	0.96	0.81	0.86	0.82	0.8	0.8
2925	0.93	0.8	0.86	0.82	0.81	0.83
2928	0.91	0.82	0.84	0.81	0.79	0.82

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
2931	0.86	0.81	0.85	0.82	0.8	0.81
2934	0.82	0.82	0.85	0.8	0.8	0.82
2937	0.85	0.84	0.86	0.8	0.79	0.79
2940	0.84	0.81	0.87	0.79	0.8	0.79
2943	0.82	0.81	0.87	0.77	0.78	0.79
2946	0.86	0.79	0.89	0.8	0.78	0.77
2949	0.84	0.79	0.89	0.79	0.79	0.8
2952	0.84	0.8	0.87	0.8	0.79	0.79
2955	0.83	0.79	0.87	0.81	0.8	0.79
2958	0.8	0.83	0.87	0.79	0.8	0.8
2961	0.82	0.81	0.87	0.81	0.81	0.78
2964	0.82	0.81	0.86	0.81	0.82	0.8
2967	0.84	0.83	0.88	0.79	0.8	0.79
2970	0.86	0.82	0.87	0.8	0.81	0.79
2973	0.85	0.83	0.86	0.78	0.8	0.79
2976	0.87	0.79	0.89	0.8	0.79	0.78
2979	0.84	0.78	0.86	0.79	0.8	0.8
2982	0.82	0.79	0.89	0.79	0.78	0.8
2985	0.84	0.78	0.87	0.82	0.81	0.81
2988	0.82	0.8	0.85	0.79	0.81	0.82
2991	0.83	0.79	0.89	0.81	0.81	0.81
2994	0.86	0.81	0.85	0.8	0.82	0.82
2997	0.84	0.79	0.86	0.8	0.8	0.79
3000	0.85	0.8	0.88	0.8	0.82	0.81
3003	0.8	0.82	0.85	0.78	0.8	0.81
3006	0.8	0.79	0.87	0.8	0.78	0.77
3009	0.8	0.81	0.88	0.8	0.79	0.79
3012	0.78	0.84	0.88	0.8	0.77	0.79
3015	0.8	0.84	0.93	0.79	0.78	0.79
3018	0.78	0.86	0.94	0.79	0.77	0.79
3021	0.78	0.86	0.98	0.8	0.78	0.78
3024	0.79	0.88	0.95	0.78	0.78	0.8
3027	0.78	0.89	0.86	0.8	0.79	0.79
3030	0.79	0.87	0.87	0.82	0.82	0.81
3033	0.8	0.87	0.85	0.81	0.81	0.82
3036	0.81	0.87	0.83	0.84	0.81	0.81
3039	0.81	0.85	0.93	0.83	0.84	0.84
3042	0.84	0.87	0.94	0.83	0.83	0.84
3045	0.84	0.87	0.91	0.83	0.83	0.85

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3048	0.83	0.86	0.86	0.83	0.84	0.85
3051	0.83	0.86	0.79	0.84	0.85	0.83
3054	0.83	0.85	0.82	0.82	0.86	0.85
3057	0.83	0.86	0.9	0.81	0.84	0.85
3060	0.86	0.87	0.9	0.82	0.85	0.85
3063	0.87	0.88	0.87	0.81	0.83	0.86
3066	0.88	0.87	0.81	0.83	0.82	0.84
3069	0.88	0.89	0.83	0.84	0.84	0.84
3072	0.87	0.87	0.92	0.83	0.83	0.85
3075	0.86	0.87	0.9	0.83	0.83	0.84
3078	0.86	0.89	0.83	0.83	0.83	0.84
3081	0.85	0.86	0.76	0.82	0.83	0.84
3084	0.88	0.9	0.73	0.83	0.82	0.85
3087	0.89	0.92	0.8	0.84	0.82	0.85
3090	0.89	0.89	0.79	0.85	0.83	0.85
3093	0.9	0.9	0.79	0.85	0.83	0.86
3096	0.91	0.86	0.78	0.86	0.85	0.86
3099	0.95	0.86	0.78	0.83	0.85	0.87
3102	0.98	0.89	0.8	0.83	0.82	0.83
3105	0.97	0.86	0.76	0.82	0.86	0.85
3108	0.93	0.9	0.77	0.82	0.84	0.86
3111	0.92	0.89	0.77	0.86	0.85	0.84
3114	0.88	0.89	0.75	0.84	0.86	0.9
3117	0.9	0.9	0.77	0.85	0.83	0.91
3120	0.97	0.87	0.75	0.84	0.84	0.9
3123	0.97	0.9	0.76	0.82	0.82	0.88
3126	1	0.88	0.78	0.84	0.83	0.83
3129	0.96	0.82	0.77	0.83	0.87	0.86
3132	0.93	0.87	0.79	0.83	0.84	0.87
3135	0.94	0.95	0.77	0.87	0.86	0.88
3138	0.9	0.92	0.8	0.85	0.87	0.9
3141	0.92	0.9	0.78	0.88	0.85	0.87
3144	0.97	0.84	0.78	0.88	0.89	0.89
3147	0.99	0.8	0.79	0.86	0.86	0.89
3150	1.05	0.86	0.77	0.88	0.85	0.87
3153	1	0.85	0.79	0.85	0.86	0.88
3156	0.98	0.86	0.78	0.82	0.81	0.86
3159	0.98	0.88	0.78	0.91	0.83	0.84
3162	0.92	0.89	0.8	0.96	0.93	0.97

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3165	0.96	0.9	0.78	0.92	0.93	1
3168	0.95	0.84	0.79	0.86	0.89	0.94
3171	0.91	0.83	0.78	0.78	0.82	0.88
3174	1.03	0.8	0.78	0.79	0.77	0.81
3177	1.09	0.78	0.78	0.89	0.84	0.82
3180	1.05	0.79	0.77	0.89	0.9	0.9
3183	0.96	0.77	0.79	0.85	0.87	0.88
3186	0.86	0.75	0.79	0.79	0.83	0.87
3189	0.85	0.79	0.8	0.76	0.77	0.83
3192	0.91	0.78	0.79	0.81	0.8	0.84
3195	0.88	0.81	0.78	0.82	0.81	0.85
3198	0.9	0.82	0.8	0.8	0.79	0.82
3201	0.88	0.79	0.79	0.77	0.78	0.83
3204	0.9	0.8	0.8	0.78	0.76	0.81
3207	0.94	0.78	0.81	0.78	0.78	0.8
3210	0.93	0.78	0.8	0.74	0.74	0.8
3213	0.96	0.77	0.76	0.75	0.73	0.76
3216	0.93	0.76	0.7	0.74	0.74	0.78
3219	0.87	0.82	0.64	0.74	0.73	0.81
3222	0.86	0.81	0.69	0.76	0.75	0.8
3225	0.81	0.81	0.77	0.75	0.77	0.82
3228	0.83	0.81	0.82	0.76	0.76	0.81
3231	0.85	0.79	0.83	0.76	0.77	0.82
3234	0.84	0.79	0.82	0.75	0.76	0.81
3237	0.9	0.78	0.77	0.76	0.76	0.79
3240	0.88	0.78	0.73	0.75	0.75	0.8
3243	0.89	0.8	0.76	0.76	0.73	0.78
3246	0.91	0.8	0.78	0.75	0.75	0.81
3249	0.87	0.8	0.73	0.73	0.74	0.85
3252	0.87	0.78	0.69	0.75	0.73	0.81
3255	0.83	0.82	0.71	0.74	0.75	0.8
3258	0.84	0.81	0.73	0.74	0.73	0.8
3261	0.87	0.83	0.76	0.75	0.75	0.79
3264	0.85	0.84	0.76	0.76	0.75	0.81
3267	0.88	0.82	0.74	0.78	0.78	0.79
3270	0.88	0.82	0.78	0.77	0.78	0.81
3273	0.89	0.8	0.81	0.79	0.77	0.82
3276	0.88	0.78	0.81	0.79	0.78	0.82
3279	0.85	0.79	0.82	0.79	0.77	0.81

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3282	0.87	0.79	0.83	0.8	0.78	0.81
3285	0.85	0.8	0.85	0.78	0.78	0.83
3288	0.86	0.81	0.81	0.8	0.77	0.82
3291	0.86	0.81	0.8	0.81	0.79	0.83
3294	0.84	0.81	0.82	0.79	0.78	0.83
3297	0.86	0.81	0.81	0.8	0.79	0.82
3300	0.85	0.81	0.8	0.78	0.79	0.83
3303	0.86	0.8	0.79	0.77	0.77	0.82
3306	0.86	0.8	0.81	0.77	0.79	0.82
3309	0.85	0.8	0.81	0.76	0.78	0.83
3312	0.87	0.8	0.76	0.79	0.78	0.81
3315	0.84	0.81	0.72	0.8	0.81	0.83
3318	0.84	0.83	0.69	0.8	0.8	0.82
3321	0.85	0.82	0.68	0.8	0.81	0.82
3324	0.84	0.83	0.72	0.78	0.8	0.83
3327	0.86	0.83	0.71	0.8	0.8	0.82
3330	0.85	0.84	0.68	0.8	0.81	0.83
3333	0.84	0.83	0.69	0.79	0.8	0.82
3336	0.84	0.81	0.68	0.82	0.82	0.82
3339	0.83	0.75	0.67	0.79	0.81	0.81
3342	0.85	0.75	0.73	0.67	0.77	0.81
3345	0.87	0.77	0.73	0.57	0.79	0.82
3348	0.86	0.78	0.72	0.55	0.79	0.82
3351	0.85	0.76	0.69	0.65	0.8	0.82
3354	0.84	0.77	0.64	0.76	0.82	0.81
3357	0.86	0.77	0.65	0.81	0.82	0.82
3360	0.86	0.77	0.63	0.83	0.82	0.82
3363	0.86	0.77	0.63	0.78	0.81	0.8
3366	0.85	0.77	0.68	0.73	0.78	0.77
3369	0.83	0.76	0.68	0.72	0.76	0.74
3372	0.83	0.8	0.7	0.75	0.79	0.77
3375	0.81	0.82	0.69	0.72	0.79	0.78
3378	0.78	0.82	0.67	0.7	0.75	0.75
3381	0.74	0.82	0.66	0.73	0.75	0.77
3384	0.77	0.82	0.65	0.78	0.77	0.79
3387	0.79	0.83	0.65	0.79	0.77	0.81
3390	0.77	0.81	0.65	0.79	0.78	0.81
3393	0.8	0.82	0.64	0.76	0.78	0.82
3396	0.8	0.84	0.64	0.76	0.75	0.8

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3399	0.82	0.82	0.64	0.8	0.78	0.78
3402	0.83	0.82	0.65	0.82	0.8	0.78
3405	0.83	0.8	0.65	0.84	0.82	0.77
3408	0.84	0.85	0.64	0.83	0.83	0.71
3411	0.81	0.89	0.65	0.87	0.84	0.66
3414	0.8	0.86	0.65	0.87	0.86	0.68
3417	0.78	0.83	0.64	0.84	0.83	0.71
3420	0.73	0.78	0.66	0.87	0.82	0.71
3423	0.69	0.74	0.66	0.84	0.82	0.67
3426	0.69	0.74	0.68	0.82	0.8	0.61
3429	0.71	0.69	0.66	0.81	0.8	0.64
3432	0.7	0.66	0.67	0.81	0.79	0.71
3435	0.66	0.73	0.65	0.84	0.8	0.76
3438	0.61	0.79	0.65	0.83	0.82	0.84
3441	0.63	0.81	0.66	0.78	0.79	0.84
3444	0.69	0.78	0.64	0.75	0.77	0.79
3447	0.74	0.75	0.63	0.71	0.72	0.75
3450	0.82	0.8	0.65	0.73	0.68	0.7
3453	0.84	0.8	0.64	0.74	0.72	0.69
3456	0.8	0.75	0.68	0.7	0.7	0.71
3459	0.76	0.72	0.71	0.71	0.68	0.68
3462	0.7	0.67	0.72	0.74	0.71	0.67
3465	0.69	0.7	0.7	0.73	0.71	0.73
3468	0.7	0.74	0.65	0.78	0.74	0.74
3471	0.67	0.74	0.65	0.78	0.79	0.76
3474	0.68	0.75	0.65	0.76	0.77	0.76
3477	0.75	0.72	0.63	0.77	0.78	0.75
3480	0.78	0.71	0.65	0.74	0.75	0.76
3483	0.81	0.74	0.64	0.72	0.72	0.73
3486	0.81	0.71	0.65	0.69	0.68	0.69
3489	0.77	0.69	0.67	0.68	0.65	0.68
3492	0.81	0.69	0.65	0.73	0.65	0.66
3495	0.81	0.68	0.66	0.79	0.76	0.69
3498	0.77	0.68	0.64	0.77	0.78	0.76
3501	0.73	0.68	0.65	0.75	0.74	0.75
3504	0.69	0.71	0.68	0.71	0.69	0.74
3507	0.7	0.71	0.67	0.72	0.68	0.71
3510	0.78	0.69	0.72	0.73	0.7	0.68
3513	0.78	0.7	0.73	0.69	0.68	0.71

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3516	0.76	0.68	0.71	0.7	0.67	0.68
3519	0.75	0.66	0.74	0.72	0.69	0.65
3522	0.76	0.66	0.73	0.7	0.68	0.68
3525	0.76	0.68	0.72	0.69	0.67	0.68
3528	0.71	0.7	0.72	0.68	0.67	0.66
3531	0.7	0.67	0.7	0.7	0.67	0.66
3534	0.72	0.69	0.71	0.7	0.67	0.67
3537	0.7	0.68	0.7	0.7	0.65	0.69
3540	0.7	0.66	0.7	0.72	0.65	0.69
3543	0.71	0.69	0.71	0.69	0.65	0.7
3546	0.73	0.67	0.7	0.68	0.62	0.7
3549	0.73	0.69	0.71	0.69	0.63	0.67
3552	0.7	0.71	0.71	0.7	0.62	0.67
3555	0.71	0.68	0.7	0.68	0.63	0.69
3558	0.68	0.72	0.69	0.67	0.62	0.7
3561	0.67	0.8	0.69	0.68	0.64	0.69
3564	0.67	0.8	0.69	0.65	0.63	0.72
3567	0.68	0.76	0.68	0.68	0.63	0.72
3570	0.66	0.69	0.67	0.68	0.64	0.73
3573	0.63	0.69	0.67	0.67	0.62	0.73
3576	0.65	0.71	0.68	0.69	0.63	0.7
3579	0.64	0.69	0.68	0.68	0.63	0.7
3582	0.65	0.71	0.67	0.68	0.63	0.68
3585	0.67	0.72	0.68	0.76	0.67	0.67
3588	0.64	0.71	0.66	0.79	0.71	0.75
3591	0.65	0.71	0.65	0.77	0.71	0.82
3594	0.65	0.68	0.67	0.71	0.68	0.79
3597	0.64	0.69	0.69	0.68	0.64	0.74
3600	0.7	0.69	0.72	0.71	0.64	0.7
3603	0.72	0.68	0.7	0.7	0.65	0.72
3606	0.72	0.71	0.74	0.7	0.63	0.75
3609	0.69	0.7	0.74	0.72	0.65	0.74
3612	0.65	0.7	0.69	0.71	0.65	0.76
3615	0.67	0.69	0.75	0.71	0.65	0.73
3618	0.66	0.68	0.9	0.69	0.64	0.7
3621	0.67	0.71	0.91	0.69	0.63	0.68
3624	0.71	0.7	0.82	0.7	0.65	0.65
3627	0.7	0.7	0.77	0.68	0.64	0.66
3630	0.69	0.7	0.75	0.69	0.66	0.67

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3633	0.66	0.67	0.8	0.7	0.66	0.68
3636	0.66	0.67	0.76	0.68	0.65	0.68
3639	0.66	0.67	0.73	0.69	0.66	0.67
3642	0.65	0.67	0.72	0.68	0.67	0.69
3645	0.68	0.68	0.71	0.69	0.66	0.67
3648	0.68	0.66	0.77	0.71	0.68	0.69
3651	0.65	0.67	0.77	0.7	0.67	0.7
3654	0.67	0.67	0.76	0.7	0.67	0.69
3657	0.65	0.66	0.75	0.69	0.67	0.7
3660	0.66	0.66	0.72	0.68	0.66	0.69
3663	0.67	0.66	0.72	0.68	0.66	0.67
3666	0.66	0.66	0.69	0.67	0.65	0.67
3669	0.67	0.66	0.68	0.68	0.67	0.67
3672	0.66	0.66	0.71	0.68	0.67	0.68
3675	0.67	0.66	0.71	0.67	0.66	0.67
3678	0.66	0.67	0.72	0.68	0.67	0.66
3681	0.66	0.66	0.73	0.69	0.67	0.67
3684	0.67	0.63	0.72	0.68	0.67	0.67
3687	0.66	0.59	0.72	0.66	0.67	0.66
3690	0.67	0.57	0.69	0.65	0.66	0.66
3693	0.67	0.62	0.7	0.66	0.66	0.66
3696	0.67	0.65	0.72	0.65	0.66	0.66
3699	0.67	0.69	0.71	0.64	0.65	0.67
3702	0.66	0.72	0.7	0.66	0.66	0.67
3705	0.66	0.68	0.69	0.67	0.67	0.69
3708	0.66	0.69	0.68	0.67	0.67	0.7
3711	0.67	0.69	0.68	0.63	0.65	0.69
3714	0.67	0.65	0.66	0.58	0.59	0.67
3717	0.65	0.7	0.68	0.62	0.58	0.64
3720	0.68	0.79	0.69	0.66	0.62	0.67
3723	0.67	0.82	0.69	0.68	0.65	0.7
3726	0.64	0.8	0.71	0.73	0.7	0.71
3729	0.58	0.73	0.68	0.71	0.71	0.73
3732	0.58	0.72	0.68	0.69	0.68	0.7
3735	0.64	0.7	0.68	0.7	0.69	0.7
3738	0.66	0.68	0.67	0.69	0.7	0.79
3741	0.7	0.71	0.68	0.7	0.67	0.8
3744	0.73	0.73	0.68	0.77	0.72	0.84
3747	0.7	0.77	0.69	0.77	0.75	0.86

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3750	0.72	0.81	0.69	0.77	0.77	0.84
3753	0.73	0.77	0.67	0.76	0.81	0.88
3756	0.71	0.75	0.7	0.74	0.78	0.88
3759	0.76	0.7	0.71	0.74	0.76	0.83
3762	0.75	0.69	0.71	0.71	0.72	0.8
3765	0.74	0.7	0.72	0.72	0.7	0.75
3768	0.75	0.67	0.71	0.73	0.73	0.76
3771	0.72	0.68	0.72	0.74	0.73	0.79
3774	0.72	0.69	0.7	0.79	0.76	0.77
3777	0.68	0.69	0.69	0.79	0.8	0.8
3780	0.67	0.71	0.7	0.77	0.79	0.81
3783	0.7	0.73	0.69	0.74	0.77	0.81
3786	0.69	0.73	0.7	0.72	0.73	0.79
3789	0.72	0.72	0.7	0.73	0.72	0.75
3792	0.76	0.7	0.71	0.72	0.74	0.75
3795	0.76	0.7	0.71	0.7	0.72	0.74
3798	0.74	0.71	0.71	0.72	0.71	0.72
3801	0.7	0.7	0.72	0.72	0.71	0.74
3804	0.68	0.69	0.7	0.73	0.72	0.75
3807	0.69	0.67	0.71	0.74	0.72	0.76
3810	0.68	0.66	0.72	0.74	0.73	0.76
3813	0.71	0.65	0.69	0.73	0.74	0.77
3816	0.73	0.62	0.71	0.73	0.74	0.77
3819	0.72	0.66	0.71	0.71	0.73	0.76
3822	0.71	0.66	0.71	0.72	0.73	0.76
3825	0.72	0.66	0.72	0.72	0.74	0.77
3828	0.74	0.69	0.73	0.71	0.74	0.78
3831	0.72	0.68	0.72	0.7	0.74	0.77
3834	0.71	0.67	0.73	0.69	0.73	0.75
3837	0.71	0.68	0.74	0.68	0.73	0.72
3840	0.73	0.68	0.74	0.67	0.72	0.71
3843	0.72	0.69	0.75	0.69	0.72	0.69
3846	0.73	0.69	0.76	0.7	0.74	0.7
3849	0.71	0.69	0.76	0.69	0.72	0.71
3852	0.72	0.69	0.73	0.7	0.72	0.72
3855	0.72	0.68	0.75	0.71	0.74	0.83
3858	0.71	0.71	0.75	0.69	0.72	0.91
3861	0.73	0.73	0.72	0.7	0.73	0.87
3864	0.72	0.72	0.74	0.7	0.74	0.84

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3867	0.71	0.73	0.76	0.7	0.74	0.78
3870	0.74	0.74	0.76	0.72	0.75	0.75
3873	0.73	0.76	0.74	0.71	0.75	0.73
3876	0.74	0.75	0.75	0.71	0.73	0.73
3879	0.75	0.72	0.76	0.7	0.73	0.74
3882	0.75	0.73	0.74	0.7	0.72	0.74
3885	0.76	0.71	0.75	0.72	0.73	0.75
3888	0.75	0.71	0.79	0.72	0.76	0.87
3891	0.74	0.72	0.79	0.72	0.76	0.93
3894	0.75	0.72	0.78	0.73	0.76	0.87
3897	0.72	0.72	0.75	0.73	0.74	0.81
3900	0.73	0.73	0.73	0.74	0.75	0.78
3903	0.75	0.72	0.73	0.72	0.75	0.77
3906	0.74	0.73	0.74	0.71	0.73	0.78
3909	0.76	0.75	0.74	0.73	0.75	0.79
3912	0.76	0.75	0.76	0.7	0.76	0.78
3915	0.78	0.76	0.79	0.71	0.73	0.74
3918	0.78	0.78	0.76	0.72	0.75	0.73
3921	0.76	0.78	0.74	0.71	0.74	0.72
3924	0.78	0.77	0.74	0.71	0.73	0.73
3927	0.77	0.77	0.77	0.71	0.73	0.76
3930	0.78	0.79	0.84	0.7	0.72	0.75
3933	0.8	0.77	0.83	0.72	0.72	0.73
3936	0.78	0.79	0.67	0.73	0.73	0.73
3939	0.77	0.8	0.89	0.74	0.73	0.73
3942	0.77	0.79	1.07	0.75	0.75	0.75
3945	0.76	0.82	1.07	0.76	0.76	0.78
3948	0.76	0.82	1	0.76	0.77	0.78
3951	0.78	0.81	0.95	0.75	0.77	0.78
3954	0.79	0.8	1.14	0.76	0.76	0.75
3957	0.79	0.82	0.45	0.75	0.78	0.78
3960	0.81	0.82	0.08	0.74	0.76	0.78
3963	0.8	0.82	1.2	0.78	0.76	0.78
3966	0.79	0.8	1.2	0.78	0.81	0.77
3969	0.79	0.78	1	0.79	0.82	0.77
3972	0.8	0.77	0.88	0.79	0.84	0.8
3975	0.78	0.78	0.84	0.79	0.84	0.82
3978	0.8	0.78	0.8	0.78	0.83	0.82
3981	0.83	0.78	0.77	0.79	0.82	0.81

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
3984	0.83	0.78	0.85	0.79	0.83	0.81
3987	0.84	0.79	0.94	0.77	0.81	0.79
3990	0.83	0.79	0.96	0.77	0.8	0.8
3993	0.84	0.79	0.91	0.78	0.8	0.81
3996	0.84	0.79	0.85	0.78	0.8	0.81
3999	0.86	0.79	0.88	0.77	0.79	0.82
4002	0.85	0.78	0.89	0.77	0.77	0.8
4005	0.82	0.78	0.85	0.77	0.76	0.8
4008	0.82	0.77	0.87	0.76	0.76	0.79
4011	0.82	0.79	0.85	0.77	0.75	0.8
4014	0.81	0.8	0.83	0.79	0.77	0.81
4017	0.81	0.78	0.87	0.79	0.78	0.79
4020	0.8	0.74	0.85	0.78	0.77	0.8
4023	0.8	0.7	0.83	0.8	0.78	0.79
4026	0.81	0.66	0.84	0.79	0.8	0.8
4029	0.83	0.7	0.83	0.79	0.78	0.8
4032	0.85	0.83	0.83	0.76	0.76	0.78
4035	0.85	0.94	0.84	0.78	0.76	0.78
4038	0.86	0.85	0.82	0.79	0.77	0.8
4041	0.92	1.1	0.83	0.8	0.8	0.81
4044	0.89	1.18	0.83	0.78	0.78	0.83
4047	0.86	1.07	0.85	0.73	0.75	0.78
4050	0.85	0.96	0.85	0.68	0.69	0.7
4053	0.89	0.94	0.85	0.68	0.66	0.66
4056	0.91	1.18	0.84	0.78	0.69	0.7
4059	0.87	0.08	0.83	0.96	0.87	0.93
4062	0.78	0.08	0.83	0.95	1.09	1.07
4065	0.7	1.2	0.84	0.89	1.07	0.81
4068	0.67	1.2	0.85	1.09	1.04	0.92
4071	0.71	1.2	0.83	1.08	1.13	1.1
4074	0.9	1.2	0.84	1.04	1.08	1.1
4077	1.1	1.2	0.83	1.05	1.02	1.09
4080	0.95	1.2	0.82	1.2	1.05	1.2
4083	1.06	0.85	0.83	0.64	1.2	0.64
4086	1.08	0.73	0.81	0.08	0.64	0.45
4089	0.99	0.72	0.82	0.83	0.08	1.2
4092	0.92	0.73	0.82	1.2	1.2	1.2
4095	0.94	0.76	0.82	1.2	1.2	1.16
4098	1.19	0.83	0.81	1.2	1.2	0.95

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
4101	0.45	0.98	0.81	1.2	1.2	0.84
4104	0.08	1.14	0.85	1.2	1.2	0.81
4107	1.2	0.99	0.83	1.2	1.2	0.79
4110	1.2	0.9	0.81	1.2	1.2	0.78
4113	1.05	0.84	0.83	1.2	1.2	0.92
4116	0.93	0.8	0.8	1.19	1.07	1.08
4119	0.83	0.83	0.8	1.02	0.85	0.97
4122	0.79	0.83	0.84	0.89	0.84	0.85
4125	0.85	0.82	0.82	0.82	0.85	0.79
4128	0.87	0.86	0.85	0.82	0.83	0.83
4131	0.86	0.87	0.85	0.83	0.86	0.8
4134	0.91	0.84	0.83	0.89	1.06	0.84
4137	1.16	0.86	0.83	1.14	1.2	0.92
4140	1.14	0.85	0.8	1.2	1.2	0.9
4143	1.02	0.85	0.79	1.2	1.2	0.83
4146	0.91	0.84	0.81	1.17	1.17	0.79
4149	0.84	0.86	0.81	0.99	0.98	0.79
4152	0.86	0.85	0.82	0.89	0.86	0.81
4155	0.86	0.84	0.82	0.84	0.79	0.85
4158	0.85	0.84	0.83	0.81	0.83	0.91
4161	0.84	0.82	0.81	0.83	0.85	0.89
4164	0.86	0.83	0.81	0.84	0.91	0.91
4167	0.87	0.83	0.86	0.85	1.04	0.92
4170	0.9	0.85	0.83	0.94	1.12	0.91
4173	0.94	0.85	0.8	0.96	0.98	0.86
4176	0.92	0.85	0.9	0.91	0.88	0.84
4179	0.91	0.85	0.91	0.9	0.83	0.82
4182	0.9	0.83	0.88	0.89	0.84	0.83
4185	0.93	0.84	0.92	0.87	0.86	0.82
4188	0.93	0.82	0.91	0.87	0.83	0.83
4191	0.89	0.81	0.92	0.84	0.81	0.83
4194	0.86	0.83	0.93	0.85	0.83	0.84
4197	0.86	0.82	0.88	0.84	0.85	0.85
4200	0.87	0.83	0.89	0.83	0.81	0.82
4203	0.87	0.81	0.93	0.87	0.83	0.86
4206	0.85	0.82	0.92	0.86	0.86	0.84
4209	0.86	0.83	0.88	0.85	0.83	0.81
4212	0.86	0.8	0.83	0.82	0.83	0.84
4215	0.82	0.83	0.84	0.8	0.82	0.81

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
4218	0.87	0.8	0.92	0.83	0.82	0.83
4221	0.88	0.78	0.9	0.83	0.82	0.83
4224	0.86	0.82	0.9	0.82	0.81	0.82
4227	0.89	0.8	0.88	0.82	0.82	0.83
4230	0.85	0.81	0.86	0.85	0.81	0.81
4233	0.85	0.85	0.88	0.85	0.84	0.86
4236	0.86	0.86	0.86	0.83	0.85	0.87
4239	0.85	0.86	0.85	0.85	0.82	0.85
4242	0.84	0.87	0.88	0.84	0.84	0.88
4245	0.85	0.83	0.87	0.83	0.84	0.83
4248	0.9	0.83	0.85	0.85	0.82	0.83
4251	0.88	0.83	0.88	0.82	0.86	0.86
4254	0.87	0.81	0.85	0.83	0.85	0.82
4257	0.88	0.82	0.83	0.84	0.85	0.85
4260	0.85	0.83	0.88	0.82	0.88	0.84
4263	0.84	0.81	0.87	0.82	0.86	0.84
4266	0.87	0.78	0.86	0.82	0.84	0.85
4269	0.85	0.85	0.88	0.81	0.84	0.81
4272	0.87	0.85	0.83	0.8	0.8	0.81
4275	0.85	0.79	0.82	0.82	0.8	0.79
4278	0.86	0.88	0.92	0.82	0.82	0.8
4281	0.84	0.97	0.98	0.8	0.8	0.8
4284	0.82	0.92	0.95	0.82	0.8	0.78
4287	0.82	0.94	0.88	0.81	0.81	0.82
4290	0.85	0.94	0.8	0.74	0.77	0.8
4293	0.89	0.9	0.84	0.8	0.71	0.73
4296	0.86	0.9	0.91	0.93	0.8	0.82
4299	0.82	0.92	0.91	0.91	0.86	0.93
4302	0.89	0.88	0.89	0.9	0.81	0.87
4305	0.89	0.89	0.84	0.91	0.82	0.88
4308	0.83	0.98	0.8	0.84	0.92	0.89
4311	0.94	0.97	0.88	0.77	0.9	0.84
4314	1.06	0.89	0.9	0.87	0.87	0.82
4317	1	0.86	0.9	1.03	0.91	0.94
4320	0.99	0.91	0.89	1	0.9	0.96
4323	0.96	0.88	0.84	0.96	0.87	0.93
4326	0.89	0.88	0.79	0.88	0.88	0.86
4329	0.83	0.88	0.88	0.8	0.87	0.81
4332	1.02	0.89	0.91	0.8	0.83	0.86

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
4335	1.1	0.91	0.9	0.99	0.88	0.86
4338	1.05	0.88	0.89	1.08	0.91	0.85
4341	0.97	0.88	0.84	1.02	0.85	0.82
4344	0.89	0.87	0.83	0.93	0.86	0.83
4347	0.79	0.88	0.93	0.83	0.92	0.86
4350	0.88	0.88	0.93	0.8	0.91	0.81
4353	1.01	0.9	0.9	0.91	0.91	0.84
4356	0.97	0.94	0.85	0.97	0.88	0.87
4359	0.95	0.9	0.79	0.96	0.83	0.86
4362	0.91	0.93	0.83	0.91	0.86	0.9
4365	0.87	0.95	0.85	0.83	0.87	0.87
4368	0.94	0.9	0.82	0.85	0.85	0.87
4371	0.95	0.9	0.88	0.93	0.86	0.88
4374	0.93	0.85	0.92	0.91	0.85	0.86
4377	0.98	0.79	0.89	0.93	0.84	0.88
4380	0.97	0.87	0.85	0.94	0.86	0.89
4383	0.97	1.1	0.8	0.9	0.85	0.89
4386	0.96	1.14	0.8	0.91	0.81	0.83
4389	0.92	1.04	0.85	0.92	0.84	0.82
4392	0.93	0.89	0.82	0.88	0.85	0.81
4395	0.95	0.82	0.81	0.88	0.81	0.8
4398	0.88	0.92	0.86	0.88	0.86	0.85
4401	0.85	0.98	0.85	0.84	0.86	0.83
4404	0.87	0.94	0.86	0.89	0.82	0.81
4407	0.84	0.88	0.87	0.97	0.86	0.91
4410	0.83	0.79	0.84	0.96	0.92	0.95
4413	0.93	0.84	0.88	0.93	0.92	0.93
4416	0.96	0.93	0.88	0.86	0.94	0.91
4419	0.95	0.94	0.84	0.84	0.89	0.84
4422	1.01	0.94	0.86	0.88	0.85	0.86
4425	1.01	0.88	0.84	0.86	0.88	0.87
4428	1.01	0.78	0.84	0.87	0.86	0.83
4431	1.02	0.86	0.83	0.91	0.86	0.88
4434	0.95	0.96	0.84	0.89	0.87	0.91
4437	0.94	0.95	0.84	0.92	0.84	0.88
4440	0.91	0.92	0.82	0.93	0.86	0.9
4443	0.87	0.84	0.83	0.89	0.9	0.87
4446	0.95	0.78	0.82	0.95	0.89	0.85
4449	1.01	0.85	0.82	0.95	0.91	0.89

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
4452	1.01	0.87	0.84	0.88	0.87	0.84
4455	1.05	0.86	0.85	0.89	0.82	0.8
4458	0.99	0.84	0.83	0.92	0.87	0.87
4461	0.96	0.79	0.86	0.9	1.07	0.87
4464	0.96	0.84	0.86	0.92	1.07	0.87
4467	0.88	0.85	0.84	0.89	0.98	0.92
4470	0.82	0.82	0.84	0.85	0.86	0.88
4473	0.93	0.88	0.82	0.92	0.79	0.87
4476	1.18	0.92	0.83	0.97	0.85	0.9
4479	1.18	0.89	0.83	0.96	0.93	0.84
4482	1.01	0.85	0.84	0.95	0.91	0.86
4485	0.87	0.78	0.81	0.9	0.88	0.94
4488	0.84	0.8	0.82	0.86	0.85	0.93
4491	0.9	0.82	0.83	0.89	0.83	0.91
4494	0.87	0.8	0.79	0.89	0.89	0.87
4497	0.87	0.83	0.82	0.91	0.88	0.82
4500	0.89	0.86	0.83	0.95	0.86	0.9
4503	0.87	0.83	0.82	0.91	0.9	0.89
4506	0.91	0.83	0.85	0.9	0.87	0.87
4509	0.9	0.85	0.83	0.89	0.85	0.84
4512	0.88	0.85	0.8	0.84	0.87	0.8
4515	0.94	0.83	0.78	0.88	0.84	0.82
4518	0.92	0.86	0.8	0.92	0.88	0.84
4521	0.88	0.83	0.84	0.88	0.97	0.84
4524	0.87	0.81	0.84	0.89	0.97	0.85
4527	0.82	0.84	0.82	0.9	0.94	0.85
4530	0.82	0.83	0.83	0.85	0.87	0.83
4533	0.85	0.82	0.8	0.88	0.81	0.84
4536	0.83	0.85	0.82	0.91	0.84	0.86
4539	0.86	0.86	0.82	0.87	0.89	0.83
4542	0.85	0.83	0.8	0.89	0.85	0.81
4545	0.8	0.83	0.81	0.9	0.85	0.86
4548	0.82	0.82	0.79	0.86	0.95	0.84
4551	0.84	0.81	0.78	0.88	0.95	0.83
4554	0.81	0.83	0.82	0.87	0.93	0.88
4557	0.79	0.84	0.82	0.83	0.89	0.88
4560	0.8	0.82	0.82	0.89	0.82	0.85
4563	0.78	0.82	0.79	0.9	0.83	0.83
4566	0.77	0.86	0.74	0.88	0.86	0.84

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
4569	0.81	0.83	0.71	0.91	0.83	0.83
4572	0.82	0.81	0.76	0.9	0.85	0.81
4575	0.82	0.81	0.79	0.89	0.88	0.82
4578	0.86	0.81	0.74	0.89	0.86	0.81
4581	0.84	0.83	0.71	0.87	0.89	0.83
4584	0.82	0.83	0.7	0.87	0.88	0.86
4587	0.82	0.82	0.7	0.87	0.86	0.84
4590	0.82	0.81	0.66	0.89	0.91	0.84
4593	0.81	0.84	0.64	0.89	0.96	0.87
4596	0.83	0.81	0.64	0.86	0.94	0.86
4599	0.84	0.8	0.63	0.87	0.94	0.84
4602	0.82	0.85	0.68	0.87	0.89	0.83
4605	0.83	0.82	0.71	0.85	0.86	0.84
4608	0.86	0.82	0.71	0.86	0.84	0.84
4611	0.83	0.84	0.7	0.85	0.8	0.83
4614	0.82	0.81	0.68	0.86	0.8	0.82
4617	0.83	0.79	0.66	0.9	0.85	0.83
4620	0.84	0.8	0.7	0.86	0.85	0.86
4623	0.85	0.85	0.73	0.87	0.8	0.83
4626	0.84	0.83	0.7	0.9	0.83	0.83
4629	0.81	0.81	0.68	0.89	0.88	0.89
4632	0.84	0.82	0.72	0.89	0.85	0.86
4635	0.86	0.81	0.73	0.88	0.85	0.85
4638	0.83	0.79	0.72	0.85	0.85	0.85
4641	0.86	0.82	0.72	0.83	0.81	0.82
4644	0.89	0.8	0.73	0.86	0.79	0.79
4647	0.86	0.79	0.74	0.89	0.87	0.81
4650	0.86	0.79	0.7	0.88	0.91	0.86
4653	0.86	0.76	0.69	0.85	0.89	0.84
4656	0.81	0.8	0.75	0.86	0.88	0.82
4659	0.79	0.81	0.79	0.83	0.87	0.84
4662	0.84	0.79	0.83	0.82	0.83	0.82
4665	0.86	0.78	0.83	0.88	0.83	0.81
4668	0.84	0.76	0.81	0.86	0.87	0.84
4671	0.82	0.7	0.77	0.82	0.84	0.83
4674	0.83	0.68	0.78	0.79	0.82	0.81
4677	0.81	0.75	0.79	0.75	0.79	0.79
4680	0.8	0.73	0.79	0.81	0.76	0.76
4683	0.81	0.71	0.83	0.85	0.84	0.82

Chainage	0.25 mm water					
	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
4686	0.8	0.67	0.81	0.83	0.88	0.84
4689	0.8	0.67	0.76	0.8	0.88	0.83
4692	0.78	0.67	0.79	0.74	0.82	0.81
4695	0.76	0.64	0.82	0.69	0.72	0.76
4698	0.82	0.62	0.78	0.73	0.68	0.67
4701	0.83	0.61	0.77	0.75	0.71	0.67
4704	0.79	0.65	0.74	0.73	0.74	0.7
4707	0.78	0.69	0.7	0.72	0.74	0.69
4710	0.76	0.67	0.73	0.69	0.73	0.69
4713	0.7	0.68	0.76	0.71	0.71	0.68
4716	0.7	0.67	0.73	0.71	0.74	0.69
4719	0.8	0.67	0.78	0.68	0.76	0.68
4722	0.83	0.67	0.79	0.7	0.83	0.64
4725	0.77	0.71	0.75	0.74	1.12	0.65
4728	0.7	0.75	0.78	0.77	1.2	0.7
4731	0.68	0.72	0.79	0.72	0.95	0.76
4734	0.69	0.71	0.74	0.71	0.75	0.72
4737	0.67	0.74	0.76	0.77	0.69	0.68
4740	0.63	0.7	0.8	0.77	0.68	0.67
4743	0.66	0.69	0.81	0.74	0.68	0.65
4746	0.73	0.67	0.87	0.72	0.7	0.67
4749	0.7	0.69	0.87	0.76	0.72	0.71
4752	0.67	0.69	0.85	0.76	0.79	0.76
4755	0.69	0.66	0.86	0.73	0.78	0.81
4758	0.7	0.69	0.83	0.77	0.75	0.75
4761	0.71	0.72	0.8	0.83	0.78	0.75
4764	0.68	0.75	0.86	0.8	0.73	0.73
4767	0.73	0.82	0.86	0.76	0.69	0.67
4770	0.77	0.84	0.84	0.72	0.7	0.69
4773	0.73	0.79	0.82	0.71	0.7	0.69
4776	0.75	0.79	0.79	0.68	0.71	0.7
4779	0.77	0.81	0.84	0.69	0.68	0.7
4782	0.74	0.75	0.86	0.74	0.67	0.69
4785	0.72	0.75	0.84	0.78	0.76	0.71
4788	0.7	0.81	0.84	0.89	0.84	0.76
4791	0.7	0.81	0.8	0.93	0.87	0.83
4794	0.69	0.77	0.78	0.89	0.85	0.87
4797	0.68	0.86	0.75	0.84	0.81	0.83
4800	0.74	0.91	0.74	0.85	0.79	0.79

	0.25 mm water					
Chainage	SR025d1	SR025d2	SR025d3	SR025d4	SR025d5	SR025d6
4803	0.76	0.86	0.79	0.85	0.82	0.82
4806	0.82	0.8	0.81	0.83	0.84	0.83
4809	0.88	0.73	0.79	0.88	0.83	0.82
4812	0.86	0.66	0.78	0.92	0.87	0.87
4815	0.8	0.73	0.76	0.89	0.86	0.91
4818	0.81	0.82	0.73	0.92	0.79	0.84
4821	0.83	0.89	0.71	0.92	0.8	0.81

Water(mm) 0.25 0.25 0.25 0.25 0.25 0.25

**Average
GN 0.85 0.84 0.82 0.84 0.83 0.83**

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3	0.76	0.8	0.79	0.81	0.77
6	0.78	0.81	0.79	0.82	0.76
9	0.78	0.81	0.79	0.83	0.77
12	0.81	0.79	0.82	0.83	0.79
15	0.8	0.82	0.81	0.83	0.79
18	0.79	0.82	0.82	0.83	0.79
21	0.82	0.82	0.83	0.82	0.73
24	0.79	0.82	0.82	0.82	0.7
27	0.79	0.8	0.81	0.81	0.71
30	0.79	0.77	0.8	0.79	0.76
33	0.76	0.76	0.79	0.77	0.79
36	0.75	0.79	0.76	0.8	0.77
39	0.75	0.79	0.77	0.81	0.8
42	0.78	0.75	0.78	0.76	0.79
45	0.75	0.75	0.74	0.77	0.76
48	0.74	0.73	0.76	0.75	0.75
51	0.76	0.71	0.78	0.74	0.72
54	0.75	0.72	0.76	0.75	0.71
57	0.74	0.7	0.75	0.72	0.71
60	0.73	0.74	0.73	0.76	0.69
63	0.71	0.75	0.74	0.77	0.71
66	0.75	0.75	0.77	0.77	0.73
69	0.75	0.77	0.76	0.79	0.74
72	0.74	0.75	0.78	0.75	0.77
75	0.76	0.75	0.77	0.74	0.74
78	0.74	0.73	0.76	0.72	0.73
81	0.74	0.7	0.76	0.7	0.71
84	0.73	0.7	0.72	0.71	0.69
87	0.72	0.7	0.71	0.71	0.71
90	0.71	0.71	0.71	0.71	0.7
93	0.7	0.73	0.7	0.71	0.72
96	0.7	0.72	0.71	0.69	0.73
99	0.71	0.71	0.7	0.69	0.72
102	0.69	0.7	0.68	0.68	0.72
105	0.69	0.69	0.68	0.68	0.71
108	0.68	0.71	0.66	0.69	0.69
111	0.68	0.72	0.67	0.69	0.7
114	0.71	0.73	0.69	0.71	0.71
117	0.72	0.73	0.69	0.7	0.72

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
120	0.73	0.72	0.7	0.71	0.72
123	0.72	0.73	0.69	0.72	0.73
126	0.72	0.71	0.71	0.71	0.75
129	0.73	0.72	0.7	0.72	0.77
132	0.71	0.74	0.69	0.74	0.78
135	0.72	0.7	0.73	0.73	0.78
138	0.74	0.72	0.72	0.75	0.78
141	0.72	0.73	0.72	0.74	0.78
144	0.75	0.7	0.73	0.72	0.78
147	0.76	0.7	0.71	0.72	0.78
150	0.75	0.68	0.71	0.72	0.77
153	0.74	0.67	0.71	0.72	0.78
156	0.7	0.7	0.7	0.74	0.77
159	0.7	0.69	0.72	0.75	0.79
162	0.74	0.68	0.73	0.76	0.8
165	0.73	0.71	0.74	0.76	0.8
168	0.72	0.72	0.74	0.73	0.8
171	0.75	0.75	0.72	0.75	0.75
174	0.74	0.78	0.74	0.77	0.75
177	0.78	0.78	0.76	0.77	0.78
180	0.8	0.79	0.76	0.78	0.78
183	0.8	0.78	0.75	0.76	0.81
186	0.82	0.77	0.73	0.77	0.79
189	0.83	0.76	0.73	0.75	0.79
192	0.79	0.77	0.73	0.76	0.77
195	0.8	0.77	0.73	0.78	0.76
198	0.8	0.78	0.75	0.77	0.79
201	0.8	0.78	0.74	0.79	0.79
204	0.81	0.78	0.76	0.78	0.83
207	0.8	0.78	0.76	0.78	0.83
210	0.8	0.78	0.76	0.8	0.82
213	0.8	0.78	0.77	0.78	0.81
216	0.8	0.78	0.75	0.77	0.78
219	0.81	0.76	0.73	0.77	0.78
222	0.79	0.75	0.73	0.75	0.77
225	0.77	0.76	0.71	0.75	0.73
228	0.76	0.74	0.7	0.76	0.75
231	0.75	0.73	0.67	0.76	0.74
234	0.72	0.74	0.65	0.73	0.74

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
237	0.74	0.73	0.67	0.72	0.75
240	0.74	0.73	0.68	0.71	0.74
243	0.74	0.73	0.69	0.71	0.75
246	0.73	0.74	0.7	0.73	0.75
249	0.73	0.73	0.71	0.73	0.74
252	0.73	0.7	0.71	0.71	0.74
255	0.72	0.72	0.69	0.7	0.73
258	0.73	0.73	0.67	0.72	0.75
261	0.74	0.73	0.69	0.73	0.76
264	0.74	0.73	0.7	0.73	0.76
267	0.73	0.72	0.72	0.73	0.76
270	0.73	0.72	0.72	0.73	0.75
273	0.72	0.72	0.72	0.73	0.76
276	0.73	0.72	0.73	0.74	0.76
279	0.73	0.73	0.71	0.76	0.75
282	0.73	0.71	0.73	0.75	0.76
285	0.73	0.72	0.73	0.74	0.75
288	0.73	0.73	0.72	0.74	0.74
291	0.74	0.72	0.73	0.74	0.74
294	0.73	0.74	0.72	0.75	0.74
297	0.73	0.74	0.75	0.76	0.75
300	0.73	0.72	0.75	0.75	0.76
303	0.72	0.74	0.74	0.76	0.78
306	0.73	0.72	0.75	0.75	0.79
309	0.72	0.73	0.74	0.75	0.75
312	0.72	0.74	0.73	0.77	0.76
315	0.74	0.74	0.74	0.76	0.8
318	0.74	0.75	0.73	0.76	0.8
321	0.75	0.74	0.73	0.75	0.81
324	0.75	0.75	0.73	0.76	0.8
327	0.75	0.76	0.73	0.78	0.79
330	0.75	0.74	0.75	0.76	0.8
333	0.74	0.77	0.73	0.77	0.8
336	0.74	0.77	0.74	0.78	0.81
339	0.75	0.77	0.76	0.77	0.8
342	0.74	0.77	0.75	0.79	0.78
345	0.75	0.75	0.77	0.77	0.79
348	0.73	0.65	0.75	0.73	0.78
351	0.71	0.58	0.7	0.61	0.74

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
354	0.63	0.61	0.59	0.59	0.67
357	0.59	0.72	0.56	0.68	0.71
360	0.67	0.8	0.65	0.78	0.75
363	0.76	0.79	0.77	0.83	0.76
366	0.81	0.74	0.82	0.79	0.81
369	0.79	0.74	0.79	0.76	0.82
372	0.75	0.76	0.75	0.78	0.8
375	0.77	0.77	0.77	0.8	0.78
378	0.8	0.74	0.79	0.79	0.79
381	0.79	0.78	0.76	0.79	0.79
384	0.78	0.82	0.77	0.83	0.78
387	0.83	0.8	0.81	0.82	0.82
390	0.83	0.79	0.8	0.81	0.82
393	0.81	0.77	0.78	0.79	0.82
396	0.8	0.76	0.76	0.77	0.81
399	0.78	0.78	0.74	0.8	0.8
402	0.8	0.78	0.76	0.81	0.83
405	0.82	0.81	0.79	0.82	0.84
408	0.81	0.81	0.81	0.84	0.83
411	0.83	0.78	0.84	0.82	0.84
414	0.82	0.77	0.82	0.8	0.83
417	0.79	0.77	0.8	0.81	0.8
420	0.8	0.77	0.8	0.8	0.8
423	0.8	0.78	0.79	0.79	0.78
426	0.8	0.81	0.78	0.76	0.77
429	0.82	0.83	0.75	0.76	0.76
432	0.82	0.79	0.76	0.76	0.78
435	0.81	0.77	0.75	0.78	0.78
438	0.81	0.76	0.76	0.79	0.79
441	0.81	0.76	0.76	0.77	0.78
444	0.78	0.77	0.73	0.76	0.77
447	0.78	0.77	0.73	0.75	0.79
450	0.77	0.78	0.72	0.74	0.77
453	0.76	0.78	0.7	0.73	0.77
456	0.76	0.76	0.71	0.73	0.77
459	0.75	0.76	0.71	0.73	0.77
462	0.74	0.75	0.72	0.73	0.76
465	0.73	0.76	0.72	0.72	0.77
468	0.73	0.76	0.7	0.72	0.78

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
471	0.73	0.74	0.7	0.71	0.78
474	0.72	0.76	0.69	0.73	0.74
477	0.74	0.74	0.71	0.74	0.77
480	0.75	0.75	0.73	0.73	0.76
483	0.73	0.76	0.72	0.73	0.76
486	0.73	0.75	0.72	0.73	0.76
489	0.72	0.75	0.72	0.74	0.75
492	0.72	0.75	0.73	0.75	0.77
495	0.74	0.76	0.73	0.75	0.76
498	0.74	0.76	0.73	0.76	0.76
501	0.74	0.77	0.73	0.76	0.76
504	0.74	0.77	0.73	0.77	0.76
507	0.75	0.76	0.73	0.76	0.77
510	0.75	0.77	0.73	0.75	0.76
513	0.75	0.77	0.74	0.75	0.78
516	0.77	0.76	0.74	0.75	0.78
519	0.76	0.77	0.73	0.77	0.76
522	0.76	0.77	0.74	0.76	0.79
525	0.76	0.78	0.75	0.77	0.79
528	0.74	0.78	0.77	0.78	0.8
531	0.76	0.79	0.78	0.77	0.82
534	0.75	0.81	0.77	0.79	0.81
537	0.78	0.8	0.8	0.79	0.82
540	0.79	0.84	0.79	0.8	0.81
543	0.8	0.84	0.8	0.83	0.83
546	0.82	0.82	0.82	0.82	0.85
549	0.81	0.84	0.81	0.84	0.84
552	0.82	0.81	0.82	0.86	0.87
555	0.84	0.82	0.84	0.85	0.86
558	0.83	0.83	0.84	0.87	0.88
561	0.84	0.81	0.84	0.85	0.88
564	0.84	0.81	0.82	0.85	0.86
567	0.82	0.78	0.82	0.84	0.86
570	0.81	0.79	0.81	0.83	0.84
573	0.78	0.8	0.8	0.84	0.84
576	0.78	0.79	0.83	0.84	0.85
579	0.79	0.81	0.83	0.83	0.86
582	0.78	0.8	0.83	0.84	0.86
585	0.8	0.8	0.83	0.84	0.86

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
588	0.8	0.8	0.83	0.85	0.86
591	0.8	0.8	0.84	0.85	0.85
594	0.81	0.79	0.84	0.84	0.85
597	0.79	0.8	0.84	0.83	0.84
600	0.79	0.82	0.83	0.83	0.83
603	0.8	0.84	0.84	0.83	0.84
606	0.79	0.83	0.85	0.84	0.84
609	0.8	0.82	0.85	0.82	0.85
612	0.79	0.82	0.82	0.83	0.84
615	0.81	0.8	0.83	0.82	0.83
618	0.81	0.83	0.83	0.82	0.83
621	0.8	0.85	0.83	0.85	0.84
624	0.85	0.84	0.85	0.82	0.85
627	0.85	0.85	0.83	0.83	0.83
630	0.85	0.82	0.83	0.83	0.85
633	0.84	0.8	0.83	0.82	0.83
636	0.81	0.82	0.81	0.84	0.83
639	0.82	0.82	0.82	0.85	0.85
642	0.84	0.82	0.83	0.86	0.85
645	0.82	0.85	0.83	0.86	0.86
648	0.84	0.82	0.83	0.86	0.85
651	0.83	0.8	0.83	0.85	0.84
654	0.8	0.84	0.81	0.85	0.82
657	0.82	0.83	0.81	0.86	0.83
660	0.87	0.78	0.82	0.82	0.85
663	0.84	0.79	0.78	0.81	0.8
666	0.81	0.8	0.77	0.83	0.79
669	0.83	0.79	0.78	0.79	0.85
672	0.82	0.76	0.75	0.77	0.84
675	0.81	0.69	0.75	0.73	0.8
678	0.78	0.69	0.73	0.68	0.74
681	0.73	0.7	0.69	0.7	0.69
684	0.74	0.7	0.7	0.72	0.73
687	0.75	0.74	0.72	0.72	0.73
690	0.73	0.78	0.75	0.75	0.74
693	0.78	0.77	0.79	0.75	0.81
696	0.8	0.76	0.77	0.76	0.82
699	0.8	0.72	0.76	0.76	0.81
702	0.79	0.71	0.75	0.75	0.79

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
705	0.78	0.74	0.73	0.75	0.79
708	0.79	0.71	0.75	0.72	0.79
711	0.76	0.71	0.72	0.72	0.74
714	0.76	0.69	0.73	0.73	0.77
717	0.78	0.69	0.73	0.72	0.78
720	0.75	0.69	0.72	0.74	0.77
723	0.76	0.69	0.73	0.72	0.78
726	0.76	0.71	0.71	0.72	0.76
729	0.77	0.71	0.7	0.72	0.76
732	0.78	0.71	0.7	0.71	0.74
735	0.77	0.71	0.69	0.74	0.73
738	0.78	0.7	0.71	0.74	0.73
741	0.79	0.7	0.71	0.74	0.74
744	0.79	0.71	0.71	0.75	0.76
747	0.8	0.71	0.71	0.75	0.76
750	0.8	0.72	0.71	0.75	0.77
753	0.81	0.72	0.71	0.74	0.77
756	0.81	0.72	0.71	0.74	0.76
759	0.8	0.72	0.72	0.74	0.77
762	0.81	0.71	0.72	0.74	0.76
765	0.81	0.71	0.72	0.75	0.77
768	0.8	0.71	0.72	0.75	0.79
771	0.81	0.7	0.73	0.72	0.8
774	0.8	0.71	0.71	0.72	0.79
777	0.8	0.71	0.72	0.72	0.76
780	0.81	0.71	0.72	0.72	0.77
783	0.8	0.71	0.72	0.72	0.76
786	0.81	0.69	0.71	0.71	0.76
789	0.79	0.69	0.7	0.7	0.76
792	0.78	0.67	0.69	0.69	0.76
795	0.78	0.66	0.67	0.68	0.74
798	0.76	0.66	0.65	0.67	0.75
801	0.75	0.66	0.65	0.67	0.76
804	0.74	0.66	0.64	0.67	0.73
807	0.74	0.68	0.64	0.67	0.72
810	0.75	0.69	0.66	0.68	0.73
813	0.76	0.69	0.68	0.68	0.73
816	0.76	0.7	0.67	0.69	0.72
819	0.76	0.69	0.68	0.7	0.74

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
822	0.77	0.7	0.68	0.69	0.74
825	0.76	0.69	0.68	0.7	0.73
828	0.77	0.69	0.68	0.69	0.74
831	0.77	0.7	0.68	0.7	0.74
834	0.78	0.7	0.69	0.7	0.75
837	0.79	0.69	0.69	0.7	0.74
840	0.77	0.69	0.68	0.7	0.74
843	0.77	0.69	0.68	0.69	0.74
846	0.76	0.69	0.67	0.68	0.73
849	0.77	0.68	0.67	0.69	0.74
852	0.77	0.69	0.66	0.7	0.75
855	0.78	0.69	0.66	0.73	0.76
858	0.8	0.69	0.67	0.73	0.76
861	0.81	0.7	0.67	0.73	0.75
864	0.81	0.69	0.69	0.74	0.76
867	0.81	0.7	0.7	0.73	0.77
870	0.8	0.7	0.71	0.76	0.76
873	0.8	0.7	0.72	0.76	0.76
876	0.8	0.74	0.72	0.77	0.75
879	0.8	0.76	0.73	0.82	0.77
882	0.84	0.76	0.75	0.81	0.78
885	0.83	0.76	0.75	0.8	0.76
888	0.84	0.73	0.76	0.78	0.78
891	0.84	0.74	0.74	0.76	0.78
894	0.82	0.75	0.73	0.77	0.78
897	0.83	0.76	0.74	0.77	0.78
900	0.83	0.77	0.74	0.79	0.76
903	0.83	0.75	0.74	0.8	0.78
906	0.82	0.75	0.74	0.78	0.78
909	0.8	0.75	0.74	0.79	0.78
912	0.81	0.75	0.76	0.79	0.8
915	0.81	0.75	0.75	0.8	0.78
918	0.82	0.73	0.76	0.8	0.78
921	0.82	0.75	0.73	0.8	0.76
924	0.81	0.77	0.74	0.82	0.77
927	0.86	0.78	0.77	0.81	0.79
930	0.86	0.78	0.77	0.82	0.79
933	0.87	0.73	0.79	0.8	0.82
936	0.85	0.7	0.77	0.73	0.81

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
939	0.79	0.69	0.71	0.74	0.74
942	0.77	0.65	0.7	0.72	0.75
945	0.78	0.65	0.65	0.68	0.74
948	0.75	0.66	0.63	0.69	0.7
951	0.75	0.64	0.66	0.68	0.75
954	0.73	0.67	0.67	0.65	0.78
957	0.69	0.68	0.67	0.72	0.79
960	0.71	0.67	0.7	0.74	0.75
963	0.73	0.64	0.68	0.73	0.69
966	0.73	0.6	0.67	0.69	0.66
969	0.74	0.6	0.62	0.65	0.68
972	0.69	0.61	0.61	0.66	0.68
975	0.7	0.6	0.63	0.67	0.71
978	0.7	0.62	0.62	0.65	0.75
981	0.67	0.62	0.63	0.67	0.73
984	0.69	0.63	0.64	0.68	0.7
987	0.7	0.64	0.65	0.71	0.67
990	0.71	0.62	0.66	0.7	0.67
993	0.72	0.62	0.64	0.7	0.69
996	0.7	0.61	0.64	0.71	0.68
999	0.73	0.59	0.63	0.69	0.72
1002	0.73	0.61	0.6	0.7	0.72
1005	0.73	0.6	0.62	0.7	0.7
1008	0.76	0.61	0.62	0.68	0.67
1011	0.74	0.63	0.61	0.71	0.64
1014	0.75	0.62	0.65	0.71	0.65
1017	0.76	0.64	0.66	0.69	0.68
1020	0.74	0.65	0.67	0.71	0.69
1023	0.77	0.65	0.67	0.71	0.71
1026	0.78	0.65	0.67	0.74	0.71
1029	0.79	0.63	0.7	0.73	0.73
1032	0.79	0.65	0.68	0.71	0.72
1035	0.77	0.63	0.67	0.72	0.7
1038	0.77	0.62	0.66	0.69	0.7
1041	0.75	0.63	0.63	0.7	0.68
1044	0.75	0.62	0.66	0.7	0.68
1047	0.75	0.61	0.66	0.69	0.7
1050	0.75	0.62	0.64	0.68	0.7
1053	0.75	0.62	0.65	0.66	0.69

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1056	0.73	0.61	0.63	0.66	0.67
1059	0.7	0.59	0.62	0.67	0.68
1062	0.7	0.59	0.6	0.66	0.68
1065	0.69	0.58	0.6	0.68	0.66
1068	0.7	0.58	0.6	0.68	0.67
1071	0.69	0.58	0.6	0.67	0.67
1074	0.69	0.57	0.61	0.66	0.67
1077	0.66	0.58	0.61	0.66	0.66
1080	0.67	0.58	0.61	0.68	0.67
1083	0.68	0.57	0.63	0.67	0.68
1086	0.67	0.57	0.61	0.67	0.68
1089	0.66	0.57	0.6	0.67	0.67
1092	0.66	0.57	0.6	0.66	0.67
1095	0.65	0.57	0.59	0.65	0.66
1098	0.64	0.58	0.6	0.66	0.67
1101	0.65	0.59	0.62	0.66	0.68
1104	0.65	0.59	0.61	0.68	0.69
1107	0.65	0.6	0.62	0.69	0.7
1110	0.66	0.59	0.62	0.69	0.7
1113	0.66	0.59	0.62	0.69	0.7
1116	0.66	0.58	0.61	0.69	0.68
1119	0.66	0.58	0.62	0.69	0.69
1122	0.66	0.58	0.62	0.69	0.68
1125	0.65	0.6	0.62	0.71	0.69
1128	0.65	0.61	0.63	0.71	0.7
1131	0.66	0.61	0.65	0.71	0.7
1134	0.66	0.61	0.66	0.71	0.7
1137	0.66	0.62	0.65	0.71	0.71
1140	0.66	0.62	0.65	0.71	0.71
1143	0.65	0.62	0.65	0.71	0.71
1146	0.66	0.62	0.64	0.69	0.7
1149	0.66	0.6	0.65	0.68	0.68
1152	0.65	0.6	0.64	0.69	0.68
1155	0.65	0.62	0.64	0.71	0.7
1158	0.67	0.62	0.67	0.71	0.7
1161	0.67	0.64	0.68	0.73	0.7
1164	0.68	0.63	0.69	0.72	0.73
1167	0.67	0.64	0.68	0.7	0.74
1170	0.65	0.66	0.66	0.72	0.72

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1173	0.69	0.64	0.69	0.73	0.75
1176	0.69	0.66	0.69	0.73	0.75
1179	0.68	0.68	0.68	0.74	0.75
1182	0.68	0.69	0.7	0.74	0.74
1185	0.7	0.66	0.71	0.72	0.73
1188	0.69	0.65	0.69	0.7	0.71
1191	0.66	0.65	0.68	0.71	0.71
1194	0.68	0.62	0.69	0.7	0.74
1197	0.67	0.64	0.68	0.7	0.72
1200	0.65	0.67	0.68	0.72	0.73
1203	0.68	0.67	0.69	0.72	0.73
1206	0.67	0.66	0.69	0.72	0.72
1209	0.67	0.64	0.68	0.72	0.75
1212	0.66	0.64	0.67	0.71	0.74
1215	0.64	0.64	0.66	0.7	0.74
1218	0.65	0.64	0.65	0.7	0.73
1221	0.64	0.67	0.66	0.72	0.72
1224	0.67	0.68	0.69	0.74	0.74
1227	0.67	0.68	0.7	0.74	0.75
1230	0.68	0.67	0.71	0.76	0.76
1233	0.69	0.68	0.71	0.77	0.77
1236	0.69	0.67	0.72	0.77	0.77
1239	0.7	0.69	0.71	0.74	0.77
1242	0.69	0.69	0.69	0.75	0.77
1245	0.69	0.69	0.71	0.75	0.76
1248	0.7	0.69	0.71	0.76	0.77
1251	0.7	0.7	0.7	0.78	0.77
1254	0.7	0.69	0.71	0.79	0.78
1257	0.7	0.68	0.71	0.78	0.79
1260	0.69	0.67	0.71	0.76	0.79
1263	0.69	0.67	0.71	0.75	0.79
1266	0.69	0.68	0.71	0.73	0.77
1269	0.69	0.69	0.71	0.73	0.75
1272	0.71	0.7	0.72	0.74	0.74
1275	0.72	0.69	0.72	0.74	0.73
1278	0.71	0.68	0.71	0.72	0.72
1281	0.69	0.69	0.69	0.74	0.7
1284	0.7	0.68	0.71	0.75	0.72
1287	0.69	0.7	0.69	0.75	0.74

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1290	0.69	0.72	0.7	0.79	0.75
1293	0.72	0.71	0.74	0.82	0.78
1296	0.75	0.72	0.74	0.81	0.79
1299	0.77	0.73	0.75	0.85	0.8
1302	0.8	0.72	0.78	0.84	0.82
1305	0.79	0.73	0.77	0.83	0.82
1308	0.75	0.73	0.76	0.83	0.82
1311	0.75	0.73	0.77	0.82	0.82
1314	0.76	0.75	0.77	0.82	0.81
1317	0.76	0.78	0.76	0.8	0.8
1320	0.78	0.8	0.75	0.8	0.78
1323	0.79	0.79	0.79	0.81	0.78
1326	0.8	0.76	0.79	0.8	0.81
1329	0.79	0.72	0.78	0.76	0.8
1332	0.76	0.68	0.74	0.73	0.75
1335	0.7	0.71	0.7	0.75	0.72
1338	0.7	0.72	0.74	0.74	0.74
1341	0.71	0.8	0.79	0.73	0.73
1344	0.72	1.01	0.85	0.99	0.75
1347	0.89	1	0.96	1.2	1
1350	0.92	0.94	0.88	1.12	1.17
1353	0.81	0.86	0.78	1.01	1.06
1356	0.84	0.77	0.88	0.88	0.98
1359	0.92	0.77	1.01	0.8	0.87
1362	0.9	0.81	0.98	0.82	0.81
1365	0.87	0.82	0.94	0.88	0.85
1368	0.88	0.83	0.84	0.93	0.89
1371	0.83	1.01	0.8	1.09	0.92
1374	0.84	1.14	0.9	1.2	1.12
1377	0.92	1.02	0.96	1.2	1.2
1380	0.91	0.9	1.02	1.2	1.2
1383	0.89	0.84	1.17	1.2	1.2
1386	0.98	0.82	1.14	1.05	1.2
1389	0.96	0.8	0.94	0.9	1.09
1392	0.89	0.78	0.82	0.81	0.88
1395	0.82	0.77	0.79	0.8	0.8
1398	0.79	0.77	0.81	0.8	0.8
1401	0.8	0.75	0.78	0.83	0.81
1404	0.78	0.82	0.77	0.96	0.84

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1407	0.76	0.9	0.88	1.2	0.99
1410	0.86	0.89	0.91	1.2	1.2
1413	0.93	0.91	0.85	1.08	1.2
1416	0.93	0.89	0.86	0.96	1.15
1419	0.91	0.86	0.91	0.9	0.97
1422	0.87	0.84	0.9	0.86	0.88
1425	0.86	0.81	0.85	0.85	0.86
1428	0.83	0.82	0.84	0.82	0.85
1431	0.82	0.85	0.86	0.82	0.83
1434	0.83	0.87	0.84	0.89	0.83
1437	0.82	0.89	0.85	0.94	0.9
1440	0.86	0.9	0.86	0.93	0.93
1443	0.88	0.95	0.87	0.91	0.92
1446	0.88	1.07	0.88	0.91	0.93
1449	0.87	1.14	0.86	0.91	0.94
1452	0.84	1.04	0.86	0.9	0.94
1455	0.86	0.93	0.86	0.88	0.9
1458	0.87	0.87	0.85	0.87	0.89
1461	0.85	0.84	0.86	0.87	0.9
1464	0.85	0.83	0.84	0.84	0.88
1467	0.82	0.89	0.83	0.85	0.85
1470	0.82	0.9	0.86	0.86	0.86
1473	0.85	0.95	0.86	0.9	0.88
1476	0.85	1	0.87	0.93	0.9
1479	0.88	1.01	0.89	0.92	0.93
1482	0.9	0.98	0.89	0.93	0.92
1485	0.88	0.94	0.89	0.92	0.91
1488	0.88	0.92	0.86	0.9	0.9
1491	0.88	0.89	0.89	0.88	0.9
1494	0.87	0.86	0.87	0.87	0.88
1497	0.84	0.87	0.86	0.88	0.87
1500	0.84	0.88	0.86	0.88	0.88
1503	0.85	0.87	0.86	0.88	0.89
1506	0.86	0.84	0.89	0.9	0.9
1509	0.87	0.83	0.91	0.9	0.92
1512	0.86	0.86	0.87	0.9	0.92
1515	0.86	0.86	0.89	0.9	0.91
1518	0.87	0.88	0.89	0.9	0.91
1521	0.85	0.88	0.88	0.9	0.9

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1524	0.87	0.85	0.89	0.88	0.89
1527	0.87	0.85	0.87	0.86	0.87
1530	0.84	0.84	0.85	0.85	0.86
1533	0.85	0.82	0.86	0.84	0.84
1536	0.84	0.82	0.85	0.84	0.84
1539	0.82	0.82	0.84	0.85	0.85
1542	0.82	0.85	0.82	0.87	0.84
1545	0.82	0.9	0.84	0.9	0.87
1548	0.88	0.91	0.89	0.92	0.9
1551	0.93	0.89	0.91	0.91	0.92
1554	0.91	0.86	0.89	0.89	0.9
1557	0.88	0.87	0.84	0.89	0.88
1560	0.88	0.86	0.86	0.89	0.89
1563	0.9	0.86	0.87	0.87	0.88
1566	0.88	0.86	0.85	0.88	0.87
1569	0.88	0.85	0.86	0.9	0.88
1572	0.87	0.87	0.86	0.9	0.89
1575	0.88	0.86	0.87	0.9	0.89
1578	0.89	0.86	0.86	0.9	0.89
1581	0.87	0.87	0.84	0.91	0.88
1584	0.88	0.85	0.86	0.91	0.9
1587	0.89	0.86	0.86	0.91	0.9
1590	0.89	0.85	0.87	0.91	0.9
1593	0.88	0.84	0.88	0.91	0.91
1596	0.88	0.85	0.86	0.88	0.9
1599	0.88	0.86	0.86	0.88	0.87
1602	0.89	0.81	0.87	0.86	0.87
1605	0.86	0.8	0.84	0.82	0.85
1608	0.83	0.77	0.8	0.81	0.82
1611	0.81	0.78	0.79	0.79	0.8
1614	0.77	0.83	0.76	0.81	0.78
1617	0.8	0.82	0.8	0.84	0.81
1620	0.83	0.84	0.83	0.84	0.83
1623	0.83	0.86	0.84	0.89	0.84
1626	0.87	0.85	0.87	0.89	0.89
1629	0.88	0.82	0.86	0.88	0.87
1632	0.87	0.8	0.85	0.85	0.86
1635	0.85	0.81	0.83	0.84	0.85
1638	0.85	0.82	0.83	0.85	0.85

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1641	0.85	0.83	0.82	0.85	0.87
1644	0.85	0.82	0.83	0.84	0.86
1647	0.84	0.79	0.82	0.81	0.84
1650	0.81	0.76	0.8	0.76	0.83
1653	0.78	0.74	0.75	0.71	0.81
1656	0.78	0.76	0.73	0.66	0.77
1659	0.76	0.87	0.7	0.74	0.7
1662	0.85	0.84	0.81	0.92	0.83
1665	0.97	0.79	0.92	0.89	0.95
1668	0.92	0.93	0.87	0.88	0.9
1671	0.9	1.12	0.85	0.94	0.89
1674	1.12	1.05	1.01	0.89	0.99
1677	1.18	0.97	1.03	0.79	0.97
1680	1.06	0.92	0.95	0.82	0.86
1683	1.01	0.84	0.95	0.85	0.89
1686	0.94	0.78	0.87	0.8	0.89
1689	0.84	0.96	0.8	0.79	0.83
1692	0.84	1.2	0.83	1.08	0.81
1695	1.1	0.45	1.18	1.2	1.06
1698	0.83	0.64	0.64	1.2	1.2
1701	0.08	1.2	0.08	1	1.2
1704	0.64	1.01	1.2	0.85	1.04
1707	1.2	0.83	1.13	0.8	0.86
1710	1.18	0.74	0.91	0.79	0.82
1713	0.99	0.72	0.79	0.76	0.78
1716	0.85	0.74	0.74	0.77	0.74
1719	0.8	0.82	0.72	0.89	0.77
1722	0.82	1.08	0.76	0.97	0.84
1725	0.83	1.2	0.95	0.93	0.94
1728	0.93	1.13	1.2	0.83	0.95
1731	1.2	0.92	1.12	0.82	0.89
1734	1.2	0.79	0.9	0.83	0.87
1737	1.03	0.75	0.81	0.78	0.83
1740	0.86	0.76	0.76	0.79	0.81
1743	0.82	0.75	0.77	0.8	0.81
1746	0.86	0.75	0.76	0.79	0.8
1749	0.86	0.79	0.73	0.8	0.8
1752	0.84	0.83	0.77	0.8	0.79
1755	0.83	0.83	0.8	0.81	0.82

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1758	0.84	0.86	0.79	0.83	0.82
1761	0.89	0.86	0.8	0.82	0.83
1764	0.88	0.86	0.82	0.82	0.83
1767	0.83	0.86	0.82	0.86	0.83
1770	0.9	0.83	0.83	0.85	0.85
1773	0.92	0.84	0.81	0.85	0.83
1776	0.9	0.85	0.82	0.86	0.83
1779	0.9	0.83	0.83	0.84	0.84
1782	0.86	0.85	0.81	0.85	0.81
1785	0.87	0.83	0.83	0.83	0.83
1788	0.88	0.82	0.83	0.82	0.83
1791	0.85	0.83	0.82	0.82	0.82
1794	0.88	0.82	0.83	0.83	0.84
1797	0.87	0.82	0.82	0.84	0.84
1800	0.85	0.82	0.83	0.84	0.83
1803	0.85	0.83	0.83	0.85	0.83
1806	0.83	0.84	0.82	0.84	0.82
1809	0.85	0.83	0.83	0.83	0.83
1812	0.84	0.84	0.82	0.83	0.84
1815	0.83	0.84	0.83	0.83	0.85
1818	0.85	0.84	0.84	0.84	0.86
1821	0.84	0.85	0.85	0.84	0.86
1824	0.85	0.85	0.87	0.84	0.87
1827	0.86	0.83	0.87	0.84	0.87
1830	0.83	0.84	0.87	0.85	0.87
1833	0.85	0.82	0.88	0.84	0.88
1836	0.83	0.84	0.85	0.84	0.87
1839	0.82	0.84	0.85	0.85	0.85
1842	0.83	0.82	0.86	0.82	0.87
1845	0.79	0.85	0.83	0.83	0.84
1848	0.82	0.86	0.86	0.87	0.85
1851	0.86	0.83	0.89	0.84	0.9
1854	0.83	0.88	0.87	0.86	0.88
1857	0.84	0.86	0.89	0.9	0.89
1860	0.87	0.81	0.9	0.87	0.9
1863	0.83	0.82	0.85	0.85	0.85
1866	0.82	0.77	0.82	0.82	0.84
1869	0.79	0.76	0.8	0.79	0.83
1872	0.75	0.79	0.76	0.83	0.78

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1875	0.79	0.77	0.79	0.84	0.8
1878	0.81	0.77	0.79	0.82	0.8
1881	0.79	0.77	0.78	0.82	0.8
1884	0.8	0.76	0.81	0.8	0.82
1887	0.78	0.78	0.8	0.8	0.8
1890	0.78	0.78	0.81	0.81	0.8
1893	0.78	0.8	0.81	0.79	0.82
1896	0.77	0.8	0.8	0.83	0.81
1899	0.79	0.79	0.82	0.81	0.83
1902	0.78	0.78	0.81	0.81	0.81
1905	0.78	0.77	0.8	0.81	0.79
1908	0.79	0.77	0.81	0.8	0.81
1911	0.79	0.78	0.81	0.8	0.8
1914	0.8	0.79	0.82	0.8	0.82
1917	0.79	0.8	0.82	0.81	0.82
1920	0.79	0.78	0.83	0.82	0.83
1923	0.8	0.78	0.82	0.81	0.83
1926	0.79	0.79	0.82	0.82	0.82
1929	0.81	0.78	0.82	0.81	0.83
1932	0.81	0.8	0.82	0.81	0.82
1935	0.81	0.8	0.82	0.82	0.82
1938	0.82	0.78	0.83	0.79	0.83
1941	0.8	0.8	0.82	0.81	0.82
1944	0.8	0.79	0.83	0.83	0.81
1947	0.8	0.79	0.83	0.81	0.83
1950	0.78	0.8	0.82	0.82	0.81
1953	0.8	0.79	0.85	0.8	0.82
1956	0.78	0.79	0.84	0.8	0.81
1959	0.79	0.78	0.84	0.81	0.83
1962	0.78	0.79	0.83	0.81	0.83
1965	0.77	0.81	0.82	0.83	0.83
1968	0.8	0.81	0.83	0.82	0.84
1971	0.79	0.81	0.8	0.82	0.82
1974	0.8	0.79	0.82	0.82	0.83
1977	0.79	0.79	0.84	0.81	0.84
1980	0.79	0.81	0.84	0.82	0.83
1983	0.79	0.82	0.85	0.83	0.84
1986	0.81	0.81	0.85	0.83	0.84
1989	0.81	0.82	0.84	0.84	0.85

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
1992	0.82	0.82	0.85	0.84	0.85
1995	0.83	0.84	0.87	0.84	0.87
1998	0.84	0.84	0.88	0.87	0.88
2001	0.85	0.85	0.88	0.88	0.88
2004	0.85	0.86	0.89	0.88	0.88
2007	0.87	0.85	0.9	0.87	0.88
2010	0.87	0.85	0.88	0.87	0.87
2013	0.86	0.83	0.88	0.87	0.88
2016	0.86	0.81	0.88	0.83	0.88
2019	0.84	0.82	0.85	0.85	0.86
2022	0.85	0.79	0.88	0.86	0.87
2025	0.82	0.81	0.88	0.85	0.88
2028	0.79	0.82	0.87	0.87	0.87
2031	0.81	0.82	0.89	0.84	0.9
2034	0.8	0.86	0.86	0.83	0.87
2037	0.81	0.85	0.87	0.84	0.87
2040	0.81	0.83	0.88	0.82	0.87
2043	0.78	0.85	0.85	0.83	0.85
2046	0.79	0.85	0.85	0.83	0.86
2049	0.78	0.87	0.82	0.83	0.85
2052	0.77	0.84	0.84	0.83	0.86
2055	0.79	0.82	0.84	0.82	0.87
2058	0.77	0.81	0.84	0.83	0.85
2061	0.79	0.79	0.85	0.82	0.86
2064	0.79	0.8	0.84	0.82	0.86
2067	0.78	0.8	0.83	0.83	0.85
2070	0.79	0.79	0.85	0.82	0.86
2073	0.79	0.82	0.83	0.83	0.86
2076	0.8	0.82	0.84	0.83	0.87
2079	0.82	0.81	0.85	0.83	0.87
2082	0.84	0.8	0.86	0.82	0.86
2085	0.84	0.8	0.84	0.82	0.86
2088	0.83	0.79	0.84	0.82	0.85
2091	0.81	0.78	0.84	0.81	0.86
2094	0.81	0.79	0.81	0.82	0.85
2097	0.82	0.79	0.83	0.84	0.85
2100	0.83	0.77	0.85	0.82	0.87
2103	0.83	0.77	0.83	0.81	0.85
2106	0.82	0.75	0.83	0.82	0.85

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
2109	0.83	0.77	0.83	0.81	0.83
2112	0.84	0.78	0.82	0.82	0.82
2115	0.84	0.8	0.82	0.83	0.83
2118	0.83	0.8	0.83	0.83	0.83
2121	0.83	0.78	0.83	0.8	0.83
2124	0.83	0.8	0.8	0.82	0.82
2127	0.83	0.8	0.82	0.84	0.83
2130	0.83	0.79	0.84	0.84	0.85
2133	0.82	0.82	0.82	0.85	0.82
2136	0.84	0.82	0.84	0.87	0.84
2139	0.85	0.85	0.86	0.87	0.85
2142	0.84	0.84	0.87	0.88	0.85
2145	0.86	0.81	0.88	0.86	0.87
2148	0.84	0.81	0.87	0.85	0.85
2151	0.84	0.8	0.86	0.84	0.84
2154	0.83	0.82	0.83	0.86	0.82
2157	0.83	0.81	0.85	0.86	0.85
2160	0.84	0.81	0.86	0.85	0.86
2163	0.84	0.83	0.84	0.87	0.83
2166	0.85	0.82	0.86	0.87	0.84
2169	0.85	0.82	0.85	0.86	0.83
2172	0.84	0.82	0.84	0.87	0.82
2175	0.86	0.82	0.85	0.86	0.83
2178	0.87	0.82	0.84	0.86	0.82
2181	0.88	0.81	0.84	0.85	0.84
2184	0.88	0.8	0.83	0.85	0.82
2187	0.85	0.8	0.83	0.84	0.81
2190	0.83	0.81	0.82	0.84	0.82
2193	0.81	0.8	0.82	0.83	0.8
2196	0.78	0.79	0.83	0.79	0.79
2199	0.75	0.83	0.8	0.82	0.76
2202	0.79	0.83	0.84	0.84	0.8
2205	0.82	0.81	0.86	0.83	0.83
2208	0.8	0.83	0.83	0.86	0.81
2211	0.81	0.83	0.82	0.86	0.83
2214	0.85	0.83	0.84	0.86	0.86
2217	0.85	0.84	0.83	0.85	0.85
2220	0.84	0.84	0.83	0.85	0.84
2223	0.82	0.85	0.84	0.86	0.83

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
2226	0.83	0.86	0.85	0.87	0.84
2229	0.85	0.84	0.85	0.85	0.84
2232	0.84	0.81	0.83	0.82	0.82
2235	0.81	0.8	0.81	0.81	0.81
2238	0.79	0.8	0.79	0.8	0.79
2241	0.79	0.79	0.8	0.81	0.79
2244	0.79	0.82	0.79	0.83	0.8
2247	0.81	0.84	0.8	0.85	0.82
2250	0.82	0.83	0.8	0.85	0.82
2253	0.82	0.82	0.8	0.84	0.81
2256	0.83	0.79	0.81	0.81	0.81
2259	0.81	0.77	0.79	0.79	0.79
2262	0.8	0.78	0.77	0.79	0.78
2265	0.79	0.78	0.78	0.81	0.79
2268	0.81	0.78	0.79	0.81	0.8
2271	0.8	0.79	0.79	0.8	0.81
2274	0.79	0.82	0.78	0.82	0.81
2277	0.81	0.83	0.81	0.83	0.83
2280	0.84	0.84	0.82	0.83	0.84
2283	0.85	0.86	0.82	0.84	0.84
2286	0.86	0.86	0.83	0.84	0.83
2289	0.86	0.84	0.83	0.83	0.83
2292	0.83	0.84	0.81	0.83	0.82
2295	0.82	0.84	0.8	0.84	0.83
2298	0.82	0.86	0.82	0.85	0.85
2301	0.82	0.89	0.82	0.86	0.85
2304	0.83	0.9	0.84	0.86	0.86
2307	0.84	0.91	0.85	0.85	0.85
2310	0.85	0.92	0.85	0.85	0.85
2313	0.87	0.92	0.85	0.84	0.84
2316	0.85	0.91	0.84	0.83	0.83
2319	0.82	0.89	0.82	0.82	0.81
2322	0.81	0.87	0.81	0.8	0.8
2325	0.79	0.88	0.81	0.82	0.81
2328	0.81	0.87	0.84	0.83	0.83
2331	0.81	0.86	0.84	0.82	0.84
2334	0.8	0.89	0.83	0.84	0.82
2337	0.83	0.87	0.85	0.84	0.84
2340	0.82	0.88	0.84	0.82	0.83

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
2343	0.82	0.88	0.83	0.83	0.82
2346	0.83	0.88	0.84	0.82	0.82
2349	0.81	0.86	0.82	0.81	0.82
2352	0.81	0.84	0.82	0.8	0.82
2355	0.8	0.86	0.8	0.81	0.8
2358	0.8	0.85	0.81	0.81	0.81
2361	0.79	0.86	0.81	0.8	0.8
2364	0.77	0.87	0.79	0.82	0.78
2367	0.8	0.86	0.82	0.82	0.81
2370	0.81	0.88	0.82	0.83	0.82
2373	0.83	0.87	0.84	0.84	0.84
2376	0.84	0.87	0.84	0.83	0.84
2379	0.82	0.86	0.83	0.85	0.84
2382	0.84	0.84	0.84	0.83	0.85
2385	0.82	0.87	0.83	0.83	0.83
2388	0.82	0.89	0.83	0.85	0.84
2391	0.86	0.86	0.83	0.83	0.84
2394	0.84	0.86	0.83	0.83	0.83
2397	0.83	0.82	0.85	0.82	0.83
2400	0.83	0.79	0.83	0.78	0.82
2403	0.8	0.8	0.81	0.79	0.79
2406	0.79	0.78	0.81	0.78	0.79
2409	0.79	0.8	0.8	0.78	0.78
2412	0.78	0.81	0.78	0.81	0.78
2415	0.81	0.79	0.82	0.81	0.8
2418	0.79	0.83	0.81	0.81	0.79
2421	0.81	0.8	0.82	0.8	0.8
2424	0.81	0.8	0.8	0.78	0.78
2427	0.79	0.8	0.79	0.79	0.78
2430	0.82	0.8	0.8	0.78	0.79
2433	0.81	0.8	0.79	0.79	0.77
2436	0.82	0.78	0.8	0.79	0.79
2439	0.81	0.8	0.79	0.79	0.78
2442	0.8	0.77	0.8	0.79	0.78
2445	0.8	0.77	0.79	0.79	0.78
2448	0.78	0.79	0.76	0.8	0.75
2451	0.8	0.78	0.8	0.8	0.78
2454	0.8	0.79	0.79	0.79	0.76
2457	0.8	0.79	0.78	0.8	0.76

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
2460	0.81	0.79	0.79	0.79	0.77
2463	0.8	0.81	0.78	0.8	0.77
2466	0.81	0.8	0.8	0.8	0.79
2469	0.81	0.8	0.8	0.79	0.79
2472	0.8	0.81	0.81	0.8	0.79
2475	0.81	0.8	0.82	0.81	0.8
2478	0.8	0.81	0.81	0.81	0.8
2481	0.8	0.82	0.81	0.83	0.81
2484	0.8	0.83	0.81	0.84	0.81
2487	0.83	0.82	0.83	0.82	0.84
2490	0.83	0.82	0.8	0.81	0.82
2493	0.82	0.81	0.79	0.81	0.8
2496	0.82	0.81	0.8	0.8	0.8
2499	0.82	0.82	0.8	0.8	0.79
2502	0.81	0.82	0.81	0.82	0.81
2505	0.82	0.82	0.81	0.82	0.82
2508	0.81	0.82	0.82	0.83	0.82
2511	0.81	0.84	0.84	0.83	0.82
2514	0.82	0.84	0.84	0.83	0.82
2517	0.83	0.83	0.84	0.83	0.82
2520	0.83	0.83	0.84	0.83	0.81
2523	0.83	0.81	0.83	0.81	0.81
2526	0.82	0.8	0.81	0.81	0.81
2529	0.8	0.8	0.8	0.83	0.79
2532	0.83	0.78	0.82	0.81	0.81
2535	0.81	0.8	0.81	0.81	0.8
2538	0.8	0.82	0.8	0.83	0.79
2541	0.82	0.83	0.83	0.83	0.83
2544	0.82	0.85	0.82	0.85	0.83
2547	0.84	0.84	0.84	0.86	0.82
2550	0.85	0.84	0.85	0.84	0.83
2553	0.84	0.86	0.83	0.84	0.83
2556	0.84	0.86	0.85	0.87	0.82
2559	0.86	0.81	0.87	0.84	0.85
2562	0.83	0.82	0.83	0.8	0.83
2565	0.82	0.85	0.81	0.83	0.81
2568	0.84	0.84	0.84	0.84	0.85
2571	0.85	0.84	0.85	0.84	0.85
2574	0.84	0.87	0.83	0.85	0.85

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
2577	0.85	0.86	0.85	0.87	0.86
2580	0.87	0.83	0.86	0.84	0.88
2583	0.84	0.82	0.83	0.81	0.85
2586	0.82	0.78	0.81	0.8	0.81
2589	0.8	0.8	0.79	0.79	0.8
2592	0.79	0.82	0.77	0.82	0.78
2595	0.81	0.82	0.8	0.83	0.82
2598	0.83	0.83	0.81	0.84	0.83
2601	0.85	0.81	0.81	0.83	0.84
2604	0.84	0.8	0.8	0.81	0.83
2607	0.82	0.8	0.78	0.8	0.8
2610	0.82	0.77	0.79	0.77	0.8
2613	0.8	0.79	0.77	0.77	0.77
2616	0.79	0.79	0.77	0.79	0.77
2619	0.81	0.8	0.78	0.8	0.8
2622	0.82	0.81	0.79	0.82	0.8
2625	0.82	0.82	0.82	0.83	0.81
2628	0.82	0.83	0.82	0.83	0.84
2631	0.84	0.8	0.82	0.82	0.85
2634	0.83	0.8	0.8	0.8	0.83
2637	0.81	0.8	0.78	0.81	0.82
2640	0.81	0.8	0.78	0.81	0.82
2643	0.8	0.79	0.79	0.82	0.82
2646	0.8	0.78	0.81	0.82	0.82
2649	0.8	0.78	0.81	0.83	0.83
2652	0.8	0.77	0.8	0.82	0.82
2655	0.8	0.76	0.8	0.79	0.83
2658	0.79	0.78	0.78	0.8	0.82
2661	0.79	0.76	0.78	0.8	0.81
2664	0.79	0.77	0.78	0.81	0.82
2667	0.78	0.76	0.79	0.83	0.82
2670	0.79	0.75	0.8	0.81	0.84
2673	0.76	0.78	0.79	0.83	0.82
2676	0.77	0.77	0.8	0.82	0.84
2679	0.78	0.78	0.8	0.81	0.84
2682	0.77	0.8	0.79	0.83	0.81
2685	0.79	0.78	0.82	0.82	0.84
2688	0.8	0.78	0.81	0.82	0.83
2691	0.78	0.77	0.8	0.83	0.81

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
2694	0.79	0.73	0.81	0.8	0.84
2697	0.77	0.76	0.79	0.8	0.83
2700	0.77	0.77	0.79	0.81	0.81
2703	0.8	0.76	0.81	0.8	0.83
2706	0.79	0.76	0.78	0.79	0.81
2709	0.78	0.76	0.79	0.8	0.81
2712	0.78	0.77	0.8	0.8	0.82
2715	0.78	0.78	0.82	0.8	0.83
2718	0.79	0.79	0.83	0.82	0.83
2721	0.81	0.77	0.84	0.82	0.84
2724	0.81	0.77	0.84	0.8	0.83
2727	0.8	0.76	0.82	0.81	0.83
2730	0.8	0.76	0.83	0.8	0.83
2733	0.79	0.78	0.82	0.81	0.83
2736	0.8	0.78	0.82	0.81	0.84
2739	0.8	0.77	0.82	0.81	0.85
2742	0.8	0.77	0.81	0.81	0.83
2745	0.8	0.76	0.81	0.8	0.83
2748	0.79	0.76	0.8	0.81	0.82
2751	0.78	0.77	0.79	0.82	0.82
2754	0.79	0.78	0.81	0.82	0.82
2757	0.79	0.78	0.82	0.82	0.84
2760	0.8	0.78	0.82	0.8	0.85
2763	0.81	0.78	0.81	0.81	0.83
2766	0.82	0.77	0.82	0.8	0.83
2769	0.82	0.75	0.82	0.79	0.82
2772	0.8	0.77	0.8	0.82	0.81
2775	0.81	0.76	0.82	0.82	0.83
2778	0.81	0.77	0.82	0.83	0.83
2781	0.81	0.77	0.83	0.82	0.85
2784	0.82	0.78	0.82	0.81	0.86
2787	0.81	0.79	0.81	0.83	0.84
2790	0.83	0.78	0.83	0.82	0.85
2793	0.82	0.78	0.83	0.82	0.83
2796	0.82	0.75	0.82	0.79	0.85
2799	0.8	0.77	0.79	0.78	0.83
2802	0.78	0.8	0.77	0.84	0.81
2805	0.81	0.8	0.82	0.84	0.86
2808	0.82	0.79	0.84	0.83	0.87

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
2811	0.81	0.82	0.82	0.85	0.86
2814	0.83	0.83	0.85	0.86	0.87
2817	0.83	0.81	0.85	0.86	0.88
2820	0.82	0.8	0.86	0.83	0.89
2823	0.82	0.76	0.84	0.82	0.86
2826	0.81	0.73	0.82	0.8	0.87
2829	0.77	0.77	0.8	0.81	0.85
2832	0.78	0.81	0.81	0.86	0.83
2835	0.83	0.8	0.86	0.86	0.87
2838	0.83	0.85	0.83	0.88	0.84
2841	0.84	0.85	0.85	0.89	0.83
2844	0.87	0.85	0.91	0.87	0.92
2847	0.85	0.82	0.91	0.84	0.94
2850	0.83	0.77	0.87	0.78	0.91
2853	0.78	0.8	0.78	0.77	0.82
2856	0.75	0.87	0.76	0.83	0.81
2859	0.8	0.88	0.82	0.83	0.88
2862	0.8	0.92	0.82	0.88	0.89
2865	0.82	0.92	0.85	0.92	0.94
2868	0.88	0.89	0.92	0.9	0.98
2871	0.88	0.88	0.93	0.89	0.97
2874	0.88	0.83	0.92	0.85	0.92
2877	0.82	0.81	0.86	0.85	0.83
2880	0.79	0.78	0.84	0.83	0.83
2883	0.8	0.75	0.86	0.8	0.89
2886	0.78	0.78	0.84	0.8	0.88
2889	0.76	0.79	0.83	0.8	0.87
2892	0.75	0.79	0.8	0.82	0.82
2895	0.76	0.79	0.81	0.83	0.83
2898	0.76	0.77	0.83	0.79	0.84
2901	0.75	0.79	0.79	0.81	0.8
2904	0.75	0.79	0.8	0.8	0.81
2907	0.77	0.77	0.8	0.77	0.79
2910	0.77	0.8	0.79	0.79	0.77
2913	0.77	0.78	0.8	0.8	0.79
2916	0.8	0.77	0.79	0.79	0.78
2919	0.79	0.78	0.78	0.79	0.78
2922	0.8	0.76	0.79	0.78	0.79
2925	0.78	0.77	0.78	0.78	0.8

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
2928	0.77	0.78	0.79	0.77	0.8
2931	0.77	0.78	0.78	0.78	0.78
2934	0.75	0.81	0.79	0.79	0.8
2937	0.75	0.79	0.81	0.79	0.8
2940	0.76	0.81	0.8	0.81	0.79
2943	0.77	0.8	0.82	0.82	0.81
2946	0.81	0.78	0.81	0.81	0.81
2949	0.81	0.78	0.79	0.81	0.8
2952	0.8	0.76	0.78	0.8	0.8
2955	0.8	0.78	0.76	0.81	0.79
2958	0.8	0.8	0.78	0.81	0.79
2961	0.81	0.79	0.79	0.79	0.8
2964	0.82	0.82	0.78	0.82	0.8
2967	0.85	0.8	0.81	0.79	0.8
2970	0.83	0.8	0.79	0.8	0.77
2973	0.82	0.81	0.8	0.8	0.79
2976	0.8	0.81	0.82	0.8	0.8
2979	0.79	0.82	0.81	0.82	0.78
2982	0.82	0.81	0.84	0.8	0.81
2985	0.79	0.82	0.82	0.81	0.79
2988	0.79	0.82	0.83	0.8	0.79
2991	0.8	0.82	0.83	0.79	0.8
2994	0.8	0.83	0.82	0.82	0.79
2997	0.82	0.84	0.84	0.81	0.8
3000	0.8	0.84	0.84	0.82	0.79
3003	0.82	0.84	0.84	0.8	0.8
3006	0.81	0.86	0.84	0.82	0.78
3009	0.79	0.84	0.84	0.83	0.79
3012	0.82	0.83	0.84	0.79	0.82
3015	0.81	0.84	0.82	0.82	0.8
3018	0.81	0.83	0.84	0.82	0.81
3021	0.82	0.83	0.85	0.8	0.82
3024	0.79	0.82	0.84	0.82	0.81
3027	0.81	0.84	0.84	0.82	0.82
3030	0.79	0.86	0.85	0.84	0.82
3033	0.79	0.86	0.86	0.85	0.84
3036	0.81	0.86	0.86	0.83	0.85
3039	0.8	0.84	0.85	0.83	0.83
3042	0.8	0.83	0.84	0.81	0.82

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3045	0.8	0.82	0.83	0.79	0.8
3048	0.79	0.84	0.81	0.81	0.79
3051	0.81	0.84	0.83	0.82	0.82
3054	0.8	0.84	0.85	0.83	0.81
3057	0.79	0.83	0.85	0.82	0.82
3060	0.81	0.83	0.85	0.82	0.83
3063	0.79	0.83	0.85	0.81	0.83
3066	0.79	0.83	0.85	0.81	0.84
3069	0.8	0.82	0.84	0.82	0.85
3072	0.8	0.82	0.84	0.81	0.86
3075	0.81	0.82	0.82	0.82	0.85
3078	0.82	0.79	0.84	0.8	0.86
3081	0.8	0.82	0.82	0.78	0.85
3084	0.77	0.82	0.8	0.81	0.82
3087	0.79	0.81	0.82	0.78	0.85
3090	0.77	0.86	0.79	0.81	0.82
3093	0.81	0.85	0.8	0.83	0.83
3096	0.83	0.87	0.82	0.82	0.83
3099	0.82	0.85	0.8	0.84	0.8
3102	0.84	0.81	0.83	0.81	0.83
3105	0.8	0.84	0.81	0.81	0.8
3108	0.81	0.85	0.8	0.84	0.81
3111	0.83	0.83	0.83	0.82	0.84
3114	0.83	0.86	0.83	0.86	0.82
3117	0.87	0.85	0.86	0.86	0.86
3120	0.85	0.86	0.85	0.83	0.85
3123	0.83	0.86	0.82	0.87	0.84
3126	0.89	0.83	0.87	0.85	0.86
3129	0.88	0.87	0.85	0.86	0.84
3132	0.89	0.86	0.86	0.88	0.85
3135	0.91	0.85	0.88	0.85	0.88
3138	0.86	0.96	0.85	0.9	0.85
3141	0.9	1.03	0.88	0.98	0.89
3144	0.97	0.98	0.96	0.97	1
3147	0.96	0.89	0.97	0.91	0.99
3150	0.94	0.8	0.91	0.84	0.92
3153	0.86	0.83	0.82	0.79	0.82
3156	0.81	0.93	0.75	0.91	0.77
3159	0.91	0.94	0.87	0.93	0.88

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3162	0.93	0.87	0.96	0.89	0.98
3165	0.91	0.79	0.94	0.82	0.95
3168	0.86	0.78	0.86	0.8	0.85
3171	0.81	0.83	0.8	0.86	0.82
3174	0.84	0.83	0.84	0.89	0.88
3177	0.84	0.82	0.85	0.89	0.91
3180	0.85	0.78	0.85	0.85	0.88
3183	0.81	0.81	0.81	0.82	0.83
3186	0.8	0.82	0.8	0.84	0.81
3189	0.83	0.79	0.84	0.81	0.85
3192	0.8	0.8	0.8	0.8	0.81
3195	0.79	0.79	0.78	0.83	0.8
3198	0.82	0.78	0.8	0.81	0.82
3201	0.79	0.82	0.78	0.84	0.79
3204	0.81	0.8	0.8	0.84	0.81
3207	0.81	0.83	0.8	0.84	0.82
3210	0.81	0.8	0.8	0.85	0.82
3213	0.82	0.79	0.82	0.82	0.84
3216	0.8	0.8	0.8	0.83	0.81
3219	0.8	0.76	0.82	0.8	0.82
3222	0.78	0.8	0.79	0.79	0.8
3225	0.76	0.83	0.76	0.84	0.77
3228	0.8	0.8	0.81	0.84	0.81
3231	0.79	0.8	0.81	0.84	0.82
3234	0.77	0.77	0.79	0.85	0.82
3237	0.78	0.78	0.8	0.85	0.82
3240	0.76	0.78	0.8	0.86	0.83
3243	0.8	0.78	0.82	0.84	0.85
3246	0.8	0.8	0.81	0.86	0.83
3249	0.8	0.8	0.82	0.86	0.84
3252	0.81	0.8	0.83	0.85	0.84
3255	0.8	0.76	0.83	0.85	0.83
3258	0.77	0.77	0.82	0.83	0.82
3261	0.76	0.79	0.79	0.86	0.8
3264	0.77	0.78	0.82	0.85	0.82
3267	0.78	0.8	0.82	0.85	0.83
3270	0.8	0.8	0.8	0.86	0.84
3273	0.8	0.79	0.83	0.84	0.86
3276	0.8	0.8	0.81	0.85	0.84

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3279	0.79	0.78	0.82	0.83	0.86
3282	0.79	0.79	0.82	0.82	0.85
3285	0.78	0.79	0.81	0.82	0.83
3288	0.78	0.79	0.82	0.81	0.84
3291	0.77	0.79	0.81	0.84	0.84
3294	0.77	0.78	0.82	0.84	0.85
3297	0.78	0.79	0.83	0.84	0.85
3300	0.78	0.79	0.82	0.85	0.84
3303	0.79	0.8	0.83	0.83	0.84
3306	0.8	0.81	0.83	0.86	0.84
3309	0.8	0.81	0.83	0.87	0.86
3312	0.8	0.81	0.85	0.86	0.87
3315	0.79	0.79	0.84	0.86	0.87
3318	0.79	0.78	0.83	0.84	0.86
3321	0.79	0.79	0.82	0.87	0.85
3324	0.77	0.79	0.83	0.87	0.88
3327	0.79	0.8	0.85	0.87	0.89
3330	0.8	0.8	0.83	0.86	0.88
3333	0.79	0.79	0.83	0.86	0.87
3336	0.8	0.79	0.83	0.85	0.87
3339	0.8	0.79	0.83	0.85	0.86
3342	0.8	0.73	0.83	0.81	0.85
3345	0.77	0.71	0.8	0.78	0.8
3348	0.73	0.73	0.71	0.84	0.75
3351	0.72	0.76	0.73	0.86	0.8
3354	0.76	0.74	0.77	0.86	0.85
3357	0.75	0.74	0.77	0.9	0.85
3360	0.71	0.76	0.76	0.89	0.88
3363	0.7	0.78	0.77	0.9	0.88
3366	0.73	0.79	0.8	0.9	0.89
3369	0.74	0.8	0.8	0.89	0.9
3372	0.73	0.79	0.8	0.91	0.9
3375	0.72	0.77	0.8	0.89	0.92
3378	0.7	0.76	0.76	0.88	0.9
3381	0.72	0.73	0.75	0.85	0.88
3384	0.75	0.72	0.74	0.85	0.86
3387	0.76	0.71	0.74	0.87	0.85
3390	0.77	0.71	0.76	0.87	0.84
3393	0.77	0.71	0.78	0.89	0.81

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3396	0.79	0.69	0.78	0.87	0.78
3399	0.76	0.7	0.75	0.87	0.75
3402	0.73	0.69	0.73	0.86	0.78
3405	0.72	0.68	0.72	0.81	0.81
3408	0.7	0.68	0.7	0.74	0.77
3411	0.71	0.69	0.7	0.66	0.64
3414	0.7	0.77	0.7	0.72	0.54
3417	0.72	0.79	0.73	0.78	0.58
3420	0.75	0.79	0.75	0.81	0.69
3423	0.73	0.8	0.74	0.83	0.74
3426	0.74	0.76	0.75	0.78	0.79
3429	0.73	0.75	0.73	0.79	0.78
3432	0.72	0.76	0.71	0.83	0.79
3435	0.75	0.71	0.75	0.81	0.82
3438	0.72	0.7	0.73	0.81	0.79
3441	0.68	0.74	0.7	0.88	0.77
3444	0.7	0.73	0.72	0.87	0.83
3447	0.71	0.79	0.75	0.84	0.84
3450	0.71	0.79	0.77	0.81	0.81
3453	0.79	0.77	0.82	0.81	0.81
3456	0.79	0.79	0.79	0.83	0.82
3459	0.79	0.77	0.79	0.77	0.82
3462	0.77	0.74	0.79	0.76	0.77
3465	0.72	0.72	0.76	0.8	0.74
3468	0.71	0.68	0.74	0.8	0.77
3471	0.69	0.71	0.7	0.8	0.75
3474	0.69	0.79	0.68	0.81	0.75
3477	0.75	0.78	0.77	0.81	0.77
3480	0.76	0.75	0.79	0.86	0.78
3483	0.74	0.71	0.74	0.85	0.82
3486	0.74	0.7	0.71	0.84	0.82
3489	0.71	0.74	0.69	0.83	0.8
3492	0.73	0.73	0.73	0.79	0.81
3495	0.72	0.73	0.74	0.78	0.77
3498	0.67	0.73	0.72	0.75	0.74
3501	0.7	0.7	0.74	0.74	0.74
3504	0.71	0.69	0.73	0.76	0.74
3507	0.68	0.68	0.71	0.76	0.73
3510	0.68	0.71	0.71	0.79	0.73

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3513	0.68	0.71	0.72	0.8	0.76
3516	0.7	0.69	0.75	0.78	0.78
3519	0.7	0.71	0.74	0.8	0.75
3522	0.71	0.68	0.74	0.76	0.77
3525	0.72	0.65	0.73	0.75	0.76
3528	0.7	0.65	0.7	0.75	0.75
3531	0.68	0.66	0.69	0.75	0.74
3534	0.69	0.64	0.7	0.76	0.74
3537	0.69	0.65	0.7	0.74	0.75
3540	0.68	0.65	0.67	0.77	0.72
3543	0.69	0.63	0.69	0.79	0.72
3546	0.67	0.66	0.68	0.77	0.74
3549	0.66	0.66	0.67	0.81	0.73
3552	0.71	0.64	0.69	0.79	0.76
3555	0.7	0.66	0.68	0.79	0.73
3558	0.72	0.65	0.69	0.8	0.73
3561	0.74	0.65	0.7	0.8	0.73
3564	0.71	0.74	0.68	0.85	0.69
3567	0.75	0.78	0.71	0.85	0.71
3570	0.82	0.75	0.78	0.83	0.79
3573	0.83	0.69	0.8	0.81	0.81
3576	0.79	0.67	0.77	0.76	0.79
3579	0.72	0.71	0.71	0.76	0.73
3582	0.7	0.68	0.71	0.76	0.72
3585	0.73	0.69	0.73	0.74	0.74
3588	0.72	0.71	0.71	0.8	0.72
3591	0.73	0.69	0.73	0.82	0.73
3594	0.77	0.69	0.76	0.79	0.76
3597	0.77	0.67	0.75	0.8	0.76
3600	0.76	0.67	0.75	0.77	0.74
3603	0.73	0.68	0.72	0.78	0.71
3606	0.73	0.67	0.73	0.78	0.71
3609	0.73	0.69	0.74	0.76	0.71
3612	0.71	0.68	0.71	0.79	0.7
3615	0.75	0.69	0.74	0.79	0.71
3618	0.74	0.7	0.72	0.79	0.7
3621	0.74	0.68	0.72	0.79	0.71
3624	0.74	0.71	0.74	0.76	0.71
3627	0.72	0.73	0.73	0.79	0.69

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3630	0.74	0.71	0.75	0.78	0.72
3633	0.76	0.71	0.76	0.76	0.73
3636	0.76	0.7	0.73	0.79	0.72
3639	0.76	0.7	0.74	0.77	0.72
3642	0.74	0.69	0.73	0.76	0.7
3645	0.74	0.69	0.72	0.76	0.7
3648	0.75	0.7	0.74	0.75	0.69
3651	0.74	0.68	0.74	0.75	0.7
3654	0.74	0.68	0.75	0.75	0.71
3657	0.72	0.69	0.74	0.75	0.69
3660	0.71	0.69	0.73	0.75	0.7
3663	0.72	0.68	0.73	0.74	0.71
3666	0.72	0.67	0.72	0.75	0.71
3669	0.72	0.68	0.71	0.77	0.7
3672	0.72	0.68	0.73	0.77	0.69
3675	0.7	0.67	0.73	0.76	0.69
3678	0.7	0.68	0.73	0.74	0.69
3681	0.7	0.7	0.73	0.73	0.69
3684	0.71	0.72	0.72	0.73	0.69
3687	0.74	0.71	0.73	0.73	0.7
3690	0.73	0.64	0.74	0.74	0.7
3693	0.68	0.59	0.73	0.73	0.68
3696	0.62	0.62	0.73	0.72	0.61
3699	0.6	0.67	0.72	0.74	0.56
3702	0.66	0.7	0.74	0.73	0.61
3705	0.7	0.74	0.74	0.73	0.67
3708	0.75	0.71	0.73	0.74	0.73
3711	0.74	0.69	0.74	0.72	0.76
3714	0.7	0.73	0.73	0.76	0.72
3717	0.75	0.7	0.75	0.79	0.73
3720	0.81	0.7	0.78	0.76	0.72
3723	0.8	0.71	0.76	0.82	0.68
3726	0.8	0.7	0.8	0.88	0.73
3729	0.75	0.74	0.82	0.87	0.78
3732	0.73	0.71	0.81	0.84	0.78
3735	0.79	0.69	0.84	0.79	0.75
3738	0.83	0.68	0.81	0.77	0.69
3741	0.8	0.65	0.77	0.76	0.69
3744	0.74	0.66	0.74	0.72	0.68

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3747	0.71	0.67	0.7	0.71	0.66
3750	0.73	0.67	0.7	0.71	0.68
3753	0.72	0.71	0.71	0.7	0.67
3756	0.73	0.7	0.69	0.75	0.71
3759	0.77	0.68	0.73	0.77	0.75
3762	0.77	0.65	0.75	0.75	0.73
3765	0.73	0.61	0.74	0.71	0.69
3768	0.68	0.63	0.73	0.69	0.65
3771	0.68	0.64	0.7	0.69	0.63
3774	0.69	0.64	0.7	0.68	0.65
3777	0.67	0.65	0.7	0.67	0.64
3780	0.69	0.65	0.68	0.69	0.64
3783	0.69	0.65	0.71	0.7	0.66
3786	0.69	0.65	0.72	0.71	0.68
3789	0.69	0.67	0.73	0.74	0.68
3792	0.7	0.67	0.75	0.74	0.69
3795	0.73	0.67	0.76	0.74	0.71
3798	0.72	0.67	0.78	0.75	0.7
3801	0.72	0.68	0.79	0.73	0.69
3804	0.71	0.69	0.76	0.72	0.7
3807	0.73	0.69	0.77	0.72	0.72
3810	0.72	0.68	0.76	0.72	0.71
3813	0.71	0.66	0.76	0.7	0.71
3816	0.7	0.67	0.73	0.71	0.7
3819	0.7	0.66	0.73	0.71	0.7
3822	0.68	0.66	0.74	0.7	0.7
3825	0.66	0.66	0.73	0.7	0.68
3828	0.68	0.64	0.72	0.69	0.69
3831	0.67	0.65	0.71	0.68	0.68
3834	0.68	0.66	0.7	0.7	0.68
3837	0.69	0.65	0.7	0.7	0.7
3840	0.67	0.66	0.68	0.69	0.69
3843	0.67	0.66	0.68	0.72	0.68
3846	0.68	0.67	0.7	0.72	0.69
3849	0.69	0.68	0.7	0.74	0.69
3852	0.69	0.68	0.72	0.74	0.71
3855	0.7	0.68	0.72	0.72	0.71
3858	0.69	0.66	0.7	0.72	0.71
3861	0.67	0.66	0.69	0.7	0.7

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3864	0.68	0.69	0.68	0.73	0.69
3867	0.69	0.69	0.7	0.76	0.69
3870	0.7	0.68	0.74	0.75	0.72
3873	0.7	0.69	0.73	0.74	0.72
3876	0.71	0.68	0.72	0.73	0.71
3879	0.71	0.69	0.69	0.73	0.7
3882	0.72	0.68	0.68	0.72	0.71
3885	0.71	0.68	0.69	0.69	0.72
3888	0.71	0.7	0.69	0.72	0.69
3891	0.72	0.69	0.72	0.72	0.71
3894	0.69	0.69	0.72	0.72	0.7
3897	0.7	0.68	0.7	0.72	0.68
3900	0.7	0.67	0.69	0.71	0.7
3903	0.7	0.68	0.67	0.71	0.7
3906	0.69	0.68	0.67	0.71	0.7
3909	0.7	0.68	0.68	0.69	0.7
3912	0.7	0.7	0.67	0.71	0.69
3915	0.69	0.71	0.69	0.71	0.68
3918	0.7	0.7	0.69	0.7	0.69
3921	0.7	0.71	0.69	0.73	0.7
3924	0.7	0.72	0.71	0.74	0.71
3927	0.72	0.72	0.73	0.73	0.73
3930	0.72	0.72	0.73	0.72	0.73
3933	0.72	0.72	0.72	0.73	0.73
3936	0.73	0.72	0.72	0.75	0.72
3939	0.74	0.72	0.73	0.73	0.74
3942	0.72	0.74	0.7	0.74	0.73
3945	0.73	0.76	0.73	0.78	0.73
3948	0.73	0.76	0.76	0.77	0.76
3951	0.75	0.76	0.76	0.77	0.77
3954	0.78	0.77	0.77	0.76	0.77
3957	0.79	0.77	0.75	0.76	0.77
3960	0.78	0.78	0.76	0.79	0.78
3963	0.78	0.78	0.78	0.8	0.79
3966	0.78	0.76	0.79	0.78	0.8
3969	0.76	0.76	0.78	0.76	0.79
3972	0.75	0.76	0.76	0.75	0.77
3975	0.76	0.77	0.75	0.75	0.77
3978	0.76	0.77	0.75	0.73	0.76

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
3981	0.75	0.75	0.75	0.73	0.76
3984	0.74	0.74	0.75	0.74	0.74
3987	0.74	0.74	0.74	0.74	0.73
3990	0.74	0.72	0.74	0.75	0.73
3993	0.74	0.74	0.74	0.77	0.74
3996	0.76	0.75	0.75	0.76	0.75
3999	0.75	0.73	0.77	0.75	0.75
4002	0.76	0.76	0.76	0.75	0.74
4005	0.77	0.76	0.76	0.75	0.74
4008	0.78	0.74	0.76	0.74	0.75
4011	0.77	0.71	0.74	0.73	0.74
4014	0.74	0.7	0.73	0.73	0.72
4017	0.75	0.72	0.72	0.77	0.72
4020	0.79	0.77	0.76	0.79	0.74
4023	0.8	0.75	0.79	0.79	0.78
4026	0.8	0.71	0.79	0.76	0.79
4029	0.75	0.68	0.75	0.7	0.77
4032	0.7	0.67	0.7	0.68	0.73
4035	0.67	0.77	0.67	0.73	0.7
4038	0.73	0.94	0.71	0.92	0.71
4041	0.89	1.1	0.88	1.08	0.81
4044	1	1.13	1.02	1.01	0.89
4047	1.01	1.2	0.95	1.14	0.85
4050	1.19	1.12	1.1	1.12	0.95
4053	1.11	1.01	1.08	1.01	1.1
4056	1.02	0.95	1	0.96	1.04
4059	1.01	1.1	0.97	1	0.96
4062	1.17	0.64	1.12	0.83	0.95
4065	0.64	0.08	0.83	0.08	1.17
4068	0.08	0.64	0.08	0.08	0.45
4071	1.2	1.2	0.64	1.2	0.08
4074	1.2	1.2	1.2	1.2	0.64
4077	1.2	1.2	1.2	1.2	1.2
4080	1.2	1.2	1.2	1.2	1.2
4083	1.2	1.2	1.2	1.05	1.2
4086	1.2	1.2	0.45	0.86	1.2
4089	1.2	1.2	1.2	0.81	1.2
4092	1.2	1.2	1.2	0.77	1
4095	1.2	0.98	1.2	0.75	0.82

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
4098	1.17	0.71	1.2	0.8	0.74
4101	0.96	0.69	1.11	0.87	0.73
4104	0.83	0.73	0.9	0.89	0.71
4107	0.8	0.77	0.8	0.95	0.72
4110	0.79	0.84	0.81	0.92	0.82
4113	0.83	1.02	0.84	0.88	1.13
4116	0.98	1.2	0.91	0.87	1.16
4119	1.2	0.45	1.12	0.81	0.98
4122	1.2	0.08	1.2	0.82	0.88
4125	1.05	0.64	1.2	0.85	0.79
4128	0.91	1.2	1.08	0.83	0.79
4131	0.84	1.2	0.91	0.81	0.8
4134	0.82	1.2	0.82	0.79	0.77
4137	0.81	1.2	0.78	0.82	0.77
4140	0.86	1.2	0.79	0.84	0.86
4143	0.9	1.2	0.81	0.82	0.87
4146	0.93	1.2	0.8	0.83	0.86
4149	0.92	1.2	0.82	0.83	0.83
4152	0.91	1.2	0.83	0.83	0.83
4155	0.88	0.45	0.84	0.85	0.85
4158	0.84	1.2	0.85	0.83	0.84
4161	0.85	1.2	0.84	0.83	0.82
4164	0.85	1.2	0.84	0.79	0.82
4167	0.84	1.2	0.8	0.77	0.8
4170	0.88	1.2	0.78	0.79	0.79
4173	0.85	1.2	0.8	0.77	0.8
4176	0.85	1.2	0.81	0.78	0.8
4179	0.84	1.2	0.79	0.77	0.81
4182	0.8	1.02	0.78	0.77	0.81
4185	0.83	0.82	0.78	0.76	0.8
4188	0.85	0.73	0.75	0.74	0.81
4191	0.83	0.71	0.76	0.75	0.79
4194	0.84	0.74	0.76	0.74	0.8
4197	0.81	0.79	0.75	0.74	0.78
4200	0.82	0.8	0.77	0.76	0.77
4203	0.82	0.86	0.77	0.78	0.79
4206	0.79	0.92	0.8	0.77	0.8
4209	0.77	0.9	0.77	0.76	0.8
4212	0.8	0.81	0.79	0.8	0.78

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
4215	0.84	0.73	0.83	0.76	0.81
4218	0.81	0.75	0.81	0.76	0.79
4221	0.82	0.79	0.82	0.78	0.77
4224	0.83	0.77	0.81	0.76	0.8
4227	0.8	0.77	0.76	0.77	0.79
4230	0.82	0.75	0.79	0.78	0.79
4233	0.84	0.77	0.82	0.76	0.82
4236	0.81	0.81	0.81	0.8	0.8
4239	0.82	0.78	0.83	0.8	0.81
4242	0.78	0.76	0.82	0.79	0.81
4245	0.77	0.75	0.82	0.76	0.78
4248	0.76	0.72	0.81	0.74	0.79
4251	0.76	0.71	0.77	0.73	0.79
4254	0.74	0.72	0.76	0.72	0.75
4257	0.75	0.72	0.76	0.72	0.76
4260	0.79	0.72	0.74	0.7	0.76
4263	0.75	0.78	0.73	0.72	0.75
4266	0.78	0.8	0.75	0.8	0.76
4269	0.82	0.77	0.79	0.79	0.8
4272	0.76	0.83	0.75	0.77	0.79
4275	0.73	0.93	0.77	0.87	0.8
4278	0.9	0.89	0.87	0.87	0.91
4281	0.96	0.88	0.84	0.82	0.9
4284	0.91	0.93	0.83	0.91	0.84
4287	0.94	0.9	0.94	0.93	0.92
4290	0.93	0.86	0.91	0.88	1.01
4293	0.84	0.96	0.89	0.92	0.96
4296	0.88	0.95	0.95	0.98	0.98
4299	1.02	0.93	0.92	0.95	1.01
4302	1	0.95	0.92	0.94	0.97
4305	0.97	0.9	0.93	0.9	0.98
4308	0.93	0.91	0.88	0.85	0.95
4311	0.85	0.98	0.9	0.91	0.89
4314	0.88	0.97	0.95	1	0.9
4317	0.96	0.95	0.96	0.93	0.99
4320	0.92	0.95	0.92	0.88	0.94
4323	0.92	0.94	0.86	0.9	0.89
4326	0.94	0.9	0.9	0.88	0.91
4329	0.89	0.9	0.95	0.86	0.88

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
4332	0.88	0.91	0.91	0.87	0.88
4335	0.88	0.89	0.93	0.86	0.88
4338	0.85	0.91	0.91	0.9	0.87
4341	0.89	0.92	0.93	0.9	0.91
4344	0.92	0.94	0.95	0.89	0.91
4347	0.91	0.93	0.91	0.89	0.89
4350	0.92	0.93	0.92	0.86	0.91
4353	0.88	0.92	0.91	0.9	0.89
4356	0.9	0.91	0.89	0.89	0.92
4359	0.88	0.93	0.89	0.89	0.92
4362	0.89	0.88	0.9	0.9	0.91
4365	0.89	0.83	0.86	0.86	0.94
4368	0.82	0.8	0.84	0.83	0.91
4371	0.8	0.75	0.81	0.77	0.89
4374	0.75	0.78	0.76	0.75	0.82
4377	0.73	0.82	0.8	0.76	0.78
4380	0.76	0.8	0.8	0.72	0.77
4383	0.74	0.83	0.74	0.7	0.73
4386	0.73	0.85	0.76	0.79	0.7
4389	0.82	0.82	0.83	0.85	0.79
4392	0.83	0.83	0.87	0.88	0.85
4395	0.84	0.81	0.85	0.86	0.87
4398	0.81	0.8	0.79	0.8	0.84
4401	0.76	0.83	0.75	0.82	0.78
4404	0.79	0.8	0.87	0.84	0.79
4407	0.8	0.81	0.9	0.8	0.85
4410	0.79	0.89	0.88	0.85	0.83
4413	0.85	0.91	0.82	0.86	0.83
4416	0.85	0.93	0.75	0.85	0.79
4419	0.84	0.93	0.78	0.88	0.75
4422	0.84	0.89	0.84	0.86	0.82
4425	0.78	0.89	0.82	0.83	0.86
4428	0.77	0.95	0.84	0.91	0.86
4431	0.81	0.91	0.81	0.9	0.87
4434	0.79	0.89	0.74	0.83	0.81
4437	0.74	0.97	0.76	0.87	0.75
4440	0.85	0.94	0.78	0.9	0.83
4443	0.9	0.93	0.75	0.88	0.9
4446	0.87	0.92	0.8	0.88	0.88

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
4449	0.83	0.87	0.85	0.83	0.89
4452	0.75	0.89	0.84	0.79	0.83
4455	0.7	0.93	0.84	0.85	0.77
4458	0.76	0.94	0.78	0.89	0.82
4461	0.8	0.97	0.74	0.89	0.86
4464	0.81	0.93	0.81	0.88	0.86
4467	0.81	0.89	0.83	0.83	0.85
4470	0.76	0.9	0.85	0.86	0.79
4473	0.78	0.85	0.86	0.92	0.8
4476	0.82	0.85	0.81	0.91	0.85
4479	0.79	0.9	0.8	0.92	0.83
4482	0.82	0.88	0.89	0.91	0.88
4485	0.86	0.88	0.88	0.85	0.9
4488	0.83	0.86	0.83	0.85	0.85
4491	0.82	0.81	0.76	0.83	0.83
4494	0.79	0.86	0.74	0.81	0.79
4497	0.77	0.87	0.78	0.85	0.77
4500	0.81	0.85	0.77	0.83	0.82
4503	0.81	0.88	0.76	0.8	0.81
4506	0.79	0.85	0.81	0.8	0.79
4509	0.82	0.85	0.79	0.76	0.81
4512	0.79	0.88	0.76	0.78	0.78
4515	0.77	0.84	0.78	0.82	0.76
4518	0.83	0.83	0.79	0.79	0.82
4521	0.83	0.85	0.77	0.81	0.83
4524	0.82	0.8	0.77	0.83	0.82
4527	0.83	0.77	0.77	0.81	0.83
4530	0.79	0.79	0.75	0.83	0.8
4533	0.75	0.8	0.76	0.86	0.81
4536	0.8	0.79	0.77	0.83	0.83
4539	0.8	0.75	0.76	0.83	0.79
4542	0.78	0.78	0.77	0.81	0.8
4545	0.81	0.78	0.79	0.82	0.82
4548	0.8	0.77	0.78	0.8	0.8
4551	0.79	0.78	0.77	0.79	0.81
4554	0.8	0.76	0.77	0.8	0.8
4557	0.76	0.78	0.76	0.8	0.8
4560	0.8	0.82	0.77	0.83	0.81
4563	0.81	0.79	0.8	0.84	0.81

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
4566	0.8	0.79	0.81	0.8	0.83
4569	0.79	0.85	0.78	0.85	0.8
4572	0.81	0.85	0.83	0.89	0.82
4575	0.82	0.83	0.84	0.86	0.87
4578	0.81	0.81	0.82	0.84	0.85
4581	0.8	0.82	0.81	0.8	0.83
4584	0.81	0.82	0.79	0.81	0.81
4587	0.8	0.8	0.81	0.83	0.79
4590	0.82	0.78	0.82	0.81	0.83
4593	0.82	0.78	0.8	0.8	0.81
4596	0.78	0.82	0.79	0.84	0.77
4599	0.79	0.8	0.83	0.84	0.82
4602	0.81	0.77	0.82	0.8	0.84
4605	0.78	0.82	0.77	0.84	0.81
4608	0.81	0.82	0.82	0.86	0.86
4611	0.83	0.8	0.83	0.83	0.87
4614	0.8	0.81	0.81	0.84	0.82
4617	0.79	0.78	0.82	0.81	0.81
4620	0.77	0.74	0.79	0.77	0.79
4623	0.75	0.74	0.75	0.75	0.76
4626	0.74	0.77	0.74	0.8	0.74
4629	0.75	0.78	0.78	0.82	0.77
4632	0.78	0.76	0.81	0.79	0.81
4635	0.79	0.78	0.78	0.78	0.8
4638	0.77	0.79	0.77	0.8	0.79
4641	0.77	0.75	0.78	0.78	0.78
4644	0.75	0.77	0.76	0.78	0.76
4647	0.75	0.78	0.76	0.79	0.76
4650	0.77	0.76	0.75	0.76	0.77
4653	0.74	0.76	0.73	0.76	0.74
4656	0.74	0.73	0.72	0.71	0.73
4659	0.71	0.75	0.69	0.72	0.69
4662	0.7	0.79	0.7	0.78	0.68
4665	0.73	0.76	0.75	0.79	0.72
4668	0.73	0.74	0.75	0.79	0.71
4671	0.74	0.74	0.74	0.8	0.73
4674	0.74	0.7	0.75	0.76	0.74
4677	0.7	0.67	0.72	0.71	0.71
4680	0.67	0.72	0.69	0.74	0.67

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
4683	0.72	0.86	0.73	0.77	0.71
4686	0.76	0.82	0.8	0.74	0.74
4689	0.72	0.75	0.76	0.7	0.71
4692	0.7	0.68	0.71	0.67	0.69
4695	0.67	0.7	0.67	0.68	0.66
4698	0.69	0.7	0.68	0.65	0.66
4701	0.67	0.67	0.68	0.62	0.63
4704	0.64	0.67	0.65	0.63	0.62
4707	0.64	0.75	0.63	0.67	0.64
4710	0.62	0.76	0.68	0.71	0.64
4713	0.67	0.7	0.71	0.68	0.66
4716	0.69	0.69	0.68	0.68	0.7
4719	0.69	0.71	0.66	0.69	0.7
4722	0.69	0.73	0.68	0.69	0.69
4725	0.66	0.73	0.69	0.69	0.69
4728	0.64	0.75	0.67	0.7	0.68
4731	0.67	0.81	0.67	0.74	0.69
4734	0.72	0.78	0.73	0.76	0.75
4737	0.7	0.77	0.75	0.73	0.77
4740	0.69	0.8	0.73	0.76	0.75
4743	0.72	0.76	0.77	0.75	0.78
4746	0.72	0.76	0.81	0.71	0.78
4749	0.72	0.72	0.78	0.71	0.75
4752	0.7	0.71	0.73	0.68	0.72
4755	0.73	0.71	0.7	0.7	0.69
4758	0.72	0.7	0.7	0.68	0.71
4761	0.67	0.76	0.68	0.68	0.7
4764	0.67	0.78	0.7	0.74	0.7
4767	0.71	0.79	0.77	0.73	0.74
4770	0.74	0.79	0.84	0.76	0.75
4773	0.76	0.76	0.9	0.77	0.78
4776	0.76	0.71	0.89	0.73	0.79
4779	0.73	0.7	0.8	0.69	0.75
4782	0.68	0.73	0.74	0.72	0.71
4785	0.69	0.71	0.73	0.72	0.72
4788	0.69	0.7	0.74	0.7	0.71
4791	0.67	0.71	0.71	0.73	0.7
4794	0.7	0.67	0.7	0.73	0.73
4797	0.67	0.64	0.7	0.68	0.7

Chainage	0.5 mm water				
	SR05d1	SR05d2	SR05d3	SR05d4	SR05d5
4800	0.62	0.69	0.68	0.69	0.65
4803	0.67	0.67	0.72	0.74	0.67
4806	0.71	0.65	0.87	0.7	0.74
4809	0.66	0.63	0.85	0.67	0.72
4812	0.64	0.59	0.75	0.63	0.7
4815	0.62	0.58	0.65	0.58	0.65
4818	0.59	0.63	0.59	0.6	0.61
4821	0.66	0.62	0.6	0.66	0.66

Water(mm) 0.5 0.5 0.5 0.5 0.5

**Average
GN 0.79 0.78 0.78 0.80 0.80**

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3	0.7	0.76	0.74	0.69	0.7
6	0.71	0.74	0.74	0.71	0.71
9	0.68	0.74	0.74	0.71	0.73
12	0.61	0.74	0.75	0.71	0.73
15	0.57	0.74	0.76	0.74	0.71
18	0.6	0.75	0.77	0.74	0.72
21	0.66	0.76	0.75	0.75	0.7
24	0.73	0.74	0.75	0.77	0.69
27	0.73	0.75	0.72	0.77	0.72
30	0.7	0.73	0.74	0.77	0.71
33	0.68	0.72	0.76	0.8	0.69
36	0.66	0.73	0.76	0.78	0.71
39	0.68	0.73	0.76	0.78	0.73
42	0.68	0.73	0.76	0.78	0.71
45	0.71	0.72	0.79	0.77	0.72
48	0.75	0.76	0.76	0.74	0.71
51	0.73	0.74	0.75	0.75	0.68
54	0.73	0.71	0.75	0.79	0.67
57	0.72	0.72	0.71	0.77	0.66
60	0.7	0.69	0.7	0.75	0.66
63	0.73	0.68	0.7	0.76	0.69
66	0.74	0.68	0.72	0.73	0.71
69	0.74	0.68	0.75	0.72	0.71
72	0.75	0.73	0.74	0.71	0.69
75	0.71	0.73	0.74	0.71	0.67
78	0.68	0.73	0.73	0.74	0.66
81	0.67	0.72	0.71	0.73	0.64
84	0.65	0.69	0.71	0.75	0.65
87	0.66	0.69	0.69	0.73	0.65
90	0.67	0.66	0.69	0.72	0.66
93	0.68	0.67	0.69	0.72	0.66
96	0.69	0.66	0.69	0.69	0.65
99	0.69	0.67	0.69	0.68	0.64
102	0.68	0.67	0.69	0.68	0.63
105	0.67	0.67	0.68	0.68	0.64
108	0.68	0.66	0.67	0.69	0.64
111	0.68	0.65	0.67	0.7	0.65
114	0.66	0.64	0.67	0.69	0.66
117	0.66	0.64	0.69	0.68	0.66

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
120	0.65	0.64	0.69	0.66	0.66
123	0.64	0.66	0.7	0.66	0.67
126	0.65	0.67	0.71	0.66	0.66
129	0.63	0.67	0.71	0.68	0.68
132	0.63	0.68	0.71	0.69	0.69
135	0.63	0.68	0.71	0.68	0.68
138	0.64	0.67	0.72	0.69	0.68
141	0.64	0.69	0.72	0.68	0.68
144	0.63	0.69	0.71	0.66	0.68
147	0.63	0.69	0.73	0.68	0.67
150	0.63	0.7	0.73	0.66	0.67
153	0.64	0.7	0.72	0.64	0.67
156	0.65	0.69	0.72	0.66	0.67
159	0.66	0.68	0.71	0.65	0.69
162	0.65	0.68	0.71	0.65	0.7
165	0.65	0.68	0.73	0.66	0.69
168	0.65	0.7	0.73	0.64	0.68
171	0.65	0.7	0.73	0.65	0.68
174	0.66	0.7	0.73	0.66	0.71
177	0.67	0.69	0.7	0.67	0.72
180	0.68	0.67	0.73	0.69	0.73
183	0.69	0.7	0.74	0.68	0.72
186	0.67	0.7	0.76	0.7	0.72
189	0.67	0.72	0.76	0.71	0.71
192	0.67	0.72	0.74	0.7	0.7
195	0.67	0.7	0.75	0.74	0.73
198	0.72	0.72	0.72	0.73	0.71
201	0.73	0.7	0.75	0.73	0.72
204	0.74	0.74	0.75	0.74	0.72
207	0.75	0.75	0.74	0.74	0.7
210	0.74	0.74	0.77	0.78	0.73
213	0.78	0.75	0.75	0.76	0.73
216	0.8	0.73	0.77	0.76	0.72
219	0.81	0.74	0.77	0.78	0.71
222	0.83	0.75	0.75	0.74	0.7
225	0.8	0.73	0.75	0.75	0.69
228	0.79	0.72	0.73	0.73	0.68
231	0.77	0.7	0.73	0.71	0.67
234	0.74	0.71	0.72	0.71	0.68

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
237	0.74	0.71	0.72	0.69	0.67
240	0.73	0.7	0.71	0.68	0.67
243	0.73	0.69	0.7	0.69	0.67
246	0.77	0.68	0.7	0.67	0.67
249	0.77	0.68	0.7	0.67	0.67
252	0.76	0.68	0.71	0.66	0.66
255	0.77	0.68	0.71	0.66	0.66
258	0.76	0.7	0.71	0.66	0.66
261	0.77	0.68	0.69	0.66	0.68
264	0.77	0.66	0.69	0.67	0.68
267	0.78	0.66	0.7	0.66	0.69
270	0.78	0.67	0.71	0.65	0.68
273	0.76	0.68	0.72	0.66	0.68
276	0.78	0.69	0.72	0.68	0.68
279	0.77	0.69	0.71	0.68	0.69
282	0.81	0.68	0.72	0.68	0.69
285	0.85	0.68	0.72	0.67	0.69
288	0.83	0.68	0.73	0.68	0.69
291	0.83	0.69	0.73	0.68	0.69
294	0.8	0.68	0.73	0.69	0.68
297	0.8	0.68	0.72	0.69	0.7
300	0.81	0.68	0.71	0.69	0.69
303	0.79	0.67	0.73	0.7	0.7
306	0.79	0.7	0.73	0.69	0.69
309	0.78	0.7	0.74	0.68	0.68
312	0.73	0.7	0.75	0.7	0.7
315	0.74	0.71	0.73	0.7	0.7
318	0.79	0.69	0.73	0.7	0.71
321	0.78	0.69	0.73	0.7	0.72
324	0.74	0.68	0.73	0.69	0.72
327	0.76	0.69	0.73	0.71	0.72
330	0.74	0.7	0.73	0.71	0.71
333	0.74	0.71	0.74	0.72	0.71
336	0.71	0.72	0.73	0.72	0.73
339	0.65	0.72	0.74	0.72	0.72
342	0.67	0.71	0.75	0.73	0.73
345	0.69	0.73	0.74	0.72	0.72
348	0.67	0.71	0.75	0.72	0.72
351	0.69	0.72	0.75	0.73	0.65

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
354	0.7	0.72	0.73	0.73	0.6
357	0.69	0.7	0.71	0.73	0.65
360	0.69	0.64	0.65	0.73	0.7
363	0.69	0.56	0.68	0.72	0.76
366	0.71	0.6	0.73	0.63	0.76
369	0.69	0.68	0.76	0.58	0.72
372	0.69	0.75	0.77	0.64	0.75
375	0.69	0.76	0.76	0.7	0.78
378	0.66	0.72	0.79	0.77	0.76
381	0.68	0.75	0.79	0.75	0.73
384	0.67	0.75	0.78	0.72	0.76
387	0.67	0.75	0.76	0.73	0.77
390	0.67	0.74	0.75	0.75	0.76
393	0.65	0.76	0.77	0.73	0.77
396	0.65	0.77	0.76	0.72	0.76
399	0.65	0.75	0.79	0.75	0.76
402	0.67	0.75	0.77	0.78	0.78
405	0.67	0.74	0.76	0.75	0.78
408	0.67	0.73	0.78	0.76	0.8
411	0.67	0.76	0.77	0.74	0.79
414	0.66	0.77	0.8	0.73	0.77
417	0.66	0.78	0.81	0.75	0.77
420	0.66	0.79	0.78	0.75	0.76
423	0.64	0.76	0.78	0.78	0.76
426	0.63	0.74	0.76	0.77	0.76
429	0.62	0.73	0.76	0.75	0.78
432	0.62	0.74	0.77	0.74	0.77
435	0.61	0.75	0.8	0.73	0.75
438	0.61	0.76	0.8	0.73	0.74
441	0.62	0.75	0.77	0.74	0.72
444	0.61	0.73	0.77	0.78	0.72
447	0.62	0.74	0.73	0.78	0.74
450	0.61	0.73	0.72	0.76	0.73
453	0.6	0.71	0.76	0.74	0.74
456	0.59	0.72	0.75	0.72	0.74
459	0.59	0.71	0.75	0.73	0.72
462	0.58	0.71	0.74	0.76	0.72
465	0.58	0.71	0.74	0.76	0.7
468	0.59	0.7	0.74	0.77	0.71

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
471	0.61	0.69	0.74	0.77	0.71
474	0.61	0.68	0.73	0.74	0.71
477	0.63	0.7	0.74	0.73	0.72
480	0.64	0.7	0.74	0.72	0.7
483	0.63	0.69	0.74	0.74	0.72
486	0.63	0.71	0.72	0.73	0.71
489	0.64	0.69	0.73	0.75	0.71
492	0.63	0.69	0.72	0.78	0.72
495	0.64	0.69	0.71	0.77	0.71
498	0.64	0.69	0.72	0.76	0.72
501	0.63	0.7	0.73	0.76	0.71
504	0.62	0.7	0.74	0.76	0.71
507	0.62	0.72	0.72	0.76	0.71
510	0.63	0.71	0.73	0.76	0.7
513	0.63	0.71	0.73	0.76	0.72
516	0.64	0.71	0.72	0.76	0.71
519	0.64	0.7	0.73	0.76	0.72
522	0.65	0.71	0.72	0.76	0.73
525	0.66	0.7	0.72	0.75	0.73
528	0.67	0.7	0.73	0.77	0.74
531	0.68	0.72	0.72	0.76	0.73
534	0.67	0.7	0.73	0.77	0.75
537	0.68	0.71	0.73	0.77	0.76
540	0.68	0.71	0.74	0.77	0.76
543	0.69	0.72	0.76	0.78	0.81
546	0.7	0.74	0.76	0.76	0.81
549	0.7	0.73	0.78	0.8	0.79
552	0.68	0.78	0.77	0.8	0.8
555	0.68	0.78	0.76	0.8	0.77
558	0.68	0.77	0.78	0.85	0.79
561	0.68	0.79	0.78	0.85	0.79
564	0.69	0.77	0.79	0.84	0.78
567	0.7	0.78	0.8	0.83	0.79
570	0.69	0.78	0.79	0.8	0.76
573	0.69	0.77	0.78	0.83	0.77
576	0.7	0.77	0.76	0.81	0.77
579	0.7	0.74	0.77	0.82	0.75
582	0.7	0.74	0.78	0.84	0.76
585	0.73	0.74	0.78	0.81	0.75

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
588	0.74	0.74	0.77	0.84	0.75
591	0.74	0.74	0.76	0.83	0.77
594	0.74	0.74	0.76	0.81	0.77
597	0.69	0.74	0.75	0.82	0.77
600	0.66	0.73	0.76	0.81	0.76
603	0.66	0.74	0.76	0.81	0.78
606	0.62	0.74	0.77	0.81	0.78
609	0.62	0.74	0.77	0.81	0.78
612	0.62	0.76	0.76	0.8	0.8
615	0.6	0.76	0.78	0.8	0.8
618	0.56	0.76	0.77	0.82	0.77
621	0.52	0.76	0.77	0.81	0.79
624	0.52	0.77	0.75	0.81	0.78
627	0.54	0.75	0.75	0.81	0.79
630	0.53	0.76	0.78	0.81	0.8
633	0.54	0.77	0.78	0.8	0.78
636	0.52	0.76	0.82	0.82	0.78
639	0.54	0.78	0.81	0.8	0.8
642	0.57	0.77	0.77	0.8	0.8
645	0.56	0.76	0.76	0.79	0.8
648	0.56	0.74	0.75	0.77	0.78
651	0.54	0.75	0.76	0.78	0.74
654	0.52	0.75	0.78	0.81	0.72
657	0.54	0.77	0.79	0.8	0.77
660	0.54	0.75	0.76	0.8	0.76
663	0.54	0.72	0.77	0.79	0.73
666	0.57	0.75	0.79	0.73	0.8
669	0.56	0.78	0.76	0.72	0.86
672	0.55	0.74	0.76	0.79	0.82
675	0.56	0.76	0.8	0.78	0.74
678	0.55	0.79	0.78	0.74	0.66
681	0.58	0.76	0.75	0.83	0.63
684	0.58	0.72	0.71	0.87	0.67
687	0.61	0.65	0.67	0.85	0.69
690	0.62	0.63	0.68	0.74	0.7
693	0.61	0.66	0.69	0.67	0.82
696	0.62	0.67	0.7	0.69	0.85
699	0.6	0.7	0.79	0.71	0.79
702	0.59	0.77	0.79	0.71	0.72

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
705	0.59	0.74	0.77	0.79	0.69
708	0.57	0.7	0.71	0.92	0.71
711	0.58	0.66	0.69	0.85	0.68
714	0.57	0.64	0.72	0.76	0.66
717	0.57	0.69	0.72	0.71	0.71
720	0.56	0.68	0.73	0.73	0.73
723	0.55	0.71	0.76	0.73	0.7
726	0.54	0.72	0.76	0.71	0.73
729	0.53	0.7	0.73	0.69	0.73
732	0.53	0.67	0.71	0.7	0.71
735	0.54	0.65	0.72	0.73	0.69
738	0.52	0.65	0.71	0.73	0.71
741	0.53	0.65	0.71	0.75	0.72
744	0.53	0.66	0.73	0.73	0.71
747	0.52	0.67	0.74	0.7	0.73
750	0.53	0.68	0.74	0.71	0.73
753	0.54	0.67	0.75	0.72	0.71
756	0.53	0.67	0.75	0.74	0.72
759	0.52	0.66	0.74	0.74	0.72
762	0.52	0.65	0.75	0.77	0.71
765	0.52	0.66	0.75	0.75	0.72
768	0.53	0.66	0.74	0.73	0.72
771	0.54	0.65	0.75	0.75	0.73
774	0.54	0.67	0.76	0.74	0.71
777	0.53	0.67	0.76	0.74	0.7
780	0.53	0.66	0.75	0.74	0.69
783	0.52	0.65	0.74	0.75	0.68
786	0.53	0.65	0.73	0.76	0.69
789	0.54	0.65	0.73	0.74	0.68
792	0.55	0.66	0.74	0.74	0.67
795	0.55	0.66	0.73	0.73	0.65
798	0.54	0.65	0.72	0.72	0.64
801	0.54	0.65	0.7	0.72	0.63
804	0.54	0.64	0.68	0.71	0.64
807	0.55	0.63	0.67	0.7	0.66
810	0.56	0.62	0.68	0.68	0.68
813	0.56	0.62	0.69	0.67	0.67
816	0.56	0.62	0.7	0.67	0.66
819	0.57	0.64	0.7	0.69	0.66

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
822	0.57	0.64	0.68	0.7	0.65
825	0.59	0.63	0.68	0.69	0.66
828	0.59	0.65	0.68	0.69	0.67
831	0.61	0.64	0.68	0.69	0.67
834	0.61	0.64	0.69	0.7	0.66
837	0.6	0.64	0.7	0.69	0.66
840	0.6	0.64	0.7	0.71	0.65
843	0.61	0.65	0.69	0.71	0.64
846	0.62	0.64	0.69	0.7	0.63
849	0.6	0.65	0.68	0.7	0.64
852	0.61	0.65	0.67	0.7	0.65
855	0.6	0.64	0.68	0.7	0.65
858	0.58	0.64	0.68	0.7	0.66
861	0.59	0.64	0.68	0.69	0.67
864	0.6	0.63	0.69	0.69	0.66
867	0.6	0.65	0.7	0.69	0.67
870	0.6	0.66	0.7	0.69	0.68
873	0.6	0.67	0.71	0.7	0.68
876	0.6	0.68	0.72	0.71	0.68
879	0.59	0.68	0.72	0.71	0.69
882	0.58	0.68	0.72	0.72	0.69
885	0.59	0.67	0.73	0.73	0.7
888	0.61	0.68	0.74	0.73	0.7
891	0.62	0.68	0.74	0.73	0.69
894	0.62	0.7	0.75	0.74	0.69
897	0.62	0.7	0.74	0.74	0.69
900	0.63	0.69	0.73	0.74	0.69
903	0.63	0.68	0.73	0.74	0.69
906	0.63	0.68	0.73	0.73	0.69
909	0.63	0.68	0.72	0.73	0.7
912	0.63	0.68	0.72	0.73	0.7
915	0.65	0.68	0.72	0.72	0.7
918	0.66	0.69	0.73	0.73	0.71
921	0.65	0.69	0.73	0.72	0.7
924	0.65	0.69	0.74	0.72	0.72
927	0.66	0.71	0.74	0.73	0.74
930	0.66	0.69	0.74	0.73	0.73
933	0.67	0.71	0.76	0.74	0.74
936	0.68	0.73	0.76	0.72	0.7

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
939	0.67	0.72	0.77	0.74	0.68
942	0.65	0.73	0.78	0.75	0.67
945	0.68	0.7	0.73	0.76	0.62
948	0.67	0.67	0.72	0.76	0.62
951	0.67	0.66	0.68	0.72	0.62
954	0.7	0.6	0.64	0.72	0.6
957	0.7	0.58	0.63	0.71	0.57
960	0.69	0.6	0.62	0.67	0.54
963	0.68	0.59	0.62	0.68	0.55
966	0.66	0.63	0.61	0.67	0.57
969	0.67	0.64	0.59	0.65	0.56
972	0.68	0.62	0.59	0.63	0.56
975	0.68	0.6	0.58	0.59	0.55
978	0.68	0.57	0.58	0.59	0.55
981	0.69	0.57	0.58	0.58	0.56
984	0.75	0.58	0.55	0.58	0.58
987	0.76	0.57	0.56	0.58	0.6
990	0.73	0.59	0.57	0.56	0.58
993	0.67	0.59	0.59	0.58	0.58
996	0.66	0.58	0.59	0.58	0.58
999	0.72	0.58	0.57	0.6	0.57
1002	0.75	0.56	0.57	0.61	0.56
1005	0.81	0.57	0.58	0.6	0.6
1008	0.98	0.57	0.57	0.6	0.6
1011	0.96	0.55	0.6	0.6	0.61
1014	0.9	0.59	0.61	0.59	0.62
1017	0.87	0.58	0.61	0.59	0.62
1020	0.79	0.57	0.6	0.61	0.65
1023	0.78	0.58	0.61	0.62	0.66
1026	0.82	0.58	0.64	0.62	0.67
1029	0.82	0.61	0.66	0.64	0.67
1032	0.81	0.61	0.66	0.65	0.68
1035	0.91	0.63	0.68	0.67	0.69
1038	1.01	0.65	0.68	0.69	0.66
1041	0.98	0.65	0.68	0.7	0.67
1044	0.89	0.66	0.66	0.69	0.67
1047	0.84	0.63	0.64	0.7	0.65
1050	0.82	0.61	0.65	0.69	0.64
1053	0.8	0.61	0.64	0.68	0.62

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1056	0.78	0.59	0.65	0.69	0.62
1059	0.79	0.6	0.64	0.68	0.62
1062	0.77	0.6	0.64	0.68	0.61
1065	0.75	0.59	0.64	0.66	0.61
1068	0.82	0.59	0.63	0.64	0.6
1071	0.83	0.58	0.63	0.64	0.6
1074	0.83	0.58	0.6	0.64	0.6
1077	0.87	0.56	0.6	0.65	0.6
1080	0.86	0.57	0.6	0.64	0.62
1083	0.86	0.58	0.59	0.62	0.61
1086	0.82	0.56	0.6	0.61	0.6
1089	0.78	0.57	0.59	0.61	0.6
1092	0.8	0.56	0.59	0.61	0.6
1095	0.8	0.55	0.6	0.63	0.6
1098	0.84	0.56	0.59	0.62	0.6
1101	0.83	0.56	0.59	0.62	0.6
1104	0.84	0.56	0.58	0.62	0.59
1107	0.86	0.55	0.59	0.62	0.58
1110	0.86	0.56	0.59	0.62	0.59
1113	0.87	0.56	0.6	0.62	0.59
1116	0.84	0.55	0.61	0.62	0.59
1119	0.83	0.57	0.61	0.61	0.59
1122	0.83	0.58	0.61	0.61	0.58
1125	0.8	0.57	0.61	0.62	0.59
1128	0.81	0.57	0.6	0.62	0.59
1131	0.87	0.56	0.61	0.63	0.6
1134	0.88	0.58	0.61	0.62	0.6
1137	0.89	0.58	0.62	0.62	0.6
1140	0.88	0.59	0.63	0.63	0.59
1143	0.88	0.59	0.63	0.63	0.59
1146	0.9	0.59	0.63	0.64	0.58
1149	0.86	0.6	0.61	0.64	0.58
1152	0.85	0.59	0.62	0.64	0.59
1155	0.83	0.59	0.62	0.64	0.61
1158	0.83	0.59	0.63	0.63	0.61
1161	0.83	0.6	0.65	0.63	0.6
1164	0.81	0.62	0.66	0.64	0.61
1167	0.85	0.63	0.66	0.65	0.61
1170	0.86	0.63	0.66	0.67	0.63

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1173	0.85	0.63	0.67	0.68	0.64
1176	0.88	0.64	0.67	0.68	0.63
1179	0.88	0.65	0.7	0.7	0.62
1182	0.88	0.67	0.69	0.69	0.61
1185	0.84	0.66	0.69	0.69	0.62
1188	0.82	0.66	0.67	0.71	0.6
1191	0.81	0.64	0.67	0.71	0.61
1194	0.78	0.65	0.68	0.71	0.61
1197	0.76	0.64	0.66	0.7	0.58
1200	0.76	0.62	0.71	0.71	0.59
1203	0.78	0.65	0.7	0.69	0.61
1206	0.79	0.66	0.68	0.69	0.61
1209	0.85	0.65	0.68	0.71	0.6
1212	0.9	0.65	0.67	0.69	0.59
1215	0.85	0.63	0.67	0.68	0.6
1218	0.81	0.63	0.65	0.68	0.59
1221	0.83	0.62	0.66	0.69	0.58
1224	0.82	0.61	0.65	0.68	0.6
1227	0.81	0.62	0.66	0.69	0.61
1230	0.81	0.62	0.67	0.68	0.62
1233	0.83	0.65	0.67	0.68	0.63
1236	0.85	0.66	0.68	0.69	0.63
1239	0.83	0.66	0.67	0.7	0.64
1242	0.84	0.66	0.66	0.7	0.65
1245	0.85	0.66	0.66	0.7	0.65
1248	0.83	0.67	0.66	0.72	0.64
1251	0.82	0.66	0.68	0.73	0.63
1254	0.82	0.67	0.67	0.72	0.65
1257	0.81	0.66	0.67	0.72	0.66
1260	0.79	0.65	0.67	0.72	0.65
1263	0.81	0.66	0.68	0.71	0.67
1266	0.77	0.66	0.68	0.71	0.66
1269	0.74	0.66	0.67	0.71	0.66
1272	0.74	0.65	0.67	0.71	0.67
1275	0.74	0.65	0.65	0.7	0.67
1278	0.78	0.64	0.65	0.69	0.65
1281	0.8	0.66	0.66	0.68	0.65
1284	0.83	0.67	0.68	0.67	0.67
1287	0.83	0.66	0.67	0.7	0.66

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1290	0.8	0.65	0.66	0.7	0.67
1293	0.81	0.67	0.67	0.68	0.68
1296	0.79	0.66	0.68	0.73	0.68
1299	0.79	0.66	0.7	0.75	0.68
1302	0.8	0.68	0.7	0.7	0.68
1305	0.8	0.69	0.7	0.7	0.67
1308	0.78	0.68	0.7	0.74	0.68
1311	0.75	0.68	0.69	0.75	0.67
1314	0.69	0.67	0.7	0.72	0.68
1317	0.64	0.67	0.7	0.71	0.69
1320	0.65	0.67	0.69	0.69	0.7
1323	0.78	0.67	0.7	0.69	0.75
1326	0.79	0.68	0.7	0.69	0.74
1329	0.75	0.69	0.73	0.7	0.71
1332	0.88	0.72	0.75	0.71	0.67
1335	1.04	0.73	0.74	0.71	0.64
1338	0.99	0.72	0.72	0.75	0.71
1341	0.9	0.69	0.67	0.75	0.75
1344	0.89	0.64	0.68	0.74	0.76
1347	0.82	0.68	0.74	0.7	1.03
1350	0.76	0.7	0.75	0.67	1.2
1353	0.82	0.7	0.84	0.74	1.16
1356	1.2	0.78	1.2	0.76	0.92
1359	0.64	1.19	1.2	0.75	0.77
1362	0.45	1.2	1.13	0.83	0.74
1365	1.2	1.06	0.93	1.19	0.77
1368	1.01	0.83	0.8	1.17	0.81
1371	0.8	0.76	0.78	0.92	0.9
1374	0.71	0.77	0.8	0.78	1.15
1377	0.68	0.81	0.88	0.74	1.2
1380	0.69	0.86	1.14	0.75	1.2
1383	0.72	1.06	1.2	0.76	1.16
1386	0.81	1.2	1.2	0.79	0.95
1389	1.03	1.2	1.2	1.02	0.81
1392	1.07	1.2	1.2	1.19	0.77
1395	0.86	1.17	1.02	1.04	0.76
1398	0.75	0.99	0.82	0.88	0.78
1401	0.71	0.86	0.78	0.8	0.85
1404	0.73	0.79	0.78	0.78	1.04

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1407	0.71	0.76	0.79	0.77	1
1410	0.7	0.72	0.86	0.75	0.88
1413	0.72	0.71	1.07	0.73	0.79
1416	0.74	0.86	1.14	0.77	0.88
1419	0.76	0.93	0.97	0.82	0.95
1422	0.78	0.85	0.91	0.85	0.9
1425	0.78	0.85	0.9	0.83	0.83
1428	0.79	0.93	0.87	0.8	0.79
1431	0.78	0.9	0.86	0.91	0.79
1434	0.74	0.84	0.8	0.92	0.82
1437	0.75	0.79	0.79	0.88	0.85
1440	0.76	0.79	0.83	0.83	0.89
1443	0.76	0.8	0.86	0.78	0.87
1446	0.78	0.8	0.94	0.8	0.85
1449	0.78	0.84	0.91	0.81	0.85
1452	0.78	0.86	0.87	0.82	0.85
1455	0.78	0.84	0.85	0.87	0.85
1458	0.77	0.81	0.81	0.87	0.82
1461	0.77	0.81	0.85	0.86	0.84
1464	0.77	0.84	0.87	0.85	0.83
1467	0.77	0.82	0.83	0.86	0.81
1470	0.77	0.8	0.84	0.93	0.86
1473	0.78	0.81	0.8	0.89	0.87
1476	0.78	0.78	0.83	0.87	0.91
1479	0.78	0.81	0.87	0.92	0.94
1482	0.79	0.85	0.85	0.91	0.92
1485	0.79	0.85	0.92	0.91	0.9
1488	0.78	0.88	0.94	0.87	0.84
1491	0.79	0.86	0.94	0.85	0.82
1494	0.79	0.87	0.93	0.92	0.81
1497	0.77	0.85	0.88	0.91	0.82
1500	0.78	0.82	0.85	0.92	0.84
1503	0.76	0.8	0.81	0.91	0.84
1506	0.73	0.78	0.82	0.85	0.86
1509	0.78	0.8	0.83	0.83	0.84
1512	0.8	0.82	0.83	0.82	0.84
1515	0.78	0.85	0.87	0.82	0.87
1518	0.81	0.85	0.84	0.82	0.86
1521	0.8	0.81	0.83	0.83	0.87

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1524	0.79	0.83	0.84	0.83	0.84
1527	0.8	0.83	0.84	0.81	0.82
1530	0.77	0.84	0.86	0.82	0.82
1533	0.78	0.86	0.83	0.84	0.79
1536	0.82	0.82	0.83	0.87	0.78
1539	0.79	0.82	0.82	0.86	0.76
1542	0.79	0.79	0.79	0.84	0.79
1545	0.77	0.76	0.78	0.83	0.83
1548	0.76	0.73	0.75	0.8	0.86
1551	0.76	0.73	0.81	0.78	0.91
1554	0.75	0.79	0.84	0.74	0.87
1557	0.76	0.84	0.87	0.76	0.83
1560	0.75	0.89	0.88	0.8	0.84
1563	0.75	0.87	0.83	0.84	0.83
1566	0.75	0.81	0.83	0.89	0.84
1569	0.74	0.82	0.8	0.86	0.84
1572	0.74	0.82	0.81	0.83	0.84
1575	0.72	0.81	0.85	0.84	0.84
1578	0.73	0.84	0.85	0.83	0.83
1581	0.73	0.84	0.85	0.84	0.84
1584	0.72	0.85	0.84	0.84	0.84
1587	0.74	0.84	0.83	0.84	0.84
1590	0.74	0.82	0.83	0.84	0.84
1593	0.74	0.82	0.83	0.82	0.84
1596	0.75	0.81	0.85	0.83	0.85
1599	0.75	0.83	0.87	0.83	0.84
1602	0.73	0.85	0.85	0.82	0.88
1605	0.75	0.85	0.83	0.83	0.83
1608	0.75	0.84	0.82	0.82	0.8
1611	0.75	0.85	0.85	0.83	0.81
1614	0.76	0.83	0.8	0.82	0.79
1617	0.75	0.77	0.78	0.85	0.82
1620	0.74	0.76	0.77	0.82	0.83
1623	0.73	0.74	0.77	0.78	0.84
1626	0.74	0.77	0.83	0.78	0.86
1629	0.73	0.81	0.84	0.75	0.83
1632	0.74	0.82	0.86	0.8	0.84
1635	0.76	0.85	0.85	0.82	0.85
1638	0.76	0.84	0.83	0.83	0.83

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1641	0.77	0.82	0.84	0.87	0.84
1644	0.75	0.81	0.83	0.86	0.82
1647	0.75	0.8	0.82	0.83	0.81
1650	0.73	0.81	0.83	0.81	0.78
1653	0.74	0.81	0.82	0.8	0.74
1656	0.74	0.81	0.83	0.81	0.69
1659	0.73	0.8	0.8	0.8	0.7
1662	0.77	0.77	0.79	0.81	0.81
1665	0.76	0.76	0.76	0.8	0.78
1668	0.78	0.74	0.84	0.79	0.72
1671	0.78	0.84	0.89	0.79	0.89
1674	0.77	0.87	0.82	0.81	1.1
1677	0.78	0.81	0.77	0.88	1.04
1680	0.76	0.83	0.96	0.84	0.95
1683	0.76	0.98	1	0.77	0.94
1686	0.75	0.94	0.87	0.89	0.86
1689	0.76	0.83	0.85	1.18	0.78
1692	0.77	0.84	0.91	1.18	0.88
1695	0.74	0.88	0.85	1.02	1.2
1698	0.76	0.81	0.77	0.98	0.64
1701	0.76	0.79	0.82	0.92	0.08
1704	0.73	0.91	1.17	0.84	1.2
1707	0.73	1.2	0.08	0.88	1.2
1710	0.73	1.2	0.08	1.18	1.16
1713	0.75	1.2	1.2	1.2	0.91
1716	0.73	1.15	1.16	0.08	0.78
1719	0.73	0.88	0.95	0.64	0.72
1722	0.74	0.77	0.78	1.2	0.69
1725	0.74	0.72	0.72	1.2	0.7
1728	0.74	0.69	0.73	1.2	0.87
1731	0.74	0.73	0.74	1.04	1.12
1734	0.74	0.79	0.83	0.77	0.96
1737	0.74	0.95	1.12	0.73	0.8
1740	0.73	1.02	1.2	0.73	0.72
1743	0.74	0.93	1.16	0.75	0.79
1746	0.73	0.82	0.95	0.83	0.84
1749	0.74	0.74	0.84	1.06	0.79
1752	0.74	0.76	0.77	1.2	0.75
1755	0.74	0.75	0.73	1.2	0.73

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1758	0.76	0.72	0.74	1.16	0.75
1761	0.76	0.73	0.75	0.96	0.75
1764	0.74	0.75	0.83	0.8	0.73
1767	0.74	0.77	0.92	0.74	0.78
1770	0.74	0.81	0.89	0.74	0.78
1773	0.75	0.81	0.83	0.7	0.76
1776	0.75	0.8	0.82	0.75	0.79
1779	0.75	0.8	0.81	0.84	0.79
1782	0.75	0.78	0.79	0.86	0.79
1785	0.73	0.76	0.81	0.83	0.8
1788	0.75	0.78	0.81	0.8	0.79
1791	0.76	0.76	0.8	0.81	0.79
1794	0.74	0.77	0.82	0.82	0.78
1797	0.78	0.82	0.82	0.8	0.79
1800	0.77	0.8	0.8	0.85	0.79
1803	0.76	0.78	0.8	0.88	0.78
1806	0.76	0.77	0.81	0.84	0.79
1809	0.74	0.77	0.81	0.82	0.78
1812	0.75	0.79	0.83	0.82	0.79
1815	0.76	0.79	0.82	0.82	0.79
1818	0.78	0.81	0.8	0.81	0.79
1821	0.78	0.81	0.8	0.81	0.8
1824	0.76	0.8	0.8	0.81	0.79
1827	0.76	0.79	0.8	0.8	0.8
1830	0.74	0.8	0.81	0.82	0.78
1833	0.73	0.8	0.82	0.82	0.79
1836	0.75	0.82	0.81	0.82	0.78
1839	0.75	0.8	0.81	0.83	0.79
1842	0.76	0.81	0.81	0.83	0.78
1845	0.76	0.8	0.8	0.81	0.75
1848	0.74	0.79	0.8	0.82	0.79
1851	0.73	0.81	0.79	0.81	0.83
1854	0.73	0.8	0.77	0.8	0.82
1857	0.7	0.77	0.8	0.81	0.85
1860	0.7	0.84	0.82	0.78	0.83
1863	0.74	0.86	0.79	0.8	0.8
1866	0.74	0.82	0.82	0.85	0.82
1869	0.74	0.87	0.8	0.83	0.78
1872	0.76	0.87	0.77	0.83	0.79

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1875	0.76	0.86	0.79	0.85	0.82
1878	0.75	0.87	0.77	0.8	0.8
1881	0.74	0.82	0.79	0.81	0.8
1884	0.76	0.84	0.78	0.81	0.79
1887	0.77	0.84	0.76	0.78	0.78
1890	0.76	0.78	0.77	0.81	0.77
1893	0.75	0.82	0.76	0.8	0.76
1896	0.74	0.84	0.76	0.78	0.78
1899	0.74	0.82	0.78	0.79	0.77
1902	0.73	0.82	0.77	0.77	0.77
1905	0.73	0.77	0.76	0.78	0.75
1908	0.75	0.77	0.75	0.78	0.75
1911	0.74	0.79	0.75	0.77	0.75
1914	0.74	0.77	0.75	0.78	0.75
1917	0.74	0.77	0.75	0.76	0.76
1920	0.73	0.76	0.77	0.75	0.75
1923	0.73	0.76	0.76	0.75	0.75
1926	0.73	0.77	0.78	0.75	0.75
1929	0.74	0.77	0.77	0.75	0.75
1932	0.75	0.78	0.75	0.74	0.76
1935	0.74	0.78	0.77	0.75	0.76
1938	0.76	0.78	0.77	0.75	0.77
1941	0.77	0.79	0.77	0.74	0.75
1944	0.76	0.78	0.79	0.75	0.76
1947	0.79	0.79	0.81	0.76	0.76
1950	0.79	0.76	0.79	0.76	0.73
1953	0.78	0.77	0.8	0.77	0.75
1956	0.78	0.79	0.79	0.75	0.74
1959	0.78	0.77	0.78	0.76	0.75
1962	0.78	0.8	0.79	0.77	0.74
1965	0.79	0.82	0.78	0.74	0.75
1968	0.79	0.81	0.8	0.76	0.74
1971	0.79	0.83	0.8	0.76	0.75
1974	0.79	0.82	0.81	0.76	0.77
1977	0.77	0.79	0.79	0.76	0.75
1980	0.77	0.78	0.81	0.76	0.76
1983	0.77	0.79	0.81	0.76	0.75
1986	0.77	0.77	0.8	0.76	0.76
1989	0.79	0.77	0.79	0.78	0.75

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
1992	0.79	0.77	0.78	0.77	0.76
1995	0.78	0.77	0.79	0.78	0.76
1998	0.78	0.76	0.77	0.77	0.75
2001	0.77	0.75	0.77	0.77	0.78
2004	0.77	0.75	0.78	0.76	0.77
2007	0.77	0.75	0.78	0.74	0.78
2010	0.77	0.78	0.79	0.76	0.79
2013	0.77	0.79	0.78	0.77	0.78
2016	0.75	0.78	0.81	0.79	0.79
2019	0.76	0.81	0.81	0.79	0.76
2022	0.75	0.79	0.81	0.78	0.77
2025	0.77	0.79	0.81	0.8	0.76
2028	0.77	0.77	0.78	0.8	0.77
2031	0.78	0.77	0.79	0.8	0.77
2034	0.79	0.76	0.77	0.78	0.73
2037	0.78	0.76	0.78	0.77	0.76
2040	0.78	0.77	0.77	0.76	0.77
2043	0.77	0.73	0.73	0.76	0.73
2046	0.77	0.73	0.75	0.78	0.73
2049	0.77	0.75	0.75	0.74	0.72
2052	0.76	0.74	0.74	0.74	0.74
2055	0.78	0.74	0.76	0.75	0.74
2058	0.79	0.74	0.76	0.74	0.73
2061	0.75	0.74	0.78	0.74	0.74
2064	0.75	0.75	0.77	0.74	0.74
2067	0.77	0.74	0.76	0.73	0.75
2070	0.74	0.74	0.76	0.75	0.75
2073	0.76	0.73	0.75	0.75	0.75
2076	0.76	0.72	0.75	0.74	0.75
2079	0.76	0.73	0.77	0.74	0.75
2082	0.77	0.73	0.77	0.73	0.76
2085	0.74	0.76	0.77	0.73	0.76
2088	0.74	0.76	0.78	0.74	0.77
2091	0.74	0.76	0.78	0.74	0.77
2094	0.73	0.75	0.78	0.76	0.78
2097	0.74	0.75	0.79	0.76	0.77
2100	0.72	0.75	0.78	0.76	0.76
2103	0.73	0.76	0.79	0.77	0.75
2106	0.72	0.77	0.77	0.76	0.75

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
2109	0.72	0.77	0.77	0.77	0.75
2112	0.73	0.76	0.77	0.77	0.76
2115	0.71	0.75	0.76	0.75	0.76
2118	0.71	0.74	0.76	0.75	0.77
2121	0.72	0.74	0.76	0.75	0.76
2124	0.72	0.74	0.76	0.75	0.75
2127	0.75	0.75	0.77	0.75	0.77
2130	0.74	0.76	0.76	0.75	0.77
2133	0.74	0.76	0.76	0.75	0.77
2136	0.75	0.75	0.78	0.75	0.79
2139	0.73	0.76	0.79	0.76	0.78
2142	0.74	0.76	0.78	0.76	0.78
2145	0.75	0.78	0.8	0.78	0.78
2148	0.76	0.81	0.79	0.77	0.75
2151	0.73	0.79	0.78	0.77	0.75
2154	0.73	0.78	0.78	0.78	0.75
2157	0.74	0.76	0.76	0.76	0.77
2160	0.73	0.74	0.75	0.76	0.77
2163	0.75	0.73	0.74	0.76	0.77
2166	0.75	0.74	0.76	0.73	0.76
2169	0.74	0.76	0.76	0.73	0.75
2172	0.75	0.78	0.77	0.73	0.77
2175	0.76	0.78	0.78	0.74	0.77
2178	0.77	0.76	0.76	0.77	0.77
2181	0.76	0.75	0.76	0.79	0.77
2184	0.76	0.75	0.77	0.79	0.76
2187	0.74	0.75	0.78	0.78	0.74
2190	0.75	0.76	0.78	0.77	0.74
2193	0.77	0.77	0.77	0.77	0.74
2196	0.75	0.75	0.76	0.77	0.71
2199	0.76	0.75	0.75	0.78	0.73
2202	0.78	0.74	0.76	0.78	0.76
2205	0.78	0.73	0.75	0.78	0.76
2208	0.79	0.71	0.75	0.79	0.76
2211	0.79	0.73	0.77	0.76	0.77
2214	0.78	0.74	0.76	0.74	0.77
2217	0.8	0.74	0.76	0.76	0.76
2220	0.82	0.78	0.78	0.77	0.76
2223	0.79	0.79	0.8	0.75	0.79

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
2226	0.8	0.77	0.8	0.76	0.78
2229	0.83	0.76	0.82	0.79	0.77
2232	0.82	0.77	0.85	0.78	0.76
2235	0.79	0.78	0.89	0.77	0.74
2238	0.81	0.78	0.89	0.76	0.73
2241	0.83	0.78	0.84	0.77	0.74
2244	0.79	0.76	0.81	0.79	0.76
2247	0.77	0.76	0.79	0.78	0.77
2250	0.77	0.76	0.77	0.75	0.77
2253	0.76	0.75	0.78	0.75	0.76
2256	0.79	0.78	0.8	0.75	0.75
2259	0.78	0.78	0.81	0.74	0.73
2262	0.8	0.77	0.81	0.75	0.72
2265	0.8	0.77	0.8	0.77	0.73
2268	0.78	0.77	0.78	0.76	0.75
2271	0.79	0.76	0.77	0.76	0.76
2274	0.75	0.77	0.78	0.75	0.75
2277	0.75	0.77	0.79	0.74	0.77
2280	0.77	0.79	0.8	0.74	0.77
2283	0.77	0.78	0.78	0.75	0.75
2286	0.78	0.78	0.81	0.76	0.77
2289	0.78	0.82	0.81	0.75	0.77
2292	0.78	0.82	0.82	0.76	0.76
2295	0.78	0.82	0.83	0.78	0.78
2298	0.77	0.82	0.82	0.78	0.78
2301	0.77	0.8	0.82	0.78	0.78
2304	0.77	0.81	0.82	0.79	0.78
2307	0.77	0.81	0.83	0.78	0.78
2310	0.77	0.82	0.82	0.79	0.77
2313	0.76	0.82	0.81	0.79	0.76
2316	0.75	0.82	0.81	0.79	0.75
2319	0.73	0.81	0.8	0.8	0.75
2322	0.74	0.8	0.81	0.81	0.75
2325	0.73	0.79	0.79	0.81	0.76
2328	0.74	0.79	0.79	0.82	0.78
2331	0.74	0.8	0.79	0.81	0.78
2334	0.73	0.81	0.79	0.8	0.79
2337	0.75	0.8	0.8	0.8	0.79
2340	0.75	0.8	0.79	0.8	0.77

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
2343	0.74	0.79	0.8	0.8	0.78
2346	0.76	0.8	0.79	0.8	0.77
2349	0.74	0.8	0.78	0.8	0.76
2352	0.74	0.81	0.79	0.8	0.76
2355	0.75	0.82	0.77	0.79	0.75
2358	0.71	0.81	0.78	0.78	0.76
2361	0.72	0.8	0.78	0.79	0.74
2364	0.74	0.78	0.76	0.78	0.75
2367	0.72	0.77	0.76	0.77	0.77
2370	0.72	0.77	0.75	0.76	0.77
2373	0.72	0.78	0.77	0.75	0.79
2376	0.73	0.79	0.78	0.75	0.78
2379	0.73	0.78	0.79	0.76	0.79
2382	0.75	0.8	0.78	0.77	0.79
2385	0.75	0.8	0.77	0.76	0.77
2388	0.75	0.78	0.78	0.78	0.79
2391	0.74	0.79	0.76	0.78	0.78
2394	0.74	0.78	0.78	0.77	0.77
2397	0.74	0.79	0.79	0.79	0.78
2400	0.75	0.79	0.78	0.77	0.78
2403	0.75	0.78	0.8	0.77	0.76
2406	0.74	0.8	0.8	0.76	0.76
2409	0.73	0.79	0.78	0.77	0.75
2412	0.75	0.75	0.76	0.79	0.77
2415	0.78	0.76	0.77	0.77	0.78
2418	0.79	0.76	0.77	0.75	0.76
2421	0.79	0.77	0.76	0.77	0.77
2424	0.8	0.77	0.77	0.76	0.74
2427	0.85	0.76	0.78	0.74	0.74
2430	0.83	0.78	0.8	0.75	0.74
2433	0.8	0.76	0.77	0.75	0.74
2436	0.78	0.74	0.77	0.77	0.75
2439	0.74	0.75	0.75	0.75	0.74
2442	0.75	0.73	0.75	0.74	0.75
2445	0.76	0.75	0.75	0.75	0.73
2448	0.79	0.74	0.75	0.74	0.73
2451	0.81	0.75	0.77	0.74	0.75
2454	0.8	0.74	0.76	0.73	0.74
2457	0.78	0.71	0.76	0.74	0.77

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
2460	0.76	0.74	0.76	0.74	0.77
2463	0.77	0.75	0.73	0.73	0.75
2466	0.79	0.74	0.76	0.75	0.76
2469	0.78	0.77	0.75	0.73	0.75
2472	0.79	0.77	0.76	0.72	0.76
2475	0.81	0.75	0.76	0.75	0.77
2478	0.8	0.76	0.75	0.74	0.77
2481	0.8	0.74	0.77	0.75	0.77
2484	0.78	0.75	0.77	0.75	0.77
2487	0.76	0.75	0.77	0.74	0.79
2490	0.74	0.75	0.77	0.74	0.76
2493	0.79	0.77	0.77	0.73	0.76
2496	0.82	0.78	0.78	0.74	0.75
2499	0.8	0.77	0.75	0.75	0.74
2502	0.82	0.74	0.76	0.77	0.76
2505	0.78	0.77	0.76	0.75	0.77
2508	0.79	0.77	0.75	0.74	0.78
2511	0.76	0.78	0.77	0.76	0.77
2514	0.72	0.79	0.76	0.75	0.77
2517	0.75	0.79	0.76	0.76	0.77
2520	0.77	0.79	0.77	0.76	0.76
2523	0.77	0.78	0.77	0.74	0.76
2526	0.85	0.8	0.78	0.76	0.76
2529	0.86	0.79	0.78	0.76	0.76
2532	0.85	0.8	0.79	0.78	0.8
2535	0.82	0.79	0.75	0.78	0.79
2538	0.77	0.76	0.76	0.79	0.81
2541	0.77	0.79	0.79	0.77	0.83
2544	0.76	0.79	0.78	0.74	0.81
2547	0.75	0.78	0.79	0.78	0.8
2550	0.74	0.8	0.8	0.79	0.78
2553	0.73	0.8	0.78	0.78	0.78
2556	0.76	0.82	0.81	0.81	0.79
2559	0.74	0.83	0.8	0.8	0.82
2562	0.72	0.81	0.79	0.82	0.8
2565	0.74	0.81	0.81	0.83	0.79
2568	0.72	0.82	0.81	0.79	0.81
2571	0.73	0.8	0.8	0.8	0.8
2574	0.74	0.77	0.81	0.82	0.78

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
2577	0.73	0.79	0.83	0.8	0.8
2580	0.72	0.8	0.83	0.81	0.81
2583	0.72	0.79	0.82	0.82	0.77
2586	0.71	0.81	0.83	0.82	0.76
2589	0.71	0.83	0.82	0.81	0.75
2592	0.71	0.79	0.82	0.82	0.76
2595	0.73	0.77	0.83	0.84	0.79
2598	0.73	0.75	0.81	0.84	0.78
2601	0.73	0.74	0.79	0.84	0.8
2604	0.74	0.76	0.79	0.8	0.79
2607	0.74	0.78	0.79	0.77	0.76
2610	0.74	0.78	0.81	0.78	0.76
2613	0.75	0.77	0.8	0.77	0.74
2616	0.74	0.74	0.79	0.79	0.74
2619	0.75	0.76	0.8	0.81	0.77
2622	0.74	0.74	0.77	0.79	0.79
2625	0.76	0.74	0.78	0.8	0.79
2628	0.77	0.75	0.78	0.76	0.79
2631	0.76	0.76	0.8	0.75	0.8
2634	0.8	0.77	0.8	0.76	0.78
2637	0.77	0.76	0.8	0.78	0.77
2640	0.78	0.77	0.8	0.79	0.78
2643	0.8	0.76	0.78	0.8	0.78
2646	0.77	0.74	0.8	0.8	0.79
2649	0.77	0.75	0.8	0.78	0.79
2652	0.75	0.74	0.79	0.77	0.78
2655	0.77	0.76	0.82	0.78	0.77
2658	0.78	0.75	0.81	0.77	0.75
2661	0.77	0.76	0.82	0.8	0.76
2664	0.79	0.76	0.82	0.81	0.76
2667	0.77	0.74	0.82	0.8	0.76
2670	0.8	0.75	0.82	0.8	0.77
2673	0.8	0.74	0.8	0.78	0.75
2676	0.79	0.75	0.82	0.77	0.77
2679	0.8	0.75	0.8	0.77	0.76
2682	0.79	0.73	0.8	0.78	0.75
2685	0.78	0.75	0.81	0.8	0.76
2688	0.77	0.74	0.78	0.77	0.74
2691	0.76	0.73	0.81	0.77	0.75

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
2694	0.76	0.75	0.82	0.77	0.76
2697	0.75	0.76	0.8	0.75	0.74
2700	0.77	0.76	0.8	0.78	0.75
2703	0.77	0.76	0.82	0.77	0.76
2706	0.76	0.74	0.8	0.75	0.75
2709	0.76	0.74	0.8	0.78	0.74
2712	0.77	0.76	0.8	0.77	0.75
2715	0.76	0.75	0.79	0.76	0.76
2718	0.77	0.75	0.8	0.76	0.76
2721	0.76	0.74	0.81	0.74	0.77
2724	0.75	0.75	0.82	0.74	0.76
2727	0.75	0.75	0.82	0.75	0.75
2730	0.76	0.76	0.82	0.76	0.75
2733	0.75	0.76	0.81	0.76	0.75
2736	0.75	0.76	0.81	0.77	0.76
2739	0.75	0.77	0.8	0.76	0.76
2742	0.72	0.76	0.78	0.76	0.76
2745	0.75	0.77	0.81	0.76	0.75
2748	0.74	0.76	0.8	0.75	0.74
2751	0.74	0.74	0.81	0.77	0.74
2754	0.77	0.75	0.82	0.77	0.75
2757	0.75	0.75	0.8	0.76	0.76
2760	0.77	0.75	0.81	0.77	0.76
2763	0.76	0.76	0.81	0.76	0.77
2766	0.75	0.77	0.82	0.75	0.77
2769	0.8	0.77	0.8	0.75	0.76
2772	0.78	0.75	0.8	0.76	0.75
2775	0.79	0.75	0.8	0.77	0.76
2778	0.81	0.75	0.79	0.75	0.74
2781	0.78	0.73	0.8	0.76	0.75
2784	0.82	0.76	0.81	0.76	0.75
2787	0.83	0.75	0.81	0.74	0.76
2790	0.83	0.74	0.82	0.76	0.77
2793	0.86	0.74	0.81	0.75	0.78
2796	0.82	0.72	0.84	0.75	0.77
2799	0.79	0.74	0.83	0.76	0.73
2802	0.81	0.73	0.82	0.76	0.74
2805	0.79	0.75	0.84	0.77	0.79
2808	0.8	0.74	0.8	0.75	0.78

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
2811	0.88	0.72	0.82	0.77	0.76
2814	0.85	0.77	0.84	0.76	0.78
2817	0.83	0.77	0.82	0.75	0.81
2820	0.77	0.75	0.82	0.78	0.8
2823	0.74	0.77	0.83	0.8	0.78
2826	0.83	0.78	0.86	0.77	0.76
2829	0.85	0.78	0.85	0.78	0.72
2832	0.84	0.78	0.85	0.79	0.75
2835	0.79	0.77	0.85	0.81	0.79
2838	0.73	0.74	0.82	0.79	0.79
2841	0.78	0.76	0.85	0.8	0.83
2844	0.8	0.8	0.87	0.78	0.84
2847	0.78	0.78	0.84	0.77	0.83
2850	0.75	0.79	0.89	0.8	0.78
2853	0.69	0.81	0.97	0.79	0.72
2856	0.72	0.81	0.93	0.81	0.71
2859	0.74	0.79	0.86	0.89	0.78
2862	0.72	0.74	0.76	0.88	0.8
2865	0.75	0.7	0.78	0.82	0.85
2868	0.75	0.75	0.87	0.76	0.86
2871	0.76	0.77	0.91	0.73	0.86
2874	0.75	0.78	0.95	0.78	0.86
2877	0.74	0.85	0.92	0.79	0.8
2880	0.77	0.85	0.9	0.81	0.78
2883	0.74	0.84	0.89	0.89	0.74
2886	0.75	0.77	0.83	0.91	0.72
2889	0.77	0.76	0.84	0.88	0.73
2892	0.74	0.8	0.82	0.79	0.72
2895	0.76	0.79	0.83	0.79	0.73
2898	0.74	0.76	0.85	0.86	0.73
2901	0.75	0.73	0.8	0.85	0.71
2904	0.75	0.72	0.83	0.82	0.72
2907	0.76	0.73	0.84	0.78	0.7
2910	0.77	0.7	0.81	0.77	0.69
2913	0.74	0.7	0.85	0.78	0.71
2916	0.74	0.73	0.84	0.75	0.7
2919	0.73	0.72	0.82	0.75	0.7
2922	0.73	0.73	0.81	0.79	0.7
2925	0.74	0.73	0.78	0.76	0.69

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
2928	0.72	0.72	0.79	0.76	0.7
2931	0.75	0.72	0.79	0.77	0.7
2934	0.75	0.7	0.79	0.75	0.7
2937	0.74	0.7	0.81	0.76	0.71
2940	0.75	0.7	0.81	0.74	0.71
2943	0.73	0.7	0.82	0.76	0.72
2946	0.75	0.73	0.82	0.77	0.72
2949	0.74	0.73	0.8	0.77	0.71
2952	0.74	0.72	0.8	0.8	0.71
2955	0.74	0.74	0.79	0.8	0.71
2958	0.74	0.73	0.8	0.79	0.73
2961	0.75	0.73	0.81	0.81	0.73
2964	0.75	0.73	0.8	0.78	0.73
2967	0.76	0.73	0.81	0.79	0.76
2970	0.76	0.75	0.8	0.81	0.74
2973	0.76	0.74	0.8	0.8	0.76
2976	0.76	0.77	0.8	0.83	0.76
2979	0.74	0.75	0.77	0.81	0.76
2982	0.66	0.74	0.79	0.83	0.77
2985	0.58	0.76	0.78	0.84	0.73
2988	0.51	0.76	0.79	0.84	0.74
2991	0.52	0.78	0.81	0.89	0.74
2994	0.6	0.77	0.79	0.88	0.76
2997	0.65	0.77	0.82	0.86	0.78
3000	0.7	0.77	0.79	0.82	0.76
3003	0.73	0.75	0.78	0.8	0.79
3006	0.71	0.75	0.77	0.79	0.77
3009	0.64	0.74	0.75	0.79	0.77
3012	0.66	0.75	0.75	0.81	0.79
3015	0.7	0.76	0.73	0.83	0.77
3018	0.69	0.75	0.75	0.85	0.78
3021	0.67	0.79	0.76	0.83	0.78
3024	0.68	0.78	0.74	0.84	0.77
3027	0.7	0.77	0.76	0.83	0.78
3030	0.7	0.78	0.76	0.81	0.76
3033	0.71	0.76	0.75	0.82	0.77
3036	0.69	0.77	0.75	0.82	0.78
3039	0.69	0.78	0.76	0.85	0.76
3042	0.75	0.8	0.78	0.83	0.78

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3045	0.74	0.81	0.78	0.82	0.77
3048	0.74	0.78	0.78	0.83	0.77
3051	0.75	0.8	0.78	0.83	0.77
3054	0.78	0.81	0.75	0.84	0.75
3057	0.76	0.79	0.75	0.82	0.76
3060	0.72	0.8	0.76	0.81	0.77
3063	0.74	0.79	0.76	0.8	0.76
3066	0.73	0.77	0.76	0.82	0.76
3069	0.71	0.78	0.76	0.82	0.75
3072	0.69	0.77	0.75	0.81	0.75
3075	0.71	0.76	0.75	0.81	0.75
3078	0.73	0.76	0.75	0.79	0.75
3081	0.71	0.76	0.75	0.79	0.72
3084	0.71	0.75	0.75	0.78	0.73
3087	0.71	0.76	0.76	0.79	0.75
3090	0.67	0.75	0.74	0.79	0.75
3093	0.7	0.73	0.74	0.79	0.76
3096	0.7	0.74	0.75	0.75	0.75
3099	0.67	0.71	0.73	0.75	0.77
3102	0.69	0.74	0.77	0.76	0.79
3105	0.69	0.75	0.79	0.74	0.76
3108	0.71	0.75	0.77	0.77	0.78
3111	0.77	0.78	0.78	0.77	0.81
3114	0.74	0.76	0.75	0.79	0.79
3117	0.72	0.76	0.76	0.8	0.81
3120	0.69	0.78	0.79	0.76	0.78
3123	0.67	0.75	0.79	0.78	0.78
3126	0.68	0.77	0.83	0.79	0.81
3129	0.64	0.78	0.84	0.77	0.79
3132	0.64	0.78	0.85	0.81	0.82
3135	0.66	0.81	0.87	0.79	0.83
3138	0.65	0.79	0.82	0.79	0.79
3141	0.66	0.82	0.83	0.82	0.82
3144	0.65	0.83	0.83	0.81	0.84
3147	0.68	0.79	0.8	0.83	0.82
3150	0.66	0.82	0.87	0.8	0.85
3153	0.64	0.9	1.03	0.77	0.82
3156	0.64	0.88	1.07	0.81	0.8
3159	0.64	0.85	0.94	0.79	0.81

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3162	0.64	0.8	0.81	0.79	0.77
3165	0.63	0.72	0.75	0.85	0.78
3168	0.63	0.76	0.86	0.84	0.8
3171	0.64	0.78	0.92	0.82	0.79
3174	0.63	0.79	0.87	0.79	0.78
3177	0.64	0.8	0.79	0.73	0.76
3180	0.65	0.77	0.79	0.77	0.74
3183	0.65	0.78	0.84	0.81	0.72
3186	0.64	0.77	0.83	0.81	0.71
3189	0.63	0.75	0.83	0.83	0.72
3192	0.63	0.74	0.79	0.79	0.69
3195	0.64	0.73	0.8	0.8	0.7
3198	0.64	0.75	0.83	0.8	0.71
3201	0.65	0.73	0.79	0.76	0.7
3204	0.64	0.72	0.8	0.79	0.75
3207	0.61	0.74	0.79	0.76	0.75
3210	0.64	0.72	0.78	0.73	0.74
3213	0.63	0.72	0.83	0.77	0.74
3216	0.62	0.74	0.82	0.77	0.71
3219	0.63	0.72	0.85	0.81	0.72
3222	0.6	0.75	0.85	0.84	0.71
3225	0.62	0.74	0.82	0.81	0.71
3228	0.65	0.74	0.81	0.83	0.74
3231	0.66	0.72	0.77	0.8	0.72
3234	0.67	0.7	0.79	0.79	0.74
3237	0.63	0.74	0.81	0.79	0.74
3240	0.63	0.75	0.79	0.75	0.74
3243	0.63	0.74	0.8	0.79	0.75
3246	0.61	0.74	0.79	0.81	0.73
3249	0.64	0.73	0.81	0.81	0.74
3252	0.64	0.75	0.81	0.83	0.73
3255	0.64	0.75	0.8	0.8	0.72
3258	0.64	0.75	0.82	0.8	0.72
3261	0.63	0.75	0.8	0.78	0.71
3264	0.64	0.74	0.8	0.77	0.73
3267	0.62	0.73	0.78	0.79	0.72
3270	0.64	0.71	0.77	0.78	0.73
3273	0.64	0.73	0.81	0.77	0.76
3276	0.62	0.74	0.8	0.75	0.74

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3279	0.66	0.74	0.82	0.78	0.75
3282	0.66	0.76	0.82	0.77	0.73
3285	0.64	0.74	0.81	0.77	0.72
3288	0.66	0.74	0.81	0.79	0.73
3291	0.67	0.75	0.78	0.78	0.71
3294	0.68	0.73	0.79	0.78	0.72
3297	0.68	0.74	0.8	0.77	0.72
3300	0.68	0.73	0.79	0.75	0.73
3303	0.69	0.72	0.81	0.76	0.73
3306	0.67	0.72	0.8	0.75	0.73
3309	0.69	0.74	0.8	0.76	0.73
3312	0.7	0.75	0.79	0.76	0.73
3315	0.69	0.74	0.8	0.76	0.73
3318	0.69	0.75	0.81	0.76	0.73
3321	0.67	0.75	0.8	0.76	0.68
3324	0.68	0.75	0.81	0.77	0.59
3327	0.67	0.75	0.8	0.77	0.48
3330	0.68	0.72	0.8	0.78	0.47
3333	0.68	0.67	0.82	0.76	0.53
3336	0.68	0.56	0.82	0.75	0.61
3339	0.68	0.48	0.82	0.75	0.66
3342	0.67	0.51	0.81	0.75	0.68
3345	0.67	0.61	0.8	0.76	0.67
3348	0.68	0.69	0.81	0.76	0.62
3351	0.66	0.72	0.8	0.76	0.62
3354	0.68	0.7	0.75	0.77	0.65
3357	0.68	0.65	0.69	0.77	0.65
3360	0.69	0.61	0.72	0.72	0.62
3363	0.69	0.62	0.75	0.66	0.62
3366	0.69	0.67	0.76	0.67	0.66
3369	0.72	0.67	0.79	0.71	0.68
3372	0.69	0.65	0.81	0.7	0.68
3375	0.71	0.65	0.83	0.7	0.66
3378	0.75	0.65	0.84	0.71	0.66
3381	0.72	0.67	0.83	0.72	0.69
3384	0.71	0.69	0.83	0.72	0.7
3387	0.82	0.67	0.8	0.71	0.72
3390	0.87	0.7	0.78	0.7	0.72
3393	0.81	0.73	0.74	0.67	0.73

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3396	0.71	0.73	0.68	0.69	0.74
3399	0.65	0.73	0.64	0.69	0.71
3402	0.71	0.74	0.63	0.69	0.7
3405	0.73	0.77	0.64	0.69	0.69
3408	0.69	0.74	0.59	0.71	0.67
3411	0.67	0.71	0.54	0.74	0.66
3414	0.65	0.72	0.49	0.7	0.65
3417	0.7	0.7	0.47	0.7	0.69
3420	0.71	0.68	0.48	0.69	0.71
3423	0.71	0.65	0.5	0.66	0.72
3426	0.72	0.67	0.59	0.66	0.76
3429	0.69	0.7	0.65	0.65	0.75
3432	0.67	0.7	0.71	0.68	0.74
3435	0.64	0.73	0.75	0.69	0.74
3438	0.63	0.74	0.73	0.68	0.7
3441	0.65	0.72	0.76	0.7	0.67
3444	0.66	0.73	0.74	0.68	0.72
3447	0.68	0.71	0.7	0.66	0.74
3450	0.67	0.67	0.73	0.68	0.76
3453	0.68	0.72	0.8	0.66	0.76
3456	0.69	0.75	0.79	0.63	0.73
3459	0.67	0.75	0.77	0.68	0.76
3462	0.68	0.79	0.74	0.68	0.75
3465	0.68	0.77	0.78	0.7	0.71
3468	0.68	0.78	0.75	0.72	0.67
3471	0.68	0.79	0.7	0.69	0.63
3474	0.69	0.75	0.71	0.7	0.67
3477	0.68	0.7	0.72	0.64	0.75
3480	0.69	0.64	0.7	0.64	0.76
3483	0.67	0.63	0.72	0.65	0.74
3486	0.66	0.69	0.73	0.62	0.72
3489	0.67	0.7	0.76	0.65	0.67
3492	0.66	0.66	0.75	0.69	0.65
3495	0.66	0.65	0.73	0.69	0.62
3498	0.67	0.63	0.74	0.66	0.65
3501	0.68	0.65	0.74	0.63	0.65
3504	0.67	0.65	0.72	0.64	0.63
3507	0.66	0.64	0.7	0.65	0.64
3510	0.66	0.66	0.71	0.62	0.66

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3513	0.65	0.65	0.71	0.64	0.66
3516	0.65	0.63	0.68	0.64	0.64
3519	0.66	0.65	0.69	0.63	0.62
3522	0.66	0.67	0.7	0.62	0.64
3525	0.66	0.68	0.7	0.61	0.62
3528	0.68	0.65	0.7	0.64	0.61
3531	0.67	0.67	0.7	0.63	0.62
3534	0.65	0.7	0.68	0.61	0.63
3537	0.65	0.68	0.67	0.65	0.64
3540	0.65	0.66	0.67	0.64	0.64
3543	0.66	0.66	0.7	0.62	0.65
3546	0.64	0.67	0.7	0.61	0.62
3549	0.65	0.66	0.68	0.62	0.63
3552	0.65	0.66	0.7	0.64	0.63
3555	0.63	0.65	0.68	0.64	0.61
3558	0.65	0.64	0.66	0.66	0.64
3561	0.65	0.67	0.67	0.64	0.63
3564	0.64	0.67	0.64	0.64	0.62
3567	0.63	0.66	0.66	0.65	0.67
3570	0.65	0.68	0.67	0.62	0.68
3573	0.64	0.66	0.67	0.63	0.68
3576	0.64	0.68	0.73	0.64	0.65
3579	0.67	0.75	0.76	0.61	0.61
3582	0.65	0.74	0.74	0.65	0.62
3585	0.64	0.72	0.7	0.69	0.61
3588	0.65	0.66	0.65	0.69	0.62
3591	0.64	0.65	0.69	0.66	0.64
3594	0.64	0.66	0.68	0.59	0.62
3597	0.65	0.64	0.67	0.6	0.65
3600	0.66	0.67	0.71	0.63	0.64
3603	0.65	0.69	0.7	0.62	0.63
3606	0.66	0.68	0.68	0.64	0.64
3609	0.66	0.67	0.65	0.63	0.62
3612	0.65	0.66	0.64	0.63	0.64
3615	0.68	0.67	0.66	0.63	0.63
3618	0.69	0.67	0.65	0.61	0.63
3621	0.67	0.65	0.66	0.63	0.67
3624	0.68	0.66	0.67	0.62	0.65
3627	0.7	0.65	0.64	0.62	0.67

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3630	0.68	0.66	0.66	0.63	0.69
3633	0.67	0.68	0.66	0.62	0.67
3636	0.69	0.67	0.65	0.65	0.69
3639	0.7	0.68	0.68	0.67	0.68
3642	0.66	0.67	0.67	0.66	0.68
3645	0.65	0.68	0.67	0.7	0.69
3648	0.67	0.69	0.67	0.68	0.68
3651	0.65	0.68	0.65	0.68	0.69
3654	0.65	0.69	0.66	0.69	0.68
3657	0.67	0.69	0.64	0.68	0.68
3660	0.67	0.7	0.66	0.69	0.68
3663	0.68	0.71	0.67	0.69	0.67
3666	0.67	0.69	0.65	0.69	0.66
3669	0.65	0.68	0.66	0.7	0.65
3672	0.63	0.68	0.67	0.68	0.66
3675	0.63	0.68	0.67	0.69	0.68
3678	0.65	0.68	0.67	0.69	0.67
3681	0.67	0.68	0.66	0.68	0.67
3684	0.7	0.69	0.66	0.68	0.66
3687	0.69	0.69	0.67	0.67	0.67
3690	0.65	0.67	0.67	0.67	0.65
3693	0.65	0.67	0.67	0.67	0.65
3696	0.67	0.68	0.68	0.66	0.65
3699	0.76	0.67	0.68	0.66	0.65
3702	0.81	0.66	0.67	0.66	0.67
3705	0.75	0.66	0.63	0.66	0.68
3708	0.65	0.65	0.63	0.67	0.69
3711	0.92	0.66	0.67	0.69	0.69
3714	0.93	0.67	0.68	0.69	0.68
3717	0.83	0.69	0.72	0.69	0.73
3720	0.68	0.71	0.73	0.69	0.73
3723	0.8	0.7	0.69	0.7	0.71
3726	1.2	0.74	0.73	0.71	0.78
3729	1.2	0.76	0.75	0.68	0.86
3732	1.16	0.73	0.73	0.71	0.81
3735	1	0.76	0.77	0.72	0.72
3738	0.85	0.89	0.77	0.68	0.63
3741	0.76	0.92	0.74	0.69	0.65
3744	0.76	0.82	0.75	0.75	0.7

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3747	1.11	0.69	0.73	0.75	0.67
3750	1.2	0.65	0.71	0.71	0.66
3753	1.2	0.7	0.67	0.63	0.66
3756	0.99	0.68	0.64	0.62	0.7
3759	0.84	0.65	0.65	0.69	0.72
3762	0.83	0.63	0.65	0.68	0.69
3765	0.78	0.62	0.67	0.67	0.67
3768	0.76	0.67	0.73	0.67	0.64
3771	0.81	0.71	0.75	0.66	0.61
3774	0.82	0.7	0.72	0.7	0.61
3777	0.85	0.67	0.68	0.67	0.58
3780	0.91	0.63	0.66	0.64	0.6
3783	0.88	0.63	0.67	0.62	0.62
3786	0.87	0.59	0.65	0.6	0.62
3789	0.85	0.59	0.66	0.6	0.64
3792	0.82	0.63	0.7	0.58	0.64
3795	0.82	0.65	0.72	0.59	0.64
3798	0.77	0.66	0.76	0.6	0.64
3801	0.76	0.67	0.79	0.6	0.63
3804	0.78	0.67	0.81	0.61	0.64
3807	0.76	0.66	0.85	0.62	0.65
3810	0.79	0.64	0.83	0.61	0.63
3813	0.81	0.64	0.77	0.62	0.63
3816	0.78	0.66	0.78	0.62	0.61
3819	0.74	0.65	0.81	0.62	0.61
3822	0.74	0.64	0.85	0.64	0.6
3825	0.74	0.63	0.84	0.63	0.58
3828	0.74	0.63	0.83	0.63	0.59
3831	0.74	0.62	0.8	0.62	0.59
3834	0.75	0.59	0.75	0.6	0.59
3837	0.75	0.61	0.73	0.6	0.62
3840	0.73	0.62	0.73	0.58	0.61
3843	0.73	0.62	0.73	0.6	0.6
3846	0.72	0.66	0.77	0.6	0.6
3849	0.7	0.65	0.76	0.59	0.59
3852	0.73	0.63	0.76	0.6	0.59
3855	0.72	0.63	0.76	0.59	0.59
3858	0.71	0.63	0.73	0.57	0.61
3861	0.71	0.63	0.74	0.58	0.61

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3864	0.71	0.63	0.73	0.58	0.61
3867	0.72	0.63	0.71	0.58	0.64
3870	0.71	0.63	0.72	0.59	0.64
3873	0.77	0.61	0.74	0.6	0.62
3876	0.78	0.63	0.76	0.61	0.63
3879	0.76	0.64	0.75	0.59	0.62
3882	0.77	0.64	0.75	0.61	0.63
3885	0.74	0.63	0.73	0.61	0.62
3888	0.73	0.65	0.7	0.61	0.63
3891	0.75	0.66	0.73	0.62	0.64
3894	0.74	0.65	0.74	0.63	0.63
3897	0.77	0.65	0.75	0.63	0.63
3900	0.82	0.65	0.77	0.63	0.63
3903	0.8	0.64	0.75	0.6	0.64
3906	0.78	0.64	0.74	0.63	0.63
3909	0.72	0.66	0.74	0.64	0.64
3912	0.71	0.66	0.72	0.63	0.65
3915	0.69	0.65	0.73	0.64	0.63
3918	0.68	0.64	0.72	0.64	0.65
3921	0.7	0.65	0.72	0.63	0.65
3924	0.69	0.63	0.71	0.64	0.63
3927	0.75	0.65	0.72	0.63	0.64
3930	0.79	0.66	0.72	0.64	0.64
3933	0.77	0.65	0.71	0.65	0.66
3936	0.83	0.66	0.73	0.66	0.67
3939	0.87	0.66	0.73	0.7	0.68
3942	0.8	0.66	0.71	0.73	0.68
3945	0.78	0.66	0.72	0.75	0.68
3948	0.92	0.67	0.73	0.74	0.67
3951	0.91	0.67	0.71	0.73	0.68
3954	0.89	0.67	0.73	0.73	0.71
3957	0.91	0.67	0.75	0.71	0.74
3960	0.87	0.66	0.76	0.72	0.73
3963	0.85	0.67	0.76	0.76	0.72
3966	0.88	0.69	0.76	0.78	0.75
3969	0.84	0.69	0.77	0.8	0.74
3972	0.84	0.68	0.77	0.79	0.72
3975	0.92	0.7	0.78	0.8	0.71
3978	0.92	0.69	0.77	0.8	0.7

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
3981	0.86	0.66	0.75	0.81	0.68
3984	0.86	0.67	0.74	0.83	0.66
3987	0.88	0.69	0.73	0.85	0.7
3990	0.84	0.68	0.73	0.83	0.7
3993	0.84	0.65	0.73	0.8	0.69
3996	0.84	0.66	0.72	0.8	0.7
3999	0.84	0.67	0.71	0.82	0.7
4002	0.87	0.65	0.73	0.82	0.7
4005	0.85	0.66	0.74	0.82	0.69
4008	0.86	0.69	0.74	0.82	0.66
4011	0.83	0.69	0.73	0.83	0.68
4014	0.84	0.68	0.74	0.85	0.67
4017	0.86	0.67	0.73	0.84	0.68
4020	0.85	0.65	0.72	0.81	0.69
4023	0.88	0.65	0.7	0.78	0.71
4026	0.85	0.65	0.71	0.75	0.72
4029	0.84	0.66	0.75	0.75	0.7
4032	0.82	0.67	0.76	0.75	0.7
4035	0.77	0.7	0.75	0.81	0.72
4038	0.77	0.68	0.7	0.81	0.85
4041	0.73	0.67	0.67	0.76	0.99
4044	0.69	0.68	0.66	0.7	0.97
4047	0.75	0.76	0.75	0.69	0.75
4050	0.88	0.85	1.02	0.68	0.98
4053	0.89	0.83	1.2	0.7	0.95
4056	0.83	0.62	0.98	0.8	0.86
4059	0.75	0.84	1.04	0.96	0.78
4062	0.71	1	1.01	1.03	0.88
4065	0.83	0.94	0.94	1.19	1.2
4068	0.86	0.85	0.88	1.13	1.2
4071	0.82	0.8	1.11	1.06	1.15
4074	0.76	0.93	0.64	1.06	0.89
4077	0.7	0.92	0.08	1.19	0.77
4080	0.74	0.86	0.64	0.83	0.82
4083	0.81	0.86	1.2	0.08	0.87
4086	0.78	0.78	1.2	1.2	0.83
4089	0.81	0.72	1.2	1.2	0.82
4092	0.79	0.72	1.2	1.2	0.88
4095	0.73	0.86	1.18	1.2	0.85

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
4098	0.75	0.88	0.95	1.2	0.82
4101	0.76	0.89	0.8	1.2	0.82
4104	0.73	0.84	0.75	1.2	0.83
4107	0.78	0.79	0.76	1.2	0.85
4110	0.83	0.83	0.78	1.01	0.81
4113	0.8	0.82	0.84	0.85	0.8
4116	0.8	0.8	1.01	0.76	0.81
4119	0.77	0.83	0.97	0.74	0.8
4122	0.75	0.81	0.85	0.74	0.78
4125	0.77	0.82	0.78	0.79	0.8
4128	0.73	0.84	0.82	1.06	0.79
4131	0.73	0.8	0.81	1.2	0.77
4134	0.78	0.82	0.78	1.2	0.76
4137	0.78	0.84	0.77	1.2	0.75
4140	0.77	0.81	0.77	1.2	0.74
4143	0.81	0.78	0.78	1.07	0.74
4146	0.78	0.75	0.81	0.87	0.73
4149	0.76	0.74	0.83	0.77	0.72
4152	0.72	0.77	0.81	0.74	0.75
4155	0.71	0.74	0.79	0.73	0.75
4158	0.76	0.75	0.78	0.78	0.72
4161	0.76	0.78	0.77	0.84	0.74
4164	0.73	0.77	0.76	0.88	0.75
4167	0.76	0.74	0.77	0.92	0.75
4170	0.75	0.71	0.75	0.88	0.76
4173	0.74	0.73	0.76	0.82	0.75
4176	0.8	0.73	0.75	0.78	0.75
4179	0.81	0.72	0.75	0.76	0.73
4182	0.81	0.73	0.73	0.78	0.71
4185	0.79	0.73	0.73	0.77	0.72
4188	0.74	0.71	0.74	0.75	0.71
4191	0.76	0.68	0.72	0.77	0.74
4194	0.76	0.68	0.72	0.78	0.73
4197	0.75	0.67	0.7	0.75	0.7
4200	0.75	0.69	0.7	0.77	0.71
4203	0.74	0.69	0.7	0.79	0.7
4206	0.76	0.68	0.68	0.76	0.7
4209	0.74	0.69	0.7	0.76	0.69
4212	0.75	0.7	0.71	0.72	0.71

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
4215	0.77	0.71	0.74	0.73	0.76
4218	0.75	0.7	0.74	0.73	0.75
4221	0.78	0.73	0.72	0.71	0.74
4224	0.78	0.79	0.76	0.73	0.72
4227	0.76	0.77	0.75	0.72	0.67
4230	0.77	0.75	0.76	0.78	0.72
4233	0.79	0.73	0.78	0.8	0.77
4236	0.79	0.69	0.75	0.76	0.78
4239	0.79	0.73	0.76	0.78	0.82
4242	0.78	0.76	0.76	0.75	0.81
4245	0.76	0.78	0.75	0.74	0.77
4248	0.79	0.82	0.77	0.79	0.72
4251	0.8	0.81	0.74	0.79	0.67
4254	0.8	0.77	0.71	0.8	0.66
4257	0.8	0.71	0.72	0.77	0.66
4260	0.81	0.69	0.69	0.74	0.66
4263	0.77	0.67	0.68	0.73	0.67
4266	0.77	0.67	0.69	0.72	0.7
4269	0.82	0.67	0.69	0.69	0.75
4272	0.79	0.68	0.69	0.7	0.74
4275	0.81	0.7	0.71	0.72	0.79
4278	0.82	0.75	0.77	0.72	0.82
4281	0.78	0.73	0.75	0.7	0.78
4284	0.74	0.76	0.77	0.77	0.81
4287	0.73	0.84	0.87	0.78	0.91
4290	0.75	0.81	0.85	0.73	0.89
4293	0.76	0.77	0.81	0.83	0.91
4296	0.76	0.89	0.9	0.94	0.91
4299	0.76	0.89	0.9	0.91	0.88
4302	0.74	0.85	0.84	0.93	0.89
4305	0.73	0.89	0.88	0.91	0.87
4308	0.78	0.88	0.95	0.81	0.82
4311	0.76	0.87	0.92	0.77	0.82
4314	0.74	0.89	0.92	0.94	0.84
4317	0.71	0.85	0.86	1.06	0.88
4320	0.67	0.83	0.81	1.02	0.86
4323	0.69	0.91	0.85	0.95	0.81
4326	0.69	0.95	0.93	0.86	0.87
4329	0.7	0.9	0.9	0.78	0.89

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
4332	0.71	0.83	0.89	0.84	0.86
4335	0.68	0.87	0.89	1.03	0.91
4338	0.61	0.87	0.86	1.02	0.91
4341	0.61	0.85	0.85	0.95	0.9
4344	0.68	0.88	0.85	0.87	0.87
4347	0.67	0.86	0.83	0.78	0.82
4350	0.66	0.86	0.86	0.83	0.82
4353	0.66	0.84	0.87	0.87	0.83
4356	0.66	0.84	0.88	0.86	0.82
4359	0.64	0.85	0.89	0.93	0.84
4362	0.63	0.85	0.87	0.96	0.86
4365	0.64	0.87	0.88	0.94	0.82
4368	0.62	0.85	0.87	0.88	0.81
4371	0.65	0.86	0.89	0.84	0.81
4374	0.71	0.86	0.87	0.85	0.75
4377	0.69	0.84	0.8	0.88	0.75
4380	0.67	0.84	0.78	0.84	0.75
4383	0.65	0.79	0.73	0.79	0.71
4386	0.63	0.77	0.74	0.78	0.73
4389	0.63	0.74	0.76	0.75	0.8
4392	0.68	0.67	0.72	0.73	0.81
4395	0.7	0.67	0.71	0.78	0.82
4398	0.66	0.79	0.86	0.79	0.76
4401	0.67	0.87	1	0.76	0.73
4404	0.7	0.85	0.94	0.82	0.78
4407	0.69	0.76	0.85	0.87	0.79
4410	0.69	0.68	0.78	0.85	0.78
4413	0.69	0.74	0.78	0.82	0.75
4416	0.71	0.82	0.91	0.76	0.7
4419	0.67	0.82	0.93	0.75	0.69
4422	0.63	0.79	0.91	0.78	0.78
4425	0.66	0.74	0.84	0.76	0.78
4428	0.73	0.72	0.81	0.8	0.79
4431	0.73	0.8	0.86	0.85	0.8
4434	0.7	0.8	0.87	0.83	0.75
4437	0.68	0.81	0.88	0.83	0.72
4440	0.66	0.8	0.89	0.81	0.78
4443	0.65	0.75	0.82	0.76	0.77
4446	0.65	0.71	0.79	0.81	0.79

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
4449	0.64	0.79	0.91	0.79	0.81
4452	0.66	0.78	0.96	0.73	0.76
4455	0.65	0.78	0.92	0.75	0.74
4458	0.61	0.79	0.87	0.87	0.76
4461	0.6	0.75	0.8	0.89	0.74
4464	0.69	0.74	0.79	0.84	0.74
4467	0.68	0.82	0.84	0.76	0.73
4470	0.65	0.82	0.85	0.69	0.68
4473	0.64	0.82	0.89	0.72	0.72
4476	0.61	0.77	0.88	0.83	0.76
4479	0.65	0.72	0.82	0.84	0.77
4482	0.68	0.76	0.83	0.78	0.83
4485	0.66	0.78	0.84	0.73	0.83
4488	0.72	0.75	0.81	0.73	0.79
4491	0.78	0.82	0.85	0.8	0.78
4494	0.73	0.86	0.83	0.78	0.74
4497	0.68	0.83	0.8	0.77	0.75
4500	0.64	0.78	0.8	0.83	0.78
4503	0.61	0.7	0.76	0.81	0.74
4506	0.64	0.73	0.76	0.79	0.74
4509	0.62	0.75	0.78	0.75	0.75
4512	0.61	0.72	0.75	0.72	0.71
4515	0.65	0.74	0.74	0.74	0.73
4518	0.67	0.77	0.77	0.73	0.78
4521	0.69	0.75	0.78	0.69	0.77
4524	0.68	0.77	0.8	0.71	0.76
4527	0.69	0.78	0.82	0.74	0.76
4530	0.65	0.75	0.77	0.71	0.73
4533	0.64	0.78	0.78	0.75	0.72
4536	0.67	0.75	0.79	0.76	0.76
4539	0.67	0.73	0.77	0.73	0.74
4542	0.64	0.75	0.79	0.75	0.74
4545	0.61	0.74	0.83	0.77	0.75
4548	0.64	0.74	0.81	0.74	0.74
4551	0.66	0.72	0.8	0.76	0.77
4554	0.68	0.75	0.79	0.75	0.76
4557	0.72	0.73	0.81	0.73	0.75
4560	0.69	0.7	0.83	0.76	0.76
4563	0.64	0.72	0.82	0.77	0.76

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
4566	0.6	0.71	0.81	0.75	0.75
4569	0.59	0.72	0.83	0.75	0.73
4572	0.64	0.75	0.84	0.73	0.75
4575	0.63	0.74	0.84	0.73	0.76
4578	0.62	0.73	0.81	0.74	0.74
4581	0.62	0.76	0.86	0.74	0.73
4584	0.64	0.76	0.9	0.74	0.72
4587	0.61	0.75	0.9	0.73	0.73
4590	0.58	0.74	0.88	0.77	0.76
4593	0.59	0.73	0.82	0.77	0.75
4596	0.59	0.75	0.81	0.74	0.75
4599	0.59	0.76	0.82	0.76	0.77
4602	0.62	0.75	0.79	0.77	0.76
4605	0.64	0.75	0.8	0.78	0.74
4608	0.64	0.76	0.85	0.78	0.78
4611	0.64	0.76	0.82	0.74	0.76
4614	0.64	0.73	0.8	0.72	0.75
4617	0.62	0.77	0.84	0.77	0.77
4620	0.65	0.78	0.82	0.76	0.76
4623	0.65	0.75	0.8	0.74	0.76
4626	0.67	0.78	0.81	0.82	0.78
4629	0.72	0.79	0.78	0.85	0.8
4632	0.72	0.75	0.73	0.85	0.81
4635	0.71	0.72	0.73	0.8	0.79
4638	0.66	0.71	0.79	0.73	0.76
4641	0.65	0.73	0.81	0.71	0.75
4644	0.66	0.73	0.79	0.77	0.73
4647	0.63	0.71	0.78	0.79	0.8
4650	0.62	0.72	0.75	0.79	0.82
4653	0.62	0.7	0.73	0.77	0.79
4656	0.6	0.72	0.76	0.75	0.77
4659	0.62	0.76	0.77	0.76	0.72
4662	0.61	0.74	0.75	0.76	0.72
4665	0.6	0.73	0.74	0.81	0.74
4668	0.6	0.7	0.7	0.8	0.74
4671	0.59	0.68	0.71	0.76	0.74
4674	0.6	0.7	0.76	0.73	0.73
4677	0.63	0.68	0.76	0.7	0.68
4680	0.65	0.69	0.74	0.72	0.68

Chainage	1 mm water				
	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
4683	0.59	0.71	0.74	0.77	0.73
4686	0.56	0.67	0.7	0.78	0.7
4689	0.55	0.64	0.68	0.77	0.69
4692	0.53	0.71	0.74	0.71	0.65
4695	0.51	0.79	0.72	0.67	0.64
4698	0.53	0.76	0.68	0.68	0.68
4701	0.52	0.69	0.66	0.92	0.67
4704	0.56	0.63	0.66	1.16	0.66
4707	0.61	0.63	0.66	0.95	0.65
4710	0.6	0.62	0.65	0.73	0.63
4713	0.58	0.61	0.64	0.66	0.68
4716	0.55	0.61	0.66	0.65	0.69
4719	0.59	0.61	0.69	0.64	0.67
4722	0.64	0.68	0.72	0.62	0.67
4725	0.66	0.71	0.68	0.65	0.64
4728	0.71	0.68	0.66	0.8	0.62
4731	0.73	0.66	0.64	0.92	0.65
4734	0.74	0.63	0.62	0.83	0.7
4737	0.75	0.61	0.64	0.73	0.69
4740	0.71	0.62	0.7	0.65	0.66
4743	0.74	0.67	0.76	0.62	0.66
4746	0.75	0.66	0.72	0.65	0.66
4749	0.7	0.65	0.7	0.8	0.65
4752	0.65	0.69	0.73	0.81	0.64
4755	0.65	0.71	0.7	0.78	0.66
4758	0.66	0.7	0.67	0.78	0.66
4761	0.66	0.68	0.65	0.73	0.66
4764	0.65	0.71	0.65	0.71	0.75
4767	0.71	0.7	0.66	0.7	0.79
4770	0.75	0.66	0.64	0.72	0.8
4773	0.72	0.66	0.65	0.74	0.74
4776	0.72	0.73	0.72	0.7	0.7
4779	0.7	0.75	0.75	0.68	0.66
4782	0.72	0.72	0.75	0.75	0.62
4785	0.75	0.7	0.71	0.79	0.66
4788	0.73	0.68	0.67	0.79	0.7
4791	0.71	0.64	0.67	0.74	0.7
4794	0.68	0.66	0.7	0.72	0.66
4797	0.64	0.66	0.69	0.68	0.61

	1 mm water				
Chainage	SR1d1	SR1d2	SR1d3	SR1d4	SR1d5
4800	0.63	0.67	0.68	0.69	0.56
4803	0.6	0.69	0.72	0.71	0.69
4806	0.58	0.65	0.68	0.7	0.8
4809	0.53	0.6	0.63	0.72	0.75
4812	0.52	0.67	0.66	0.7	0.69
4815	0.53	0.69	0.68	0.65	0.63
4818	0.55	0.64	0.66	0.71	0.58
4821	0.57	0.62	0.66	0.72	0.63

Water(mm)	1	1	1	1	1
Average					
GN	0.72	0.73	0.77	0.76	0.73

Appendix D: Average Friction for Different Surfaces at Different Water Film Effect

Surface		SM					OGFC	SMA	PCC		
Section		A	B	C	D	I	J	K	L	PCC2	PCC3
Water Film Thickness	0.25 mm	0.85	0.88	0.83	0.82	0.87	0.87	0.69	0.76	0.84	0.81
		0.85	0.87	0.82	0.82	0.85	0.81	0.70	0.75	0.81	0.80
		0.87	0.84	0.79	0.83	0.84	0.74	0.70	0.78	0.79	0.78
		0.86	0.88	0.85	0.82	0.82	0.79	0.70	0.74	0.85	0.83
		0.84	0.88	0.82	0.79	0.83	0.80	0.68	0.75	0.85	0.86
		0.85	0.86	0.82	0.79	0.83	0.81	0.70	0.78	0.81	0.82
	0.5 mm	0.75	0.78	0.79	0.70	0.81	0.79	0.72	0.74	0.76	0.67
		0.74	0.78	0.72	0.64	0.82	0.79	0.70	0.72	0.80	0.69
		0.73	0.77	0.72	0.67	0.83	0.81	0.73	0.74	0.77	0.71
		0.75	0.79	0.75	0.72	0.82	0.85	0.78	0.75	0.79	0.70
		0.76	0.80	0.77	0.72	0.83	0.83	0.74	0.72	0.78	0.70
	1 mm	0.71	0.65	0.58	0.80	0.72	0.67	0.69	0.81	0.65	0.61
		0.70	0.73	0.68	0.62	0.76	0.73	0.68	0.67	0.73	0.67
		0.73	0.76	0.73	0.65	0.80	0.78	0.69	0.74	0.78	0.66
		0.71	0.77	0.73	0.67	0.80	0.76	0.66	0.68	0.76	0.67
0.69		0.75	0.70	0.62	0.76	0.71	0.67	0.67	0.74	0.65	

Appendix E: Average Friction Measurements at Different Speeds

Speed		25 mph											
Direction		Downhill					Uphill						
Run #		1	2	3	4	5	1	2	3	4	5	6	
Surface Type	SM	A	0.94	0.92	0.94	0.93	0.93	0.79	0.77	0.77	0.78	0.78	0.77
		B	0.96	0.96	0.95	0.95	0.97	0.86	0.81	0.84	0.85	0.84	0.84
		C	0.89	0.90	0.89	0.89	0.90	0.86	0.83	0.84	0.86	0.88	0.87
		D	0.86	0.86	0.89	0.90	0.89	0.78	0.77	0.80	0.80	0.79	0.79
		I	0.93	0.94	0.95	0.95	0.93	0.89	0.92	0.91	0.94	0.92	0.92
		J	0.90	0.92	0.95	0.92	0.90	0.88	0.91	0.92	0.92	0.93	0.93
	OGFC	K	0.79	0.78	0.82	0.83	0.82	0.90	0.93	0.92	0.92	0.92	0.93
	SMA	L	0.82	0.83	0.88	0.82	0.83	0.78	0.80	0.79	0.80	0.80	0.80
	PCC	PCC2	0.94	0.95	0.96	0.95	0.92	0.87	0.88	0.88	0.88	0.87	0.88
		PCC3	0.91	0.92	0.92	0.96	0.90	0.85	0.86	0.89	0.87	0.87	0.88

Speed		40 mph										
Direction		Downhill					Uphill					
Run #		1	2	3	4	5	1	2	3	4	5	
Surface Type	SM	A	0.83	0.84	0.83	0.82	0.80	0.67	0.66	0.68	0.66	0.67
		B	0.87	0.85	0.85	0.84	0.85	0.78	0.78	0.78	0.73	0.74
		C	0.81	0.78	0.81	0.78	0.80	0.80	0.81	0.83	0.81	0.78
		D	0.72	0.73	0.73	0.74	0.75	0.80	0.79	0.80	0.81	0.76
		I	0.87	0.88	0.86	0.86	0.88	0.81	0.81	0.82	0.82	0.83
		J	0.85	0.86	0.87	0.82	0.84	0.83	0.84	0.85	0.80	0.84
	OGFC	K	0.76	0.79	0.78	0.76	0.79	0.89	0.89	0.85	0.86	0.86
	SMA	L	0.77	0.76	0.78	0.73	0.76	0.67	0.68	0.74	0.71	0.68
	PCC	PCC2	0.84	0.86	0.84	0.81	0.83	0.83	0.79	0.81	0.78	0.80
		PCC3	0.75	0.76	0.75	0.75	0.78	0.76	0.77	0.77	0.76	0.80

Speed		55 mph									
Direction		Downhill				Uphill					
Run #		1	2	3	4	1	2	3	4	5	
Surface Type	SM	A	0.66	0.67	0.68	0.70	0.54	0.55	0.50	0.50	0.51
		B	0.70	0.72	0.69	0.77	0.64	0.66	0.63	0.62	0.62
		C	0.66	0.65	0.65	0.70	0.69	0.69	0.65	0.64	0.65
		D	0.58	0.59	0.64	0.76	0.63	0.61	0.60	0.60	0.61
		I	0.75	0.73	0.75	0.77	0.68	0.64	0.65	0.67	0.68
		J	0.69	0.67	0.69	0.72	0.69	0.68	0.67	0.66	0.70
	OGFC	K	0.71	0.68	0.67	0.70	0.70	0.70	0.69	0.69	0.70
	SMA	L	0.66	0.67	0.64	0.65	0.50	0.59	0.56	0.53	0.58
	PCC	PCC2	0.72	0.73	0.74	0.71	0.64	0.60	0.61	0.61	0.63
		PCC3	0.63	0.70	0.67	0.64	0.63	0.59	0.56	0.57	0.58