SURFACE WATER SAMPLING PROTOCOL FOR PHYSICOCHEMICAL ANALYSIS IN AN ACCREDITED LABORATORY

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INTRODUCTION

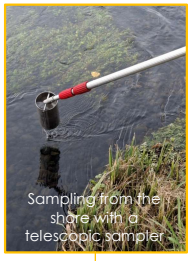
Accurate and reliable analytical results in environmental water research fundamentally depend on the proper implementation of water sampling procedures. Therefore, it is essential to develop a comprehensive and detailed sampling strategy prior to initiating any analysis. The key features that should be considered when designing a sampling protocol for physical and chemical analyses of surface waters based on international standards (ISO) are presented below.

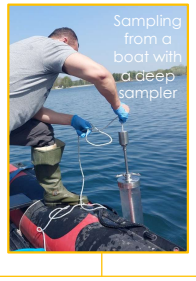
The procedural approach for surface water sampling is determined by:

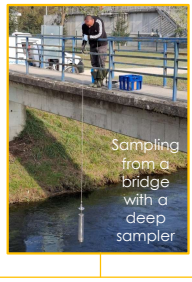
1) STUDY OBJECTIVES

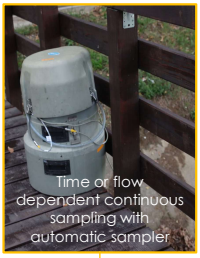
2) SPECIFIC FIELD CONDITIONS

SAMPLING LOCATIONS and FREQUENCY









SAMPLE TYPES, SAMPLING TECHNIQUES and EQUIPMENT

ANALYTICAL PARAMETERS

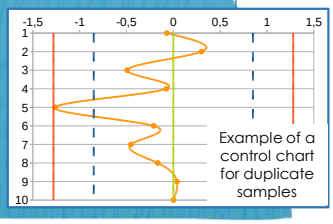
FIELD MEASUREMENTS

SAMPLE HANDLING

SAMPLE CONTAMINATION PREVENTION MEASURES

SAMPLE TRANSPORT and STORAGE

SAMPLING QUALITY CONTROL



PERSONNEL, EQIPMENT and ENVIRONMENTAL SAFETY

CONCLUSIONS

Given the diversity of available sampling and sample handling methodologies, the appropriate procedures must be carefully structured and adapted to the specific situation to obtain optimal research results. Sampling personnel is responsible to take all possible measures to prevent sample contamination until delivery to the laboratory. Sampling and sample handling process must be controlled regularly, in order to promptly detect and correct errors, thus enhancing the overall reliability and efficiency of sampling performance. The priority at every stage of planning and implementing sampling protocol should be the safety of personnel, equipment and the environment.

REFERENCES

HRN EN ISO 5667-1:2023
HRN EN ISO 5667-3:2024
HRN ISO 5667-4:2016
HRN EN ISO 5667-6:2016/A11:2020
HRN EN ISO 5667-14:2016