



## CERTIFICATE OF ANALYSIS

Work Order	: PR24B3713	Issue Date	: 30-Sep-2024
Customer	: VISA - Consultores de Geologia Aplicada e Engenharia	Laboratory	: ALS Czech Republic, s.r.o.
Contact	: Mr. Joao Meira	Contact	: Client Service
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E-mail	: jmeira@visaconsultores.com	E-mail	: customer.support@alsglobal.com
Telephone	: +351 2144 61420	Telephone	: +420 226 226 228
Project	: 3469	Page	: 1 of 9
Order number	: ----	Date Samples Received	: 20-Sep-2024
Site	: ----	Quote number	: PR2023VISAC-PT0001 (PT-300-23-0144)
Sampled by	: customer	Date of test	: 20-Sep-2024 - 30-Sep-2024
		QC Level	: ALS CR Standard Quality Control Schedule

### General Comments

This report shall not be reproduced except in full, without prior written approval from the laboratory. The laboratory is not responsible for the sample data supplied by the customer and their impact on the validity of the result.

The laboratory declares that the test results relate only to the listed samples. If "ALS" is not included in the test report in the "Sampled by" section, then the results refer to the sample as received.

Should a sample contain sediment it is decanted prior to volatile compounds determination.

### Responsible for accuracy

Testing Laboratory No. 1163  
Accredited by CAI according to  
CSN EN ISO/IEC 17025:2018

#### Signatories

Lubomír Pokorný

#### Position

Country Manager



The company is certified according to ČSN EN ISO 14001 (Environmental management systems) and ČSN ISO 45001 (Occupational health and safety management systems)



## Analytical Results

Sub-Matrix: GROUNDWATER

Client sample ID  
Laboratory sample ID  
Client sampling date / time

Parameter	Method	LOR	Unit	Fonte		----		----	
				Result	MU	PR24B3713001		----	
						18-Sep-2024 12:45		----	
<b>Physical Parameters</b>									
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	41.3	± 10.0%	----	----	----	----
pH Value	W-PH-PCT	1.00	-	6.42	± 1.0%	----	----	----	----
<b>Nonmetallic Inorganic Parameters</b>									
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	<0.040	---	----	----	----	----
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	<0.050	---	----	----	----	----
Carbonates (CO3 2-)	W-CO2F-CC2	0.0	mg/L	0.0	---	----	----	----	----
Chemical Oxygen Demand (COD-Mn)	W-CODMN-SPC	0.50	mg/L	2.44	± 30.0%	----	----	----	----
Chloride	W-CL-IC	1.00	mg/L	64.9	± 15.0%	----	----	----	----
Nitrates	W-NO3-SPC	0.27	mg/L	8.62	---	----	----	----	----
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	31.9	± 15.0%	----	----	----	----
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	----	----	----	----
Base neutralizing capacity (acidity) pH 8.3	W-ACID-PCT	0.150	mmol/L	0.737	± 15.0%	----	----	----	----
Hydrogen carbonates (HCO3-)	W-CO2F-CC2	0.0	mg/L	61.4	± 12.0%	----	----	----	----
Nitrate as N	W-NO3-SPC	0.060	mg/L	1.95	---	----	----	----	----
Total Carbon Dioxide as CO2	W-CO2F-CC2	0.0	mg/L	76.7	± 12.0%	----	----	----	----
Base neutralizing capacity (acidity) pH 4.5	W-ACID-PCT	0.150	mmol/L	<0.150	---	----	----	----	----
Free Carbon Dioxide as CO2	W-CO2F-CC2	0.0	mg/L	32.4	± 12.0%	----	----	----	----
Suspended solids dried at 105 °C	W-TSS45-GR	3.0	mg/L	<3.0	---	----	----	----	----
Aggressive CO2	W-CO2F-CC2	0.0	mg/L	29.0	± 12.0%	----	----	----	----
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	1.01	± 12.0%	----	----	----	----
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	----	----	----	----
<b>Dissolved Metals / Major Cations</b>									
Aluminium	W-METAXFL1	0.010	mg/L	0.016	± 10.0%	----	----	----	----
Arsenic	W-METMSFL1	1.0	µg/L	<1.0	---	----	----	----	----
Barium	W-METMSFL2	0.5	µg/L	48.4	± 10.0%	----	----	----	----
Cadmium	W-METMSFL1	0.50	µg/L	<0.50	---	----	----	----	----
Calcium	W-METAXFL1	0.0050	mg/L	28.0	± 10.0%	----	----	----	----
Chromium	W-METMSFL1	3.0	µg/L	<3.0	---	----	----	----	----
Cobalt	W-METMSFL2	0.50	µg/L	1.36	± 10.0%	----	----	----	----
Copper	W-METMSFL2	1.0	µg/L	2.3	± 10.0%	----	----	----	----
Iron	W-METAXFL1	0.0020	mg/L	0.0036	± 10.0%	----	----	----	----
Lead	W-METMSFL1	1.0	µg/L	<1.0	---	----	----	----	----
Magnesium	W-METAXFL1	0.0030	mg/L	7.01	± 10.0%	----	----	----	----
Manganese	W-METAXFL1	0.00050	mg/L	0.00897	± 10.0%	----	----	----	----
Mercury	W-HG-AFSFL	0.0100	µg/L	<0.0100	---	----	----	----	----
Molybdenum	W-METMSFL1	1.0	µg/L	<1.0	---	----	----	----	----
Nickel	W-METMSFL1	1.0	µg/L	3.5	± 10.0%	----	----	----	----
Potassium	W-METAXFL1	0.015	mg/L	6.45	± 10.0%	----	----	----	----
Sodium	W-METAXFL1	0.030	mg/L	32.1	± 10.0%	----	----	----	----
Tin	W-METMSFL2	5.0	µg/L	<5.0	---	----	----	----	----
Vanadium	W-METMSFL2	5.0	µg/L	<5.0	---	----	----	----	----
Zinc	W-METMSFL2	5.0	µg/L	<5.0	---	----	----	----	----
<b>BTEX</b>									
Benzene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----
Toluene	W-VOCGMS03	0.50	µg/L	<0.50	---	----	----	----	----
Ethylbenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----
meta- & para-Xylene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----
ortho-Xylene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----
Sum of xylenes	W-VOCGMS03	0.30	µg/L	<0.30	---	----	----	----	----



Sub-Matrix: GROUNDWATER				Client sample ID	Fonte		----		----	
				Laboratory sample ID	PR24B3713001		----		----	
				Client sampling date / time	18-Sep-2024 12:45		----		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU	
<b>BTEX - Continued</b>										
Sum of BTEX	W-VOCGMS03	1.10	µg/L	<1.10	---	----	---	----	---	
<b>Halogenated Volatile Organic Compounds</b>										
Vinyl chloride	W-VOCGMS03	1.00	µg/L	<1.00	---	----	---	----	---	
trans-1,2-Dichloroethene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
Dichloromethane	W-VOCGMS03	6.0	µg/L	<6.0	---	----	---	----	---	
cis-1,2-Dichloroethene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
1,1-Dichloroethane	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
Chloroform	W-VOCGMS03	0.30	µg/L	<0.30	---	----	---	----	---	
1,2-Dichloroethane	W-VOCGMS03	1.0	µg/L	<1.0	---	----	---	----	---	
1,1,1-Trichloroethane	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
Tetrachloromethane	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
Trichloroethene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
1,2-Dichloropropane	W-VOCGMS03	1.0	µg/L	<1.0	---	----	---	----	---	
1,1,2-Trichloroethane	W-VOCGMS03	0.20	µg/L	<0.20	---	----	---	----	---	
Tetrachloroethene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	---	----	---	
Chlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
1,2-Dichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
1,4-Dichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
1,3-Dichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
1,2,4-Trichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
1,2,3-Trichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	---	----	---	
1,3,5-Trichlorobenzene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	---	----	---	
Sum of 3 Dichlorobenzenes	W-VOCGMS03	0.30	µg/L	<0.30	---	----	---	----	---	
Sum of 3 Trichlorobenzenes	W-VOCGMS03	0.40	µg/L	<0.40	---	----	---	----	---	
<b>Non-Halogenated Volatile Organic Compounds</b>										
Styrene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	---	----	---	
Methyl tert-Butyl Ether (MTBE)	W-VOCGMS03	0.20	µg/L	<0.20	---	----	---	----	---	
<b>Polycyclic Aromatics Hydrocarbons (PAHs)</b>										
Naphthalene	W-PAHGMS05	0.100	µg/L	<0.100	---	----	---	----	---	
Acenaphthylene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Acenaphthene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Fluorene	W-PAHGMS05	0.020	µg/L	<0.020	---	----	---	----	---	
Phenanthrene	W-PAHGMS05	0.030	µg/L	<0.030	---	----	---	----	---	
Anthracene	W-PAHGMS05	0.020	µg/L	<0.020	---	----	---	----	---	
Fluoranthene	W-PAHGMS05	0.030	µg/L	<0.030	---	----	---	----	---	
Pyrene	W-PAHGMS05	0.060	µg/L	<0.060	---	----	---	----	---	
Benz(a)anthracene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Chrysene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Benzo(b)fluoranthene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Benzo(k)fluoranthene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Benzo(a)pyrene	W-PAHGMS05	0.0200	µg/L	<0.0200	---	----	---	----	---	
Indeno(1,2,3-cd)pyrene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Benzo(g,h,i)perylene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Dibenz(a,h)anthracene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	---	----	---	
Sum of 16 PAH	W-PAHGMS05	0.370	µg/L	<0.370	---	----	---	----	---	
<b>PCBs</b>										
Sum of 7 PCBs	W-PCBGMS05	0.00730	µg/L	<0.00730	---	----	---	----	---	
PCB 52	W-PCBGMS05	0.00110	µg/L	<0.00110	---	----	---	----	---	
PCB 28	W-PCBGMS05	0.00110	µg/L	<0.00110	---	----	---	----	---	
PCB 180	W-PCBGMS05	0.000950	µg/L	<0.000950	---	----	---	----	---	
PCB 153	W-PCBGMS05	0.00110	µg/L	<0.00110	---	----	---	----	---	
PCB 138	W-PCBGMS05	0.00120	µg/L	<0.00120	---	----	---	----	---	
PCB 118	W-PCBGMS05	0.00110	µg/L	<0.00110	---	----	---	----	---	
PCB 101	W-PCBGMS05	0.000750	µg/L	<0.000750	---	----	---	----	---	
<b>Organochlorine Pesticides</b>										
Hexachloroethane	W-OCPECD01	0.010	µg/L	<0.010	---	----	---	----	---	
1,2,3,5- & 1,2,4,5-Tetrachlorobenzene	W-OCPECD01	0.020	µg/L	<0.020	---	----	---	----	---	



Sub-Matrix: GROUNDWATER				Client sample ID	Fonte		----		----	
				Laboratory sample ID	PR24B3713001		----		----	
				Client sampling date / time	18-Sep-2024 12:45		----		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU	
<b>Organochlorine Pesticides - Continued</b>										
1,2,3,4-Tetrachlorobenzene	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Pentachlorobenzene	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Hexachlorocyclohexane Alpha	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Hexachlorobenzene (HCB)	W-OCPECD01	0.0050	µg/L	<0.0050	---	----	----	----	----	
Hexachlorocyclohexane Beta	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Hexachlorocyclohexane Gamma	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Hexachlorocyclohexane Delta	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Heptachlor	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Aldrin	W-OCPECD01	0.0050	µg/L	<0.0050	---	----	----	----	----	
Telodrin	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Isodrin	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Heptachloroepoxide-cis	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Heptachloroepoxide-trans	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
2,4-DDE	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
alpha-Endosulfan	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
4,4'-DDE	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Dieldrin	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
2,4-DDD	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Endrin	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
4,4'-DDD	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
2,4-DDT	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
4,4'-DDT	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Sum of 3 tetrachlorobenzenes	W-OCPECD01	0.030	µg/L	<0.030	---	----	----	----	----	
<b>Chlorophenols</b>										
2-Chlorophenol	W-CLPGMS01	0.100	µg/L	<0.100	---	----	----	----	----	
3-Chlorophenol	W-CLPGMS01	0.100	µg/L	<0.100	---	----	----	----	----	
4-Chlorophenol	W-CLPGMS01	0.100	µg/L	<0.100	---	----	----	----	----	
2,6-Dichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,4@2,5-Dichlorophenol	W-CLPGMS01	0.20	µg/L	<0.20	---	----	----	----	----	
3,5-Dichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3-Dichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
3,4-Dichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,4,6-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,6-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,5-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,4,5-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,4-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
3,4,5-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,5,6-Tetrachlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,4,5-Tetrachlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,4,6-Tetrachlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
Pentachlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
<b>Petroleum Hydrocarbons</b>										
Aliphates C5-C8	W-VOCGMS03	10	µg/L	<10	---	----	----	----	----	
Aliphates C8-C10	W-VOCGMS03	10	µg/L	<10	---	----	----	----	----	
C10 - C12 Fraction	W-TPHFID01	5.0	µg/L	<5.0	---	----	----	----	----	
C12 - C16 Fraction	W-TPHFID01	5.0	µg/L	<5.0	---	----	----	----	----	
C16 - C35 Fraction	W-TPHFID01	30.0	µg/L	<30.0	---	----	----	----	----	
C35 - C40 Fraction	W-TPHFID01	10.0	µg/L	<10.0	---	----	----	----	----	
C10 - C40 Fraction	W-TPHFID01	50.0	µg/L	<50.0	---	----	----	----	----	

Sub-Matrix: SURFACE WATER				Client sample ID	Corta		----		----	
				Laboratory sample ID	PR24B3713002		----		----	
				Client sampling date / time	18-Sep-2024 10:30		----		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU	
<b>Physical Parameters</b>										



Sub-Matrix: SURFACE WATER				Client sample ID		Corta			
				Laboratory sample ID		PR24B3713002			
				Client sampling date / time		18-Sep-2024 10:30			
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU
<b>Physical Parameters - Continued</b>									
Electrical Conductivity @ 25°C	W-CON-PCT	0.10	mS/m	32.0	± 10.0%	----	----	----	----
pH Value	W-PH-PCT	1.00	-	7.50	± 1.0%	----	----	----	----
<b>Nonmetallic Inorganic Parameters</b>									
Ammonia and ammonium ions as N	W-NH4-SPC	0.040	mg/L	<0.040	---	----	----	----	----
Ammonia and ammonium ions as NH4	W-NH4-SPC	0.050	mg/L	<0.050	---	----	----	----	----
Carbonates (CO3 2-)	W-CO2F-CC2	0.0	mg/L	0.0	---	----	----	----	----
Chemical Oxygen Demand (COD-Mn)	W-CODMN-SPC	0.50	mg/L	1.93	± 30.0%	----	----	----	----
Chloride	W-CL-IC	1.00	mg/L	43.5	± 15.0%	----	----	----	----
Nitrates	W-NO3-SPC	0.27	mg/L	<0.27	---	----	----	----	----
Sulphate as SO4 2-	W-SO4-IC	5.00	mg/L	49.3	± 15.0%	----	----	----	----
Total Cyanide	W-CNT-PHO	0.005	mg/L	<0.005	---	----	----	----	----
Base neutralizing capacity (acidity) pH 8.3	W-ACID-PCT	0.150	mmol/L	<0.150	---	----	----	----	----
Hydrogen carbonates (HCO3-)	W-CO2F-CC2	0.0	mg/L	30.8	± 12.0%	----	----	----	----
Nitrate as N	W-NO3-SPC	0.060	mg/L	<0.060	---	----	----	----	----
Total Carbon Dioxide as CO2	W-CO2F-CC2	0.0	mg/L	22.2	± 12.0%	----	----	----	----
Base neutralizing capacity (acidity) pH 4.5	W-ACID-PCT	0.150	mmol/L	<0.150	---	----	----	----	----
Free Carbon Dioxide as CO2	W-CO2F-CC2	0.0	mg/L	0.0	---	----	----	----	----
Suspended solids dried at 105 °C	W-TSS45-GR	3.0	mg/L	<3.0	---	----	----	----	----
Aggressive CO2	W-CO2F-CC2	0.0	mg/L	0.0	---	----	----	----	----
Acid neutralizing capacity (alkalinity) pH 4.5	W-ALK-PCT	0.150	mmol/L	0.506	± 12.0%	----	----	----	----
Acid neutralizing capacity (alkalinity) pH 8.3	W-ALK-PCT	0.150	mmol/L	<0.150	---	----	----	----	----
<b>Dissolved Metals / Major Cations</b>									
Aluminium	W-METAXFL1	0.010	mg/L	<0.010	---	----	----	----	----
Arsenic	W-METMSFL1	1.0	µg/L	<1.0	---	----	----	----	----
Barium	W-METMSFL2	0.5	µg/L	83.4	± 10.0%	----	----	----	----
Cadmium	W-METMSFL1	0.50	µg/L	<0.50	---	----	----	----	----
Calcium	W-METAXFL1	0.0050	mg/L	12.6	± 10.0%	----	----	----	----
Chromium	W-METMSFL1	3.0	µg/L	<3.0	---	----	----	----	----
Cobalt	W-METMSFL2	0.50	µg/L	28.9	± 10.0%	----	----	----	----
Copper	W-METMSFL2	1.0	µg/L	1.1	± 10.0%	----	----	----	----
Iron	W-METAXFL1	0.0020	mg/L	0.0036	± 10.0%	----	----	----	----
Lead	W-METMSFL1	1.0	µg/L	<1.0	---	----	----	----	----
Magnesium	W-METAXFL1	0.0030	mg/L	9.04	± 10.0%	----	----	----	----
Manganese	W-METAXFL1	0.00050	mg/L	0.00097	± 10.0%	----	----	----	----
Mercury	W-HG-AFSFL	0.0100	µg/L	<0.0100	---	----	----	----	----
Molybdenum	W-METMSFL1	1.0	µg/L	<1.0	---	----	----	----	----
Nickel	W-METMSFL1	1.0	µg/L	47.0	± 10.0%	----	----	----	----
Potassium	W-METAXFL1	0.015	mg/L	4.90	± 10.0%	----	----	----	----
Sodium	W-METAXFL1	0.030	mg/L	25.5	± 10.0%	----	----	----	----
Tin	W-METMSFL2	5.0	µg/L	<5.0	---	----	----	----	----
Vanadium	W-METMSFL2	5.0	µg/L	<5.0	---	----	----	----	----
Zinc	W-METMSFL2	5.0	µg/L	<5.0	---	----	----	----	----
<b>BTEX</b>									
Benzene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----
Toluene	W-VOCGMS03	0.50	µg/L	<0.50	---	----	----	----	----
Ethylbenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----
meta- & para-Xylene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----
ortho-Xylene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----
Sum of xylenes	W-VOCGMS03	0.30	µg/L	<0.30	---	----	----	----	----
Sum of BTEX	W-VOCGMS03	1.10	µg/L	<1.10	---	----	----	----	----
<b>Halogenated Volatile Organic Compounds</b>									



Sub-Matrix: SURFACE WATER				Client sample ID	Corta		-----		-----	
				Laboratory sample ID	PR24B3713002		-----		-----	
				Client sampling date / time	18-Sep-2024 10:30		-----		-----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU	
<b>Halogenated Volatile Organic Compounds - Continued</b>										
Vinyl chloride	W-VOCGMS03	1.00	µg/L	<1.00	---	----	----	----	----	
trans-1,2-Dichloroethene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
Dichloromethane	W-VOCGMS03	6.0	µg/L	<6.0	---	----	----	----	----	
cis-1,2-Dichloroethene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
1,1-Dichloroethane	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
Chloroform	W-VOCGMS03	0.30	µg/L	<0.30	---	----	----	----	----	
1,2-Dichloroethane	W-VOCGMS03	1.0	µg/L	<1.0	---	----	----	----	----	
1,1,1-Trichloroethane	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
Tetrachloromethane	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
Trichloroethene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
1,2-Dichloropropane	W-VOCGMS03	1.0	µg/L	<1.0	---	----	----	----	----	
1,1,2-Trichloroethane	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----	
Tetrachloroethene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----	
Chlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
1,2-Dichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
1,4-Dichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
1,3-Dichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
1,2,4-Trichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
1,2,3-Trichlorobenzene	W-VOCGMS03	0.10	µg/L	<0.10	---	----	----	----	----	
1,3,5-Trichlorobenzene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----	
Sum of 3 Dichlorobenzenes	W-VOCGMS03	0.30	µg/L	<0.30	---	----	----	----	----	
Sum of 3 Trichlorobenzenes	W-VOCGMS03	0.40	µg/L	<0.40	---	----	----	----	----	
<b>Non-Halogenated Volatile Organic Compounds</b>										
Styrene	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----	
Methyl tert-Butyl Ether (MTBE)	W-VOCGMS03	0.20	µg/L	<0.20	---	----	----	----	----	
<b>Polycyclic Aromatics Hydrocarbons (PAHs)</b>										
Naphthalene	W-PAHGMS05	0.100	µg/L	<0.100	---	----	----	----	----	
Acenaphthylene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Acenaphthene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Fluorene	W-PAHGMS05	0.020	µg/L	<0.020	---	----	----	----	----	
Phenanthrene	W-PAHGMS05	0.030	µg/L	<0.030	---	----	----	----	----	
Anthracene	W-PAHGMS05	0.020	µg/L	<0.020	---	----	----	----	----	
Fluoranthene	W-PAHGMS05	0.030	µg/L	<0.030	---	----	----	----	----	
Pyrene	W-PAHGMS05	0.060	µg/L	<0.060	---	----	----	----	----	
Benz(a)anthracene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Chrysene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Benzo(b)fluoranthene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Benzo(k)fluoranthene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Benzo(a)pyrene	W-PAHGMS05	0.0200	µg/L	<0.0200	---	----	----	----	----	
Indeno(1,2,3-cd)pyrene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Benzo(g,h,i)perylene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Dibenz(a,h)anthracene	W-PAHGMS05	0.010	µg/L	<0.010	---	----	----	----	----	
Sum of 16 PAH	W-PAHGMS05	0.370	µg/L	<0.370	---	----	----	----	----	
<b>PCBs</b>										
Sum of 7 PCBs	W-PCBGMS05	0.00730	µg/L	<0.00730	---	----	----	----	----	
PCB 52	W-PCBGMS05	0.00110	µg/L	<0.00110	---	----	----	----	----	
PCB 28	W-PCBGMS05	0.00110	µg/L	<0.00110	---	----	----	----	----	
PCB 180	W-PCBGMS05	0.000950	µg/L	<0.000950	---	----	----	----	----	
PCB 153	W-PCBGMS05	0.00110	µg/L	<0.00110	---	----	----	----	----	
PCB 138	W-PCBGMS05	0.00120	µg/L	<0.00120	---	----	----	----	----	
PCB 118	W-PCBGMS05	0.00110	µg/L	<0.00110	---	----	----	----	----	
PCB 101	W-PCBGMS05	0.000750	µg/L	<0.000750	---	----	----	----	----	
<b>Organochlorine Pesticides</b>										
Hexachloroethane	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
1,2,3,5- &	W-OCPECD01	0.020	µg/L	<0.020	---	----	----	----	----	
1,2,4,5-Tetrachlorobenzene										
1,2,3,4-Tetrachlorobenzene	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Pentachlorobenzene	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	



Sub-Matrix: SURFACE WATER				Client sample ID	Corta		----		----	
				Laboratory sample ID	PR24B3713002		----		----	
				Client sampling date / time	18-Sep-2024 10:30		----		----	
Parameter	Method	LOR	Unit	Result	MU	Result	MU	Result	MU	
<b>Organochlorine Pesticides - Continued</b>										
Hexachlorocyclohexane Alpha	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Hexachlorobenzene (HCB)	W-OCPECD01	0.0050	µg/L	<0.0050	---	----	----	----	----	
Hexachlorocyclohexane Beta	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Hexachlorocyclohexane Gamma	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Hexachlorocyclohexane Delta	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Heptachlor	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Aldrin	W-OCPECD01	0.0050	µg/L	<0.0050	---	----	----	----	----	
Telodrin	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Isodrin	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Heptachloroepoxide-cis	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Heptachloroepoxide-trans	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
2,4-DDE	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
alpha-Endosulfan	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
4,4'-DDE	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Dieldrin	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
2,4-DDD	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Endrin	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
4,4'-DDD	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
2,4-DDT	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
4,4'-DDT	W-OCPECD01	0.010	µg/L	<0.010	---	----	----	----	----	
Sum of 3 tetrachlorobenzenes	W-OCPECD01	0.030	µg/L	<0.030	---	----	----	----	----	
<b>Chlorophenols</b>										
2-Chlorophenol	W-CLPGMS01	0.100	µg/L	<0.100	---	----	----	----	----	
3-Chlorophenol	W-CLPGMS01	0.100	µg/L	<0.100	---	----	----	----	----	
4-Chlorophenol	W-CLPGMS01	0.100	µg/L	<0.100	---	----	----	----	----	
2,6-Dichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,4@2,5-Dichlorophenol	W-CLPGMS01	0.20	µg/L	<0.20	---	----	----	----	----	
3,5-Dichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3-Dichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
3,4-Dichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,4,6-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,6-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,5-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,4,5-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,4-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
3,4,5-Trichlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,5,6-Tetrachlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,4,5-Tetrachlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
2,3,4,6-Tetrachlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
Pentachlorophenol	W-CLPGMS01	0.10	µg/L	<0.10	---	----	----	----	----	
<b>Petroleum Hydrocarbons</b>										
Aliphates C5-C8	W-VOCGMS03	10	µg/L	<10	---	----	----	----	----	
Aliphates C8-C10	W-VOCGMS03	10	µg/L	<10	---	----	----	----	----	
C10 - C12 Fraction	W-TPHFID01	5.0	µg/L	<5.0	---	----	----	----	----	
C12 - C16 Fraction	W-TPHFID01	5.0	µg/L	<5.0	---	----	----	----	----	
C16 - C35 Fraction	W-TPHFID01	30.0	µg/L	<30.0	---	----	----	----	----	
C35 - C40 Fraction	W-TPHFID01	10.0	µg/L	<10.0	---	----	----	----	----	
C10 - C40 Fraction	W-TPHFID01	50.0	µg/L	<50.0	---	----	----	----	----	

When sampling date is not provided by the client, the laboratory determines it for procedural reasons, then it is equal to the date of receipt of the sample to the laboratory and is displayed in brackets. Measurement uncertainty is expressed as expanded measurement uncertainty with coverage factor k = 2, representing 95% confidence level.

Key: LOR = Limit of reporting; MU = Measurement Uncertainty. The MU does not include sampling uncertainty.

## Brief Method Summaries



Analytical Methods	Method Descriptions
<i>Location of test performance: Na Harfe 336/9 Prague 9 - Vysocany Czech Republic 190 00</i>	
W-ACID-PCT	CZ_SOP_D06_02_073 (CSN 75 73 72) Determination of base neutralizing capacity (acidity) by potentiometric titration.
W-ALK-PCT	CZ_SOP_D06_02_072 (CSN EN ISO 9963-1, CSN EN ISO 9963-2, CSN 75 7373, SM2320) Determination of acid neutralizing capacity (alkalinity) by potentiometric titration and calculation of the carbonate hardness and CO <sub>2</sub> forms from measured values including the calculation of total mineralization
W-CL-IC	CZ_SOP_D06_02_068 (CSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-CLPGMS01	CZ_SOP_D06_03_158 (US EPA Method 8041; US EPA Method 3500, ČSN EN 12673) Determination of phenol, chlorinated phenols by gas chromatography method with detection MS and calculation of phenol and chlorinated phenols sums from measured values.
W-CNT-PHO	CZ_SOP_D06_02_089.A (CSN 75 7415, CSN EN ISO 14403-2) Determination of total cyanide by spectrophotometry and calculation of complex-forming cyanides from measure values.
W-CO2F-CC2	CZ_SOP_D06_02_072 (CSN EN ISO 9963-1, CSN 75 7373) Determination of acid neutralizing capacity (alkalinity) by potentiometric titration and calculation of the carbonate hardness and CO <sub>2</sub> forms from measured values including the calculation of total mineralization
W-CODMN-SPC	CZ_SOP_D06_02_092 (CSN EN ISO 8467) Determination of chemical oxygen demand using permanganate (CODMn) by titration.
W-CON-PCT	CZ_SOP_D06_02_075 (ČSN EN 27 888, SM 2520 B) Determination of electrical conductivity by conductometer and calculation of salinity.
W-HG-AFSFL	CZ_SOP_D06_02_096 (US EPA Method 245.7, CSN EN ISO 17852) - Determination of Mercury by Fluorescence Spectrometry. Sample was filtered by microfilter with porosity 0.45 µm followed by nitric acid addition prior to analysis.
W-METAXFL1	CZ_SOP_D06_02_001 (US EPA Method 200.7, CSN EN ISO 11885, US EPA Method 6010, SM 3120, CSN 75 7358) - Determination of elements by atomic emission spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca+Mg. Sample was filtered by microfilter with porosity 0.45 µm followed by nitric acid addition prior to analysis.
W-METMSFL1	CZ_SOP_D06_02_002 (US EPA Method 200.8, CSN EN ISO 17294-2, US EPA Method 6020A, CSN 75 7358) - Determination of elements by mass spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca +Mg. Sample was filtered by microfilter with porosity 0.45 µm followed by nitric acid addition prior to analysis.
W-METMSFL2	CZ_SOP_D06_02_002 (US EPA Method 200.8, CSN EN ISO 17294-2, US EPA Method 6020A, CSN 75 7358) - Determination of elements by mass spectrometry with inductively coupled plasma and stoichiometric calculations of compounds concentration from measured values including the calculation of total mineralization and calculating the sum of Ca +Mg. Sample was filtered by microfilter with porosity 0.45 µm followed by nitric acid addition prior to analysis.
W-NH4-SPC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, SM 4500-NO <sub>2</sub> -, SM 4500-NO <sub>3</sub> -) Determination of sum of ammonium and ammonium ions, nitrite and the sum of nitrite and nitrate ions by discrete spectrophotometry and calculation of nitrite, nitrate, ammonia, inorganic, organic, total nitrogen, free ammonia and dissociated ammonium ions from measured values including the calculation of total mineralization
W-NO3-SPC	CZ_SOP_D06_02_019 (CSN EN ISO 11732, CSN EN ISO 13395, SM 4500-NO <sub>2</sub> -, SM 4500-NO <sub>3</sub> -) Determination of nitrite sum and sum of nitrite and nitrate nitrogen by discrete spectrophotometry and calculation of nitrites and nitrates from measured values
W-OCPECD01	CZ_SOP_D06_03_169 (ČSN EN ISO 6468; US EPA Method 8081; DIN 38407-3) Determination of organochlorine pesticides and other halogen compounds by gas chromatography method with ECD detection and calculation of organochlorine pesticides and other halogen compounds sums from measured values
W-PAHGMS05	CZ_SOP_D06_03_161 (US EPA Method 8270D; US EPA Method 8082A; ČSN EN ISO 6468; US EPA Method 8000D) Determination of semi volatile organic compounds by gas chromatography method with MS or MS/MS detection and calculation of semi volatile organic compounds sums from measured values
W-PCBGMS05	CZ_SOP_D06_03_161 (US EPA Method 8270D; US EPA Method 8082A; ČSN EN ISO 6468; US EPA Method 8000D) Determination of semi volatile organic compounds by gas chromatography method with MS or MS/MS detection and calculation of semi volatile organic compounds sums from measured values
W-PH-PCT	CZ_SOP_D06_02_105 (CSN ISO 10523, US EPA Method 150.1, SM 4500-H+ B) Determination of pH by potentiometry
W-SO4-IC	CZ_SOP_D06_02_068 (CSN EN ISO 10304-1) Determination of dissolved fluoride, chloride, nitrite, bromide, nitrate and sulphate by ion liquid chromatography and calculation of nitrite nitrogen and nitrate nitrogen and sulphate sulphur from measured values including the calculation of total mineralization.
W-TPHFID01	CZ_SOP_D06_03_151 (ČSN EN ISO 9377-2; US EPA Method 8015; US EPA Method 3510) Determination of extractable substances in the range of hydrocarbons C <sub>10</sub> – C <sub>40</sub> , their fractions by calculation from measured values using the gas chromatography method with FID detection
W-TSS45-GR	CZ_SOP_D06_02_070 (CSN EN 872, CSN 757350, SM 2540 D, SM 2540 E) Determination of dry suspended solids and annealed suspended solids by gravimetry and determination of loss of ignition of suspended solids and total solids by calculation from measured values (cellulose ester filter of porosity 0,45 µm - Whatman).
W-VOCGMS03	CZ_SOP_D06_03_155 (US EPA Method 624, US EPA Method 5021A, US EPA Method 8260, US EPA Method 8015, CSN EN ISO 10301, MADEP 2004, rev. 1.1, CSN ISO 11423, CSN EN ISO 15680) Determination of volatile organic compounds by gas chromatography method with FID and MS detection and calculation of volatile organic compounds sums from measured values



The symbol "\*" for the method indicates a test outside the scope of accreditation of the laboratory or subcontractor. If the UNICO-SUB code is stated in the method table, this only informs that the tests have been performed by a subcontractor and the results are given in an annex to the test report, including information on test accreditation. If the lab used for matrix outside the scope of accreditation or non-standard sample matrix procedure specified in the accredited method and issues non-accredited results, this fact is stated on the title page of this protocol in the section "Notes". If the test report shows the results of subcontracting, the place of performance of the test is outside the laboratories of ALS Czech Republic, s.r.o.

The method for calculating of the summation parameters is available on request in the customer service.

***The end of the certificate of analysis***