METHOD STATEMENT

Determinand:
Mesosulfuron-methyl

Matrix:
Sample Types: Treated and Raw waters.

Principle of Method:
The method is a direct aqueous injection procedure. Samples are analysed by high-performance liquid chromatography using a triple quadrupole mass spectrometer as a detector. The aqueous sample is injected, and the analytes are separated, identified, and quantified with mass spectrometric detection (MSD) in dynamic multiple reaction monitoring (DMRM) mode. Quantitation is based on an internal standardisation procedure.

Sampling and Sample Preparation:
Sampling, samples should be collected in 500 mL coloured glass bottles with PTFE lined screw caps and contain 0.9 mL of 10 g L-1 sodium thiosulfate, i.e., ALS058.
Storage – samples should be analysed as soon as possible after collection. When this is not possible, they should be stored under refrigeration at 1-5°C in the dark, until analysis can begin. The maximum permissible storage time prior to analysis is given.

Interferences
Any material, which fluoresces, quenches fluorescence, or has similar chromatographic properties to the specified PAH will interfere in the method.

Performance of Method:

Range of Application:
Mesosulfuron-methyl LOQ – 150µg/l
Samples producing results above the calibration range should be repeated by preparing with a dilution and reanalysis.

Limit of Quantification, Bias and Recoveries of Compounds:

DETERMINAND	**Direct Standards**				**Elvington Treated Water (Hard Hardness)**	
	Low Standard		High Standard		PCV Spike	
	Bias	RSD	Bias	RSD	Recovery	RSD
MESOSULFURON-METHYL	2.92%	7.85%	-1.77%	3.82%	95.88 ± 1.99%	4.15%

DETERMINAND	**WQQQ1 LOQ (ng L^{-1})**
MESOSULFURON-METHYL	11

References:
Determination of Phenyl Urea and Triazine Herbicides in Potable and Groundwater by LC/MS Using API-ESI Selective Ion Monitoring and Direct Large Volume Aqueous Injection, Agilent Technologies Application Note.
Agilent QQQ LC/MS Techniques and Operation, Agilent Technologies Course Number R1893A, Student Manuals Volumes 1 and 2.
Agilent 1200 Series, Reference Manuals.
Agilent Triple Quad LC/MS, Maintenance and Familiarization Guides.

Transport of sulfonylureas from a barley field in Norway: Field and laboratory studies, Bioforsk Report Vol.3 Nr. 105 2008, ISBN-nr.:978-82-17-00409-7