



BOREHOLE SUSTAINABLE YIELD TEST FOR WATER SUPPLY

Accredited by ECSA: 2CPD Points

OVERVIEW

For individuals who own boreholes, determining the maximum discharge rate at which groundwater can be pumped while ensuring a consistent and reliable yield is of utmost importance. This critical borehole yield, often referred to as the 'safe yield' or 'reliable yield', is commonly termed as the 'sustainable yield'. The process of estimating borehole sustainable yield draws upon the principles of aquifer pumping tests. To accurately gauge this yield, it is imperative to conduct a well-planned aquifer pumping test and analyse the resulting data using appropriate methodologies. This assessment should consider the aquifer system's capacity and groundwater requirements, among other essential factors.

This training program is therefore, meticulously structured to encompass both the theoretical underpinnings of borehole sustainable yield testing and the practical aspects of data analysis for yield estimation. Participants will delve into the theory, and subsequently, they will engage in hands-on experience by conducting actual aquifer pumping tests under the guidance of a seasoned facilitator. The facilitator will then lead participants through the intricacies of data processing and analysis to grasp the flow dynamics and accurately determine the borehole sustainable yield.

LEARNING OUTCOMES

After successfully completing this course, you will be able to:

- Gaining insight into the significance of borehole sustainable yield,
- Designing and planning for borehole sustainable yield tests,
- Estimating well efficiencies and implications for borehole development and long term operation cost,
- In-depth discussion on field procedures for step-drawdown test and constant discharge rate aquifer pumping test
- Elaborating on the selection and application of appropriate methods to analyse aquifer pumping test data and estimate borehole sustainable yield.

BOREHOLE SUSTAINABLE YIELD TEST FOR WATER SUPPLY

REVIEWING THE FUNDAMENTALS OF GROUNDWATER SCIENCE

- Defining groundwater
- Pin-pointing different types of aquifers
- Gaining insight into porous and fractured media
- Discussing the main aquifer parameters influencing the flow and storage of groundwater
 - Applying the Darcy's Law,
 - Hydraulic conductivity,
 - Storativity,
 - Transmissivity,
 - Specific Storage,
 - Specific yield

A HOLISTIC APPROACH TO AQUIFER PUMPING TESTS

- Principles of aquifer pumping test
- Marrying regulatory requirements to aquifer pumping tests
- Understanding the main types of aquifer-pumping tests
- Understanding the measurements to be made and using appropriate pumping test equipment

AQUIFER PUMPING TEST OF PRODUCTION BOREHOLES FOR WATER SUPPLY PURPOSES

- Well performance tests
 - Estimation of well efficiency
 - Demonstrating the value of well performance tests
- Estimating reliable/safe/sustainable yield borehole yields
 - Understanding the test parameters and their values
 - Designing and planning for the tests
 - Field test procedures
 - Collection, storage and transportation of samples for quality testing
- Data analysis and interpretation methods and tools

A PRACTICAL APPROACH TO FLUID ELECTRICAL CONDUCTIVITY (FEC) PROFILING AND STEP DRAWDOWN TEST

- Identifying main water strikes/groundwater flow zones
- Performing the Step Drawdown Test for
 - Calibration Purposes
 - Well Efficiency Evaluation

DATA PROCESSING AND ANALYSIS

- Applying FEC profiles and drilling logs to
 - identify the water strikes to
 - determine pump placement depth for the constant discharge rate test
- Evaluating the step draw-down test data to
 - determine the pumping rate for the constant discharge test

PROCESSING AND ANALYSIS OF THE DATA

- Entering data into excel,
- Estimation of well efficiency ,
- Estimation of borehole sustainable yield, and
- Principles of data analysis and interpretation

BOREHOLE SUSTAINABLE YIELD TEST FOR WATER SUPPLY REGISTRATION FORM

REGISTRATION INFO/FEES

Event: Borehole Sustainable Yield Test for Water Supply

Date: 19 - 20 October 2023 (Thursday to Friday)

Venue: Online - Microsoft Teams

Time: 08:30AM-16:30PM CAT Daily

Standard Price : R8 999 (excluding VAT and per delegate)

Group Discount: 5-7 5%

8-15 10%

16+ 15%

Calculated on
Standard price

COMPANY DETAILS

Company / Organisation Name:

Physical Address:

Postal Address:

Same as above

☐

Tel (Direct Line):

Tel (Switchboard):

Fax:

Email Address:

VAT Registration:

Additional Information:

AUTHORISATION

Full Name	
Tel/Direct Line:	
Signature & Date:	
Person responsible for payment:	
Tel/Direct Line:	
Email Address:	

DELEGATES DETAILS

Title	Full name/s and Surname	Designation	I.D Number	Cell Number	Email Address

TERMS AND CONDITIONS

Payment Terms:

Payment is required within five (5) working days on receipt of tax invoice

Following completion and return of the registration form, full payment is required within five (5) working days from receipt of tax invoice and an invoice will be sent as receipt of payment. We reserve the right to refuse admission and withhold CPD points Certificate and NQF certificate if payment is not received on time, a payment or an official purchase order must be received prior to the conference or training seminar.

Fees:

Fees are exclusive of VAT

Bulk discounts are not calculated on early bird price. Invoiced amounts need to be paid on or before the early bird date to receive the rate.

Cancellation Policy: Written cancellations made within 48 hours of the receipt of the signed registration form will receive a full refund. Cancellation received in writing 1 month prior to the start of the event will receive a 50% refund or discount on the invoiced amount. Cancellation within 1 month of the start of the event will not receive any refund and will be liable for the full invoiced amount, however a substitution of the delegate will be allowed.

Indemnity: Should for any reason outside the control of PASKWA training events, the dates or speakers change, or the event is cancelled due to an act of terrorism, extreme weather conditions or industrial action, PASKWA training shall endeavour to reschedule but the client hereby indemnifies and holds PASKWA training harmless from and against any and all costs, damages and expenses, including attorney's fees, which are incurred by the client. The construction, validity and performance of this agreement shall be governed in all respects by the laws of South Africa and to the exclusive jurisdiction of whose courts the parties hereby agree to submit.

No-shows: Registrants who do not attend the event, without written notices as per the cancellation policy will be liable for 100% of the invoiced amount.

Important Notice:

This booking form constitutes as a legal binding contract.

Whilst every reasonable effort will be made to adhere to the advertised brochure(s), PASKWA reserves the right to change dates of events if the need arises

Please note all webinars will be recorded and will be made available to delegates who have booked and paid for up to 2 weeks after training has taken

BANKING DETAILS:



PASKWA (PTY) LTD
Reg No: 2018/516517/07

Bank: Absa
Account No: 4106318701
Branch: Fourways
Branch Code: 632005
Swift Code: ABSAZAJJ