

AQS Baden-Württemberg

Certificate

The laboratory

**GWA Gesellschaft für Wasser-
NL Institut für Wasser- u. Umweltanalytik
An der Ohratalsperre
99885 Luisenthal**

participated in

**Proficiency test UKWIR 6/15
WFD – Hormones in surface water**

with the following single results:

| <u>estrone:</u> | <u>17-beta-estradiol:</u> | <u>17-alfa-ethinylestradiol:</u> |
|-------------------------------|-------------------------------|----------------------------------|
| 1. value: satisfactory | 1. value: satisfactory | 1. value: satisfactory |
| 2. value: satisfactory | 2. value: satisfactory | 2. value: satisfactory |
| 3. value: satisfactory | 3. value: satisfactory | 3. value: satisfactory |

The assessment of the single results is described in the data assessment sheet.
The proficiency test was executed according to the requirements of ISO/TS 20612
and ISO 13528.

Stuttgart, 08 January 2015


Dr.-Ing. Michael Koch
Scientific director AQS


Dr.-Ing. Frank Baumeister
PT manager

AQS Baden-Württemberg

Proficiency test UKWIR 6/15 WFD – Hormones in surface water

Data assessment sheet

Participant:

Date of dispatch: 07 December 2015

GWA Gesellschaft für Wasser-
und Abwasserservice mbH
NL Institut für Wasser- u. Umweltanalytik
An der Ohratalsperre
99885 Luisenthal

Laboratory code: 6

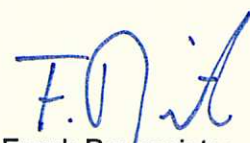
| Parameter/Unit | Sample-No. | Assigned Value | Lab result | z | Assessment of the value |
|-------------------------------|------------|----------------|------------|------|-------------------------|
| estrone µg/l | 24 | 0,0657 | 0,0545 | -0,7 | s |
| | 25 | 0,0254 | 0,0284 | 0,5 | s |
| | 39 | 0,0438 | 0,0424 | -0,1 | s |
| 17-beta-estradiol µg/l | 24 | 0,0675 | 0,0574 | -0,6 | s |
| | 25 | 0,0259 | 0,0211 | -0,7 | s |
| | 39 | 0,0391 | 0,0287 | -1,1 | s |
| 17-alfa-ethinylestradiol µg/l | 24 | 0,0085 | 0,0052 | -1,6 | s |
| | 25 | 0,003 | 0,0018 | -1,6 | s |
| | 39 | 0,0062 | 0,0043 | -1,2 | s |

According to ISO 13528 (2015) the single results were assessed as follows:

| | |
|-------------------|----------------|
| $ z \leq 2,0$ | satisfactory |
| $2,0 < z < 3,0$ | questionable |
| $ z \geq 3,0$ | unsatisfactory |

Stuttgart, 08 January 2016


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