

# Certificate of Analysis

## Project details

### Customer Details

Quotation number:	Q2109-066_A
Order number:	GT1165
Company name:	GROUND TRUTH
Contact address:	9 QUARRY AVENUE, HILTON, 3245
Contact person:	ADRIENNE LOUW

### Sampling Details

Sampled by:	CUSTOMER
Sampled date:	2021/10/15

### Sample Details

Sample type(s):	SURFACE WATER SAMPLES
Date received:	2021/10/15
Delivered by:	CUSTOMER - GILLITTS DEPOT
Additional customer information:	EXPECTED CONTAMINATION UNCERTAIN
Temperature at sample receipt (°C):	22.0

### Report Details

Testing commenced:	2021/10/15
Testing completed:	2021/10/28
Report date:	2021/10/28
Our reference:	007417/21

## Analytical Results

Methods	Determinands	Units	024304/21	024305/21
			STREAM 15.10.2021	WETLAND 15.10.2021
Chemical				
85	Dissolved Calcium	mg Ca/l	27	38
85	Potassium	mg K/l	1.41	5.27
85	Dissolved Magnesium	mg Mg/l	23	29
84	Sodium	mg Na/l	247	212
87	Dissolved Silver*	mg Ag/l	<0.01	<0.01
87	Dissolved Aluminium	mg Al/l	<0.63	<0.63
88	Dissolved Arsenic	mg As/l	<0.08	<0.08
87	Dissolved Boron	mg B/l	<0.16	<0.16
87	Dissolved Barium	mg Ba/l	<0.08	<0.08
87	Dissolved Beryllium	mg Be/l	<0.16	<0.16
87	Dissolved Cadmium	mg Cd/l	<0.17	<0.17
87	Dissolved Cobalt	mg Co/l	<0.17	<0.17
87	Dissolved Chromium	mg Cr/l	<0.16	<0.16
87	Dissolved Copper	mg Cu/l	<0.17	<0.17
87	Dissolved Iron	mg Fe/l	<0.15	<0.15
86	Dissolved Mercury	mg Hg/l	0.018	0.020
87	Dissolved Lithium	mg Li/l	<0.625	<0.625
87	Dissolved Manganese	mg Mn/l	<0.17	0.18
87	Dissolved Molybdenum	mg Mo/l	<0.31	<0.31
87	Dissolved Nickel	mg Ni/l	<0.18	<0.18
87	Dissolved Lead	mg Pb/l	<0.08	<0.08
91	Dissolved Sulphur*	mg/l	11	18
89	Dissolved Antimony	mg Sb/l	<0.05	<0.05
88	Dissolved Selenium	mg Se/l	<0.625	<0.625
87	Dissolved Tin	mg Sn/l	<0.02	<0.02
87	Dissolved Strontium	mg Sr/l	<0.17	0.19
87	Dissolved Titanium	mg Ti/l	<0.03	<0.03
87	Dissolved Thallium	mg Tl/l	<0.02	<0.02
87	Dissolved Uranium	mg U/l	<0.02	<0.02
87	Dissolved Vanadium	mg V/l	<0.02	<0.02
87	Dissolved Zinc	mg Zn/l	<0.02	<0.02
87	Dissolved Zirconium*	mg Zr/l	<0.02	<0.02
Calc.	Sum dissolved metal concentration*	mg/l	314	307
10G	Total Alkalinity	mg CaCO <sub>3</sub> /l	275	225
3	Chemical Oxygen Demand (Total)	mg O <sub>2</sub> /l	<25	40

Methods	Determinands	Units	024304/21	024305/21
			STREAM 15.10.2021	WETLAND 15.10.2021
134	Dissolved Oxygen*	mg O <sub>2</sub> /l	8.0	8.0
64G	Ammonia	mg N/l	<1.5	6.01
65Gc	Nitrate	mg N/l	<0.25	<0.25
52	Total Oil & Grease*	mg/l	<3	<3
66G	Orthophosphate	mg P/l	<0.1	0.51
5	Suspended Solids at 105°C	mg/l	20	37
<b>Microbiological</b>				
32	<i>E.coli</i>	MPN/100ml	649	>2420
<b>Organics</b>				
103	Aldrin*	µg/l	<0.5	<0.5
103	Dieldrin*	µg/l	<0.5	<0.5
103	Heptachlor*	µg/l	<0.5	<0.5
103	Hexachlorobenzene*	µg/l	<0.5	<0.5
103	Methoxychlor*	µg/l	<0.5	<0.5
103	Endrin*	µg/l	<0.5	<0.5
103	cis-Chlordane*	µg/l	<0.5	<0.5
103	trans-Chlordane*	µg/l	<0.5	<0.5
103	oxy-Chlordane*	µg/l	<0.5	<0.5
103	Alpha-Endosulfan*	µg/l	<0.5	<0.5
103	Beta-Endosulfan*	µg/l	<0.5	<0.5
103	Alpha-HCH*	µg/l	<0.5	<0.5
103	Beta-HCH*	µg/l	<0.5	<0.5
103	Gamma-HCH*	µg/l	<0.5	<0.5
103	Delta-HCH*	µg/l	<0.5	<0.5
103	Isodrin*	µg/l	<0.5	<0.5
103	Mirex*	µg/l	<0.5	<0.5
103	2,4-DDE*	µg/l	<0.5	<0.5
103	4,4' -DDE*	µg/l	<0.5	<0.5
103	2,4-DDD*	µg/l	<0.5	<0.5
103	4,4' -DDD*	µg/l	<0.5	<0.5
103	2,4-DDT*	µg/l	<0.5	<0.5
103	4,4' -DDT*	µg/l	<0.5	<0.5
-	Dichlorvos*	µg/l	<20#	<20#
-	Fenclorophos (Ronnel)*	µg/l	<1#	<1#
-	Methyl Parathion*	µg/l	<1#	<1#
-	Chlorpyrifos (Dursban)*	µg/l	<1#	<1#
-	Prothiofos (Tokuthion)*	µg/l	<1#	<1#
-	Mocap (Enthoprofos)*	µg/l	<1#	<1#

Methods	Determinands	Units	024304/21	024305/21
			STREAM 15.10.2021	WETLAND 15.10.2021
-	Disulfoton*	µg/l	<1#	<1#
-	Guthion*	µg/l	<20#	<20#
-	Acenaphthene*	µg/l	<0.1#	<0.1#
-	Acenaphthylene*	µg/l	<0.1#	<0.1#
-	Flourene*	µg/l	<0.1#	<0.1#
-	Phenanthrene*	µg/l	<0.1#	<0.1#
-	Anthracene*	µg/l	<0.1#	<0.1#
-	Fluoranthene*	µg/l	<0.1#	<0.1#
-	Pyrene*	µg/l	<0.1#	<0.1#
-	Benzo[a]anthracene*	µg/l	<0.1#	<0.1#
-	Chrysene*	µg/l	<0.1#	<0.1#
-	Benzo[k+b]fluoranthene*	µg/l	<0.2#	<0.2#
-	Benzo[a]pyrene*	µg/l	<0.1#	<0.1#
-	2-Chloronaphthalene*	µg/l	<0.2#	<0.2#
-	Hexachloroethane*	µg/l	<0.2#	<0.2#
-	4-Chlorophenylphenyl ether*	µg/l	<0.2#	<0.2#
-	4-Bromophenylphenyl ether*	µg/l	<0.2#	<0.2#
-	Di-n-butyl phthalate*	µg/l	<20#	<20#
-	Butyl benzyl phthalate*	µg/l	<20#	<20#
-	Bis(2-ethylhexyl) phthalate*	µg/l	<20#	<20#
-	Benzo[g,h,i]perylene*	µg/l	<0.2#	<0.2#
-	Indeno[123-cd]pyrene*	µg/l	<0.2#	<0.2#
-	Dibenz[a,h]anthracene*	µg/l	<0.2#	<0.2#
100	1,1-Dichloroethane	µg/l	<0.128	<0.128
100	1,1,2,2 Tetrachloroethane	µg/l	<0.426	<0.426
100	Benzene	µg/l	<0.090	<0.090
100	Toluene	µg/l	<0.315	<0.315
100	Ethylbenzene	µg/l	<0.036	<0.036
100	m+p-Xylene	µg/l	<0.044	<0.044
100	o-Xylene	µg/l	<0.039	<0.039
100	1,3,5 Trimethyl benzene	µg/l	<0.281	<0.281
100	1,2,4 Trimethyl benzene	µg/l	<0.302	<0.302
100	n Propylbenzene*	µg/l	<0.283	<0.283
100	Tertiary Butylbenzene*	µg/l	<0.265	<0.265
100	Secondary Butylbenzene*	µg/l	<0.137	<0.137
100	n Butylbenzene*	µg/l	<0.163	<0.163
100	Isopropylbenzene	µg/l	<0.089	<0.089
100	1,1,1,2 Tetrachloroethane	µg/l	<0.1	<0.1

Methods	Determinands	Units	024304/21	024305/21
			STREAM 15.10.2021	WETLAND 15.10.2021
100	Styrene	µg/l	<0.093	<0.093
100	4-Isopropyltoluene*	µg/l	<0.5	<0.5
100	Bromobenzene	µg/l	<0.112	<0.112
100	Chlorobenzene	µg/l	<0.112	<0.112
100	1,2 Dichlorobenzene	µg/l	<0.148	<0.148
100	1,3 Dichlorobenzene	µg/l	<0.125	<0.125
100	1,4 Dichlorobenzene	µg/l	<0.171	<0.171
100	1,2,3 Trichlorobenzene	µg/l	<0.106	<0.106
100	1,2,4 Trichlorobenzene	µg/l	<0.121	<0.121
100	Naphthalene	µg/l	<0.148	<0.148
100	Bromoform	µg/l	<0.341	<0.341
100	Chloroform	µg/l	<0.158	<0.158
100	Carbon tetrachloride	µg/l	<0.137	<0.137
100	Dibromomethane	µg/l	<0.235	<0.235
100	Bromochloromethane	µg/l	<0.5	<0.5
100	Bromodichloromethane	µg/l	<0.178	<0.178
100	Dibromochloromethane	µg/l	<0.146	<0.146
100	1,2 Dibromoethane	µg/l	<0.151	<0.151
100	1,2-Dichloroethane	µg/l	<0.226	<0.226
100	1,1,1 Trichloroethane	µg/l	<0.2088	<0.2088
100	1,1,2 Trichloroethane	µg/l	<0.258	<0.258
100	Hexachlorobutadiene	µg/l	<0.287	<0.287
100	2 Chlorotoluene	µg/l	<0.088	<0.088
100	4 Chlorotoluene	µg/l	<0.123	<0.123
100	1,2-Dichloropropane	µg/l	<0.132	<0.132
100	1,3-Dichloropropane	µg/l	<0.093	<0.093
100	2,2-Dichloropropane	µg/l	<0.186	<0.186
100	1,2,3 Trichloropropane	µg/l	<0.381	<0.381
100	1,1-Dichloropropene	µg/l	<0.166	<0.166
100	MTBE	µg/l	<0.1238	<0.1238
100	Trichloroethylene	µg/l	<0.146	<0.146
100	1,1 Dichloroethene	µg/l	<0.174	<0.174
100	Bromomethane*	µg/l	<0.32	<0.32
100	1,2-Dichloroethene cis	µg/l	<0.143	<0.143
100	1,3-Dichloropropene cis	µg/l	<0.369	<0.369
100	Ethylchloride	µg/l	<0.235	<0.235
100	Methylene Chloride*	µg/l	<0.5	<0.5
100	Tetrachloroethylene	µg/l	<0.158	<0.158

Methods	Determinands	Units	024304/21	024305/21
			STREAM 15.10.2021	WETLAND 15.10.2021
100	Trans1,2- Dichloroethene	µg/l	<0.139	<0.139
100	1,3-Dichloropropene trans	µg/l	<0.361	<0.361
100	Trichloromonofluoromethane*	µg/l	<0.5	<0.5
100	Vinyl chloride	µg/l	<0.137	<0.137
100	1,2-Dichloroethene trans	µg/l	<0.139	<0.139
100	1,2 Dichloroethene*	µg/l	<0.282	<0.282

Refer to the "Notes" section at the end of this report for further explanations.

### Specific Observations

None

# Quality Assurance

## Technical signatories

## Notes to this report

### Limitations

This report shall not be reproduced except in full without prior written approval of the laboratory. Results in this report relate only to the samples as taken, and the condition received by the laboratory. Any opinions and interpretations expressed herein are outside the scope of SANAS accreditation. The decision rule applicable to this laboratory is available on request. Sample preparation may require filtration, dilution, digestion or similar. Final results are reported accordingly. Where the laboratory has undertaken the sampling, the location of sampling and sampling plan are available on request. Talbot Laboratories is guided by the National Standards SANS 5667-3:2006 Part 3 Guidance on the Preservation and Handling of Water Samples; SANS 5667-1:2008 Part 1 Guidance on the Design of Sampling Programmes and Sampling Techniques and SANS 5667-2:1991 Part 2: Guidance on Sampling Techniques. Customers to contact Talbot Laboratories for further information.

### Uncertainty of measurement

Talbot Laboratories' Uncertainty of Measurement (UoM) values are:

- Identified for relevant tests.
- Calculated as a percentage of the respective results.
- Applicable to total, dissolved and acid soluble metals for ICP element analyses.
- Available upon request.

### Analysis explanatory notes

Tests may be marked as follows:

^	Tests conducted at our Port Elizabeth satellite laboratory.
*	Tests not included in our Schedule of Accreditation and therefore that are not SANAS accredited.
#	Tests that have been sub-contracted to a peer laboratory.
NR	Not required -shown, for example, where the schedule of analysis varied between samples.
$\sigma$	Field sampling point on-site results.
a	Testing has deviated from Method.

\*\*\*\*\*End of Report\*\*\*\*\*

