

CUSTOMER INFORMATION BOOKLET



May 2019

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1. Introduction

Shetland Seafood Quality Control (SSQC) was formed in 1985 as an independent quality assurance organisation to maintain and strengthen the Islands reputation for high quality seafood products.

The benefits of having an independently operated inspection service was recognised and embraced by those involved both in the white fish and salmon industries. Since this time, the Company has expanded from a one man operation in 1985, to an organisation that now employs 14 staff.

With changes to the services and types of services provided and the company client base the company changed its name in 2013 to SSQC Ltd. SSQC Ltd is currently made up from the following sections:

- Inspectorate Services
- **Analytical Services**
- Socio-Economic and Environmental Services

ANALYTICAL SERVICES

The Analytical Services Division provides analytical services to a wide variety of customers, these include companies in the food processing, environmental sectors and the local authority.

The modern Laboratory carries out analyses for a wide range of foodborne and environmental pathogens and contaminants, on water, swabs and food products. Shelf life testing, sensory testing and other testing can be arranged on request.

1.1 LAB CONTACT DETAILS AND OPENING TIMES

Address: SSQC Ltd
Port Arthur
Scalloway
Shetland
UK
ZE2 0UN

Website: www.ssqc.co.uk

Lab Email: microlab@ssqc.co.uk

Lab Tel: 01595 772 443

The normal operational hours of the laboratory are 9am to 5pm Monday to Friday. Samples should be submitted between these times unless otherwise agreed in advance between the customer and the laboratory.

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2. Accreditation



2651

The laboratory is a UKAS accredited testing Laboratory, No 2651.

The UKAS accreditation schedule for the laboratory is posted on the notice board outside the lab or can be accessed from the following website: <http://www.ukas.com>

Accredited tests are highlighted in bold and marked with an asterisk on the Sample Request Form. Sample request forms are available on the website or from the laboratory on request. A sample request form must be completed and either forwarded or delivered with the samples to the laboratory. Where no formal contract has been agreed and signed it shall act as the contract between SSQC and the customer.

3. Terms & Conditions

1 Interpretation

1.1 In this Agreement, unless the context requires otherwise, the following words and phrases shall have the meanings set opposite them:

"the Agreement"	means the Agreement concluded between SSQC and the Customer pursuant to the quotation, booking form, sample request form or estimate issued by the Supplier to the Customer, endorsed and returned by the Customer and accepted by the Supplier for the supply of Services incorporating the Agreement Terms;
"the Agreement Terms"	means the terms and conditions set out below, to the exclusion of any other terms and conditions (except those implied in favour of SSQC, which are not inconsistent with the Agreement Terms), whether or not the same are endorsed upon, delivered with or referred to in any purchase order or other document delivered or sent by the Customer to SSQC;
"the Customer"	means the purchaser of Services under the Agreement;
"the Customer's Goods"	means all goods, free issues, samples, equipment, materials or information of the Customer upon which or in connection with which the services are carried out;
"Intellectual Property Rights"	means any and all intellectual property or industrial rights of any description anywhere in the world (whether registered, unregistered, registrable or not and any applications or rights to apply for registration of any of them) including, without limitation to the foregoing generality, all copyrights, database rights, patents, trademarks (whether registered or unregistered), domain names, design rights (whether registered or unregistered) trade secrets, database rights, know-how and all other similar proprietary rights together with all renewals, revivals and extensions;
"the Price"	means the price payable to SSQC by the Customer under the Agreement;

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"Quotation"	means SSQC's quotation to which the Agreement Terms are attached and/or in which the Agreement Terms are referred to;
"the Report"	means the Report to be supplied to the Customer as part of the Services, and includes all or any part thereof;
"the Services"	means the services to be supplied under the Agreement;
"SSQC"	Means SSQC Limited.

1.2 In this Agreement, except where the context otherwise requires, any reference to the words "include" or "including" are to be construed as meaning without limitation.

1.3 Clause headings are for ease of reference only, and shall not affect the construction of interpretation of any clause.

1.4 Words importing the singular shall include the plural and vice versa and words changing any gender shall include all genders.

2 Quotations, Booking Forms and Sample Request Forms

2.1 Any quotation, booking form, sample request form or estimate is given by SSQC on the basis that no Agreement will come into existence until the Customer has endorsed and returned the quotation, booking form, sample request form or estimate and SSQC has accepted it.

2.2 Any quotation, booking form, sample request form or estimate is valid for a period of one calendar month only from the date of issue, provided that SSQC has not previously withdrawn it.

2.3 If the Customer does not provide suitable samples for use by SSQC in the performance of the Services in accordance with Clause 9 of this Agreement, SSQC shall have the option to withdraw from the Agreement at any time without penalty or other consequence.

3 Delivery

3.1 SSQC will endeavour to carry out the Services within the time agreed, and if no time is agreed, within a reasonable time, but in no circumstances will SSQC be liable for loss or damage of any kind whatsoever caused directly or indirectly by any delay in the performance of the Services.

3.2 SSQC may make delivery of the Services by installments.

3.3 Notwithstanding clause 3.1 and without prejudice to clause 17, where the Customer is in delay in performing its obligations under the Agreement SSQC will use reasonable endeavours to perform the Services in accordance with any delivery date, or as soon as reasonably practicable thereafter. SSQC shall not be liable to the Customer for any delay in delivery in these circumstances nor will the Customer be entitled to terminate or rescind the Agreement provided SSQC delivers the Service in accordance with its obligations in this clause 3.3.

4 Liabilities and Indemnity

4.1 Subject always to the remaining provisions of this Clause 4, Clause 5 and Clause 6.6, except to the extent that SSQC can be shown to have been negligent in carrying out the Services, SSQC accepts no responsibility for the use made of any information or advice arising from the Services by either the Customer or any third party.

4.2 Subject to clause 4.4, the aggregate liability of SSQC under this contract in contract, delict or otherwise (including negligence) shall be limited to 125% of the Price paid by the Customer and in no event shall SSQC have any liability for loss of profits, loss of business or any indirect or consequential loss whatsoever.

4.3 SSQC hereby excludes all conditions, warranties and stipulations express or implied, statutory or otherwise which but for such exclusion would or might subsist in favour of the Customer except insofar as these are expressly provided for in this Agreement or where the Customer is by law deemed to be a consumer.

4.4 Nothing in this Agreement shall exclude or limit either party's liability for death or personal injury caused by any breach of duty by such party, its employees or agents or for fraudulent misrepresentation.

5 Indemnity

5.1 Save insofar as SSQC can be shown to have been negligent under Clause 4.1 the Customer shall fully indemnify SSQC against all losses, costs, claims, demands or liability (including professional costs) suffered or incurred by SSQC as a result of, or in connection with any third party claim brought against SSQC resulting from death, injury, damage or loss occasioned by the use, operation, methods or other results of the Services.

6 Reports

6.1 SSQC shall provide a Report to the Customer on completion of the Services for the benefit of the Customer only and not for any third party.

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6.2 The Customer shall not, without the prior written consent of SSQC (save where such disclosure is required by law or by a Local Authority) use, exploit, divulge or disclose to third parties any SSQC proprietary material contained in the Report including, but not limited to, business or other systems, methodologies, testing techniques and applications, programmes, marketing or technical information or any other Intellectual Property Rights, which may be communicated to or gained by the Customer in connection with or as a result of SSQC providing the Services. The results and/or conclusions contained in the Report may be disclosed by the Customer to any third party without the prior written consent of SSQC.

6.3 All right title and interest in and to any Intellectual Property Rights of any nature owned by SSQC or to which SSQC has rights including but not limited to rights in the Reports and all rights arising as a result, directly or indirectly of the provision of the Services shall remain the absolute property of and vest in SSQC.

6.4 The Customer shall not use SSQC's name in any way to imply endorsement by SSQC of any process or product.

6.5 The Customer shall fully indemnify SSQC against all losses, costs, claims, demands or liability (including professional costs) suffered or incurred by SSQC arising out of or in connection with any claim of infringement or alleged infringement of any Intellectual Property Rights or misuse of a third party's confidential information, in connection with the provision of the Services hereunder or for any breach of this Clause 6 by the Customer.

6.6 Any statements (whether written or oral) as to the results of the Services carried out and all/any opinions in any Report or letter are made in good faith and on the basis of the samples, materials, equipment and information provided to SSQC by the Customer. The Customer warrants, in respect of each of the samples, materials, information, and equipment provided to SSQC by the Customer, that it is correct and in good order and has not to the best of the Customer's knowledge been tampered with, altered, added to or substituted in any way whatsoever.

7 Actual or Contemplated Proceedings

7.1 Where the Services are required in connection with actual or contemplated civil dispute or criminal proceedings this must have been disclosed to SSQC in writing by the Customer.

7.2 A Report must not be used by the Company or any third party for the purpose of any actual or contemplated legal or arbitration proceedings without the prior written consent of SSQC.

8 Health and Safety

8.1 The Customer shall ensure that all appropriate safety measures and relevant health and safety Legislation are observed when sending any material to SSQC and ensure that any hazardous material is clearly marked as such.

8.2 Where the Customer knows or suspects that any substance or procedure it is providing, making available or requesting may give rise to a hazard of an unusual nature the Customer will make SSQC aware in writing of the nature of that hazard before arranging for the delivery (or collection) of the materials to (or by) SSQC or before exposing any SSQC employee, agent or subcontractor to the materials.

8.3 The Customer acknowledges that in providing the Services SSQC may be required to use equipment and materials (including without limitation the use of a boat) supplied by the Customer. The Customer agrees that it shall be responsible for complying with all requirements relating to health and safety and that it shall be liable for injury to persons arising as a result of the use of such equipment or materials.

9 Customer's Goods

9.1 The Customer shall ensure that the Customer's Goods are tested or inspected and are found to be suitable for use by SSQC in the performance of the Services.

9.2 The Customer shall arrange, at his expense and risk, the delivery of the Customer's Goods to SSQC unless otherwise agreed between the Parties.

9.3 The Customer hereby agrees to allow SSQC to use the Customer's IPR as is necessary in the performance of the Services including but not limited to SSQC using or referring to the Customer's IPR in any Report.

10 Price

10.1 SSQC reserves the right to amend the price either by letter, fax or electronic mail to take account of any necessary variations in the Services as a result of additional information or a request in writing by the Customer. SSQC will, where practicable, obtain the Customer's prior approval before performance of any additional work or variations in the Service.

10.2 Unless expressly stated otherwise all prices are exclusive of V.A.T, which shall be charged at the rate and in the manner prescribed by law from time to time.

11 Payment

11.1 The Customer shall pay the Price in accordance with SSQC's invoice.

11.2 Interest at an annual rate of 5% above Clydesdale Bank plc. Base Rate from time to time will accrue and be calculated on a daily basis on overdue accounts from the date of invoice until payment.

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11.3 Notwithstanding any Agreement Term, payment shall become due and payable to SSQC immediately upon the termination of the Agreement.

11.4 Where the Customer defaults under the Agreement, or any other agreement with SSQC, in payment on the due date of any sum due to SSQC, SSQC may without liability:-

- postpone any analysis or delivery; or
- cancel the Agreement or any other agreement between the SSQC and the Customer

But without prejudice to any right or remedy which SSQC may have against the Customer in respect of such default.

11.5 SSQC will be entitled to payment for all installments of Services part supplied to the Customer whether under a blanket order or otherwise.

12 Intellectual Properties

12.1 Unless otherwise agreed in writing, all IPR arising from SSQC providing the Services other than third party rights shall remain vested in SSQC and the Customer shall be granted a non-exclusive, non-transferable license to use such IPR solely in accordance with these terms and conditions.

13 Laboratory Access

13.1 Some or all of the Services will be carried out in SSQC's Laboratories. Visits by Customers to the laboratory areas are not normally permitted when confidential work is in progress. Therefore Customer access to the laboratory areas is strictly controlled and is available only by prior arrangement.

14 Confidentiality

14.1 Subject to clause 14.2 both parties will take reasonable measures to keep confidential for a period of five calendar years from the date of acceptance of the Quotation: -

14.1.1 Any information provided (whether oral or written) by or on behalf of the other party;

14.1.2 Any information acquired as a result of visiting the other party's premises.

14.2 There is no obligation on either party to observe confidentiality on:-

14.2.1 Any information which at the time of disclosure is (or subsequently becomes) published or generally available to the public (other than as a breach of the receiving party's obligation under this clause);

14.2.2 Any information which at the time of disclosure was already in the possession of the receiving party (other than under an obligation to the disclosing party), or subsequently legally comes into their possession from another source;

14.2.3 Any information, which the disclosing party has expressly permitted the receiving party to disclose to third parties.

15 Destruction of Material

15.1 Subject to Clause 15.2 on completion of the Services or termination of this Agreement SSQC shall, at its option, either store or destroy the Customer's Goods. Such storage shall be subject to terms and conditions to be agreed including any charges therefor.

15.2 SSQC shall, at any time following testing of the Customer's Goods and where requested by the Customer, return the Customer's Goods to the Customer at the Customer's expense.

16 Publicity

16.1 SSQC reserves the right to announce publicly that it is providing the Services to the Customer with the prior written agreement of the Customer, such agreement not to be unreasonably withheld or delayed.

17 Cancellation

17.1 If the Customer cancels, extends or delays or purports to cancel, extend or delay the Agreement or part thereof, or fails to accept supply of the Services at the time agreed (if any) or if no time is agreed within a reasonable time, then the Customer will be liable (without prejudice to any other rights of SSQC to claim damages) to indemnify and keep indemnified SSQC against any resulting loss, damage or expense incurred by SSQC in connection with the supply or non-supply of the Services including the cost of any services, material, plant or tools used or intended to be used therefor and the cost of labour and other overheads including a percentage in respect of profit.

18 Termination

18.1 SSQC may terminate this Agreement forthwith by notice in writing if the Customer is in breach of this Agreement and (where such breach is remediable) has failed to remedy the breach within 30 days of the receipt of a request in writing from SSQC to remedy the breach, such request indicating that failure to remedy the breach, may result in termination of this Agreement.

18.2 The Agreement will terminate immediately on notice in writing upon the happening of any one or more of the following namely;

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18.2.1 that either party has had a bankruptcy order made against him or has made an arrangement or composition with his creditors or otherwise taken the benefit of any Act for the time being in force for the relief of insolvent debtors or (being a body corporate) has had convened a meeting of creditors (whether formal or informal) or has entered into liquidation (whether voluntary or compulsory) except a solvent voluntary liquidation for the purpose only of reconstruction or amalgamation or has a receiver manager administrator or receiver appointed of its undertaking or any part thereof or a resolution has been passed or a petition presented to any Court for the winding-up of the party or for the granting of an administration order in respect of the party or any proceedings have been commenced relating to the insolvency or possible insolvency of the party; or

18.2.2 on the happening of any one or more of the following:

- either party suffering or allowing any execution to be levied on his/its property or obtained against him/it;
- either party failing to observe or perform any of its obligations or duties under the agreement or any other agreement between SSQC and the Customer; or
- either party being unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986; or
- Either party ceasing to trade.

18.3 The termination of this Agreement howsoever arising will be without prejudice to the rights and duties of either party accrued prior to termination. Clauses 1, 4, 5, 6.5, 6.6, 7, 11, 14, 15 and 17 will continue to be enforceable notwithstanding termination. Without prejudice to the generality of the foregoing the Price in respect of any Services (or part thereof) supplied prior to termination shall remain payable regardless of the reason for termination.

19 Force Majeure

19.1 If SSQC is unable (whether temporarily or permanently) to procure any services or goods necessary to enable it to supply the Services or if the supply of the Services is prevented or hindered by reason of any cause beyond SSQC's reasonable control which for the avoidance of doubt and without prejudice to the generality of the foregoing shall include governmental action, war, riot, civil commotion, fire, flood, epidemic, labour disputes including labour disputes involving the work force or any part thereof of SSQC, restraints or delays affecting shipping or carriers, currency restrictions and Act of God, SSQC may cancel the Agreement by notice in writing to the Customer so far as it relates to the Services not then supplied or work not then done and such cancellation shall not give rise to any claims by the Customer. The Customer shall remain liable to pay for the Services delivered prior to the date of such cancellation.

20 Variation

20.1 Without prejudice to Clause 10.1, this Agreement can only be varied by agreement in writing between the parties.

21 Subcontracting/Assignment

21.1 SSQC will be entitled to assign, sub-contract all or any part of the Agreement on the terms and conditions hereof.

22 Waiver

22.1 Failure by SSQC to enforce any of the Agreement Terms will not be construed as a waiver of any of its rights hereunder.

23 Set Off

23.1 The Customer will have no right of set - off, statutory or otherwise.

24 Applicable Law and Jurisdiction

24.1 The Agreement will be subject to Scots Law and the parties submit themselves to the exclusive jurisdiction of the Scottish Courts.

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4. Potable Water Sampling Protocol (excluding Legionella)

4.1. SAMPLE CONTAINERS

It is important to know which sample container suits your needs. Different tests require different volumes of sample.

If the sample taken contains a biocide (e.g. chlorine) then a neutralisation agent must be contained in the sample bottle. If the sampling containers used to collect chlorinated drinking water or chlorinated pool water samples do not contain a neutralising agent, results obtained may not be correct. False negative results may lead to a false sense of security regarding the safety of water systems or the success of disinfection measures.

Please feel free to discuss your needs and concerns with the laboratory who will be able to inform you if any special requirements are needed.

The laboratory has several different sizes of sample bottle available to customers for different tests (e.g. 250ml and 1000ml). Alternatively, the customer can provide their own sample bottles, however **all sample containers must be sterile if the sample is for microbiological analysis.**

Different tests require different volumes of sample as listed below:

Test	Minimum Sample Volume Required
Coliforms and <i>E.coli</i>	100 ml
Total viable count (TVC)	2 ml
<i>Pseudomonas aeruginosa</i>	111 ml
Intestinal Enterococci	111 ml
Listeria spp.	500 ml
Salmonella spp.	1000 ml

Sampling containers provided by the laboratory:

- Pre-dosed with a 1.8% m/v solution of sodium thiosulphate - in accordance with Drinking Water Directorate specifications - to neutralise free or residual chlorine.
- Each bottle is clearly labelled with an expiry date and lot number for complete traceability, as well as providing space for the user to add sample identification details
- Tamper-evident cap ensures non-contamination before use.
- Lightweight, shatter-resistant and durable

4.2 SAMPLING AND TRANSPORT TO THE LABORATORY

This is a very important part of the process - if a sample is incorrectly taken it can give a false result or one which does not truly reflect the state of the water at the time of sampling.

- 1) Sample bottles are closed sterile containers and must remain so until it is time to take the sample.
- 2) When the top is removed never touch the inside of the top or the neck of the bottle.
- 3) Never rinse the bottle before taking a sample.
- 4) Let the water run freely for at least 2 minutes before sampling.
- 5) Hold the container near the base and fill the bottle to the mark. Do not allow the water to overflow from the bottle. Always leave an air gap of at least 1cm between the water sample and the lid.
- 6) Replace the cap and tighten.
- 7) Always label the sample clearly with permanent ink - include the **date, time and sample source as a minimum**.
- 8) Where possible place the sample in a cool box and deliver to the Laboratory for analysis as soon as possible. Analysis needs to be carried out within 24 hours.

Customers should fill in a **sample request form** when submitting samples to the laboratory. Any help or information needed by the customer can be given on receipt of the sample.

5. How to Interpret Your Potable Water Results

TVC (Total Viable Count) – total number of living organisms in that volume of sample. This result is reported **per one millilitre of sample (cfu/ml)**.

CFU means colony forming units or organisms.

TVC is used as an indicator of the bacterial load of that particular water supply. It can be used as an indication of the effectiveness of water cleaning treatment. **No numerical values for TVC are given in UK legislation**. Each supply should be sampled to establish a baseline colony count and should this dramatically increase then an investigation should ensue.

***E.coli* and Coliforms** – UK legislation regards *E.coli* as synonymous with faecal coliforms. As most waterborne disease is related to faecal pollution of water sources, water microbiology is largely based on the need to identify indicators of faecal pollution. These indicators are *E.coli* and Coliforms. The parameters are reported per 100ml of sample.

Any water sample which is intended for drinking purposes should be free of these organisms (<1/100ml or 0/100ml)

Intestinal enterococci and *Pseudomonas aeruginosa* - these results are reported per 100ml of sample.

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6. Potable Water Sampling Protocol for Legionella

6.1 LEGISLATION AND INFORMATION

If you are an employer, or someone in control of premises, including landlords, you must understand the health risks associated with legionella.

(Please refer to the Health and Safety Executive Website for more information on employers duties as regards legionella control).

<http://www.hse.gov.uk/legionnaires/what-you-must-do.htm>

The main legislation which must be complied with is listed below:

- Health & Safety at Work Act 1974 <http://www.legislation.gov.uk/ukpga/1974/37/contents>
- The Management of Health & Safety at Work Regulations 1999 as amended 2003 & 2006 <http://www.legislation.gov.uk/ukxi/1999/3242/contents/made>
- The Control of Substances Hazardous to Health Regulations 2002 as amended 2003 & 2004 <http://www.legislation.gov.uk/ukxi/2002/2677/contents/made>
- CIBSE TM13 – Minimising the risk of Legionnaires’ Disease <http://pinpoint.ukgbc.org/resource/7802-cibse-tm13-minimising-the-risk-of-legionnaires-disease.php>
- UK HSE document L8 – Legionnaires Disease, The control of legionella bacteria in water systems: Approved Code of Practice and Guidance (4th Edition November 2013) and HSG 274 Legionnaire’s Disease: Technical Guidance 2013. <http://www.hse.gov.uk/pubns/priced/l8.pdf> and <http://www.hse.gov.uk/pubns/books/hsg274.htm>
- BS8558:2015- Design, Installation, Testing & Maintenance of services supplying water for domestic Use within buildings and their curtilages <http://shop.bsigroup.com/>
- Marine Safety Forum: Delivering Quality Potable Water to Offshore Installations, Issue2, 18th July 2013: <https://www.marinesafetyforum.org/wp-content/uploads/2018/08/MSF-Guidance-Delivering-Quality-PotWater-to-Offshore-Installations-18th-July-2103.pdf>

6.2 SAMPLING AND TRANSPORT TO THE LABORATORY

- 1) Record the sample point name, date and time sampled on the bottle in permanent marker.
- 2) Legionella samples are usually taken pre-flush, so do not allow the water to run unless the sample is specifically post-flush.
- 3) Ensure a minimum of 1000ml of water is sampled, leaving an air gap under the lid.
- 4) Hold the bottle at a 45° angle so that the neutraliser does not get flushed from the bottle when sampling.

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- 5) Measure the temperature of the water at the point of sampling (do this by putting the thermometer into water from the sample point NOT by putting the thermometer into the water sample that's been taken. Record the temperature on the sample bottle.
- 6) If biocide is present in the water system, record which one. Always use a sterile sample bottle containing Potassium/Sodium Thiosulphate. These inactivate the oxidizing biocides.
- 7) Deliver to the laboratory as soon as possible (samples need to be analysed within 48 hrs). Samples should be transported protected from heat and sunlight at ambient temperature (6-20°C). Storing the sample below 6°C may reduce the recovery of Legionella bacteria since they may be induced into a viable but non-culturable state.

Nb. All other water samples must be analysed within 24 hours and where they are not directly transported to the laboratory should be stored at chilled temperatures (2-8°C)

Legionella analysis takes 10 days. However, if Legionella are found to be present a preliminary result shall be sent by email before the end of the analysis.

7. How to Interpret Your Legionella Results

Legionellosis is a potentially fatal infectious disease. *L.pneumophila*, serogroup 1 (Sg 1) is responsible for 90% of fatalities so you don't want that in your system at all.

At an extra cost to the customer, when requested, samples positively identified by SSQC can be sent to the Scottish Legionella Reference Laboratory for species confirmation.

The report will read cfu's per 1000ml. The lower limit of detection for the method SSQC use is <10cfu/1000ml.

If your sample is reported as <10cfu/1000ml, the sample source is considered safe. It is more helpful if this analysis is read in conjunction with TVC results (22°C & 37°C). These results presented together give a better overall picture for interpretation.

For further information see - Sample Interpretation: Technical Guidance Notes HSG274 part 2 Published 2014

<http://www.hse.gov.uk/pubns/priced/hsg274part2.pdf>

Table 2.2 Action Levels following Legionella Sampling in Hot and Cold Water Systems.

Legionella bacteria (cfu/l)	Recommended Actions
>100 cfu/l and up to 1000	Either: - if the minority of samples are positive, the system should be resampled. If similar results are found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions necessary or

	<p>Or</p> <ul style="list-style-type: none"> - if the majority of samples are positive, the system may be colonised, albeit at a low level. An immediate review of the control measures and risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered
>1000 cfu/l	The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should take place a few days after disinfection and at frequent intervals

Table 2.3 Action Levels following Legionella Sampling in Hot and Cold Water Systems in helalthcare premises with susceptible patients

Legionella bacteria (cfu/l)	Recommended Actions
ND up to 100cfu/l	In healthcare, the primary concern is protecting susceptible patients, so any detection of legionella should be investigated and, if necessary, the system resampled to aid interpretation of the results in line with the monitoring strategy and risk assessment.
>100 cfu/l and up to 1000	As table 2.2
>1000 cfu/l	As table 2.2

It is important that individual companies decide on their action levels through risk assessment.

As part of SSQC Ltd customer service the laboratory will flag the following results:

- Detection of pathogens which could have adverse effects on human health/ or
- Above specified customer limits (Where these are known).

Any records of analysis will be kept for a minimum of 5 years in line with Health and Safety Executive Guidelines.

Please refer to:

HSE A Brief Guide for Dutyholders (Leaflet INDG458) Published 04/ 2012.

<http://www.hse.gov.uk/pubns/indg458.pdf>

Disclaimer: This is a guide and is not meant to cover every scenario or situation which might present itself for potable water result interpretation.

SSQC SAMPLING

If required, SSQC can provide staff to take samples. Samples shall be taken in line with SSQC Technical procedure (BW 036) to ensure that the sample arrives in the best possible condition for testing.

It should be noted that collection of samples is not covered in the company's UKAS accreditation scope.

8. How to Take Environmental Swabs

Swabs provided by SSQC contain Lethen Broth. Lethen Broth should be used, in hygiene swabbing protocols, where it is necessary to neutralise quaternary ammonium compounds.

- Surface swabs are normally taken following cleaning operations to monitor / verify the standard of cleaning.
- Clearly label each swab with the sample name and the date/time taken.
- A separate swab must be used for each sample.
- The cap should be twisted to break the seal and the swab removed taking care only to handle the cap so as not to contaminate the swab.
- Where using swabs supplied by SSQC, these should be stored in a fridge until required.
- Swab an area 10cm x 10cm whilst ensuring the entire surface of the swab is used. **Note:** If the area to be swabbed is smaller than 10 cm x 10 cm, swab the entire surface e.g. both sides of a knife blade.
- Following sampling replace the swab into the container making sure it does not come into contact with another surface, as this will mean that the swab must be rejected and redone.
- Dry swabs **must** be delivered to the SSQC laboratory within 4 hours of sampling (preferably within 3 hours). If the samples are not being delivered straight after taking then they should be stored in the fridge until ready for delivery to the laboratory. Swabs in Lethen must be analysed within 24 hours of testing.
- Swabs must be delivered accompanied with a completed SSQC sample request form.

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9. Customer Guide to Results for Product and Swabs

SSQC have been asked to provide some guidance on how to interpret the results provided to its customers in a clear and understandable way so that the customer may know when to take any necessary action. For example, if an enumeration result is regarded as high i.e. outwith the customer limits, this might mean that the customer has to revisit their cleaning regime or perhaps look at temperatures where food is being stored in order to suppress the growth of any bacteria which might be there.

If, on the other hand, a result proves the detection of a pathogen, for example, *Listeria monocytogenes*, then the customer is informed immediately. If the customer has chosen to have their samples analysed using the PCR method then they should read a positive result as being positive for the presence of *Listeria monocytogenes* DNA. This interpretation is the same for raw fish, smoked fish, environmental swabs, mackerel or any other product which SSQC Ltd is covered by in the scope of its UKAS accreditation.

Often, customers contact us wondering what 'TNTC @ 10⁻² cfu/swab' means

When analysing a sample for a bacterial count, the sample is distributed evenly on an agar plate which promotes the growth of anything which is found on the swab. After the plate has been incubated the analyst counts the number of bacterial colonies on the plate. Some samples require to be diluted according to the method of analysis. The dilution technique is known as serial dilution. This means that at each dilution the sample will be diluted 10 times more than the previous one. In theory, a sample can be diluted as many times as experience dictates or more if it is known to come from a dirty area. For some samples that means none at all and for others that might mean 4 or 5 times.

If a sample has not been diluted but the agar plate is overcrowded with bacterial growth then this would be described as being **TNTC @ undilute**:

TNTC = too numerous to count

Undilute = the sample was not diluted

cfu = colony forming units

If the report read **TNTC @10⁻² cfu/swab** this means at a dilution of 100 times the original sample, the plate was too overcrowded with bacteria and could not be counted with any accuracy.

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Similarly, if the report read **TNTC @ 10⁻⁴ cfu/swab** this means that the original sample has been diluted 10,000 times.

A plate is considered overcrowded if it has more than 300 cfu. Therefore for the above examples a plate reported as TNTC at 10⁻² /Swab can be thought of as having more than 30 000 cfu /swab or TNTC at 10⁻⁴/swab can be thought of having more than 3 000 000 cfu/swab.

If I received results like that what would it mean to me and what should I do about it?

Firstly, there are no legal limits for swab results which state that these results are “Satisfactory, Acceptable, Unsatisfactory, Unacceptable, or potentially hazardous”. You must decide yourself!

However, you might wonder if it is reasonable to assume, that if you had a rigorous cleaning regime, that your swab results would be reported as “<10cfu/swab for TVC”.

Another point to consider is that your customers might have their own limits which you require to adhere to.

Guidelines exist for Food Groups and Food Categories. These Guidelines can be found in a document called:

Communicable disease and Public Health: Guidelines for the microbiological quality of some ready-to-eat foods sampled at the point of sale

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/363146/Guidelines_for_assessing_the_microbiological_safety_of_ready-to-eat_foods_on_the_market.pdf

If the internet is not available to you then please ask SSQC to provide a copy for you.

9.1 REPORTING RESULTS AND ISSUE OF CERTIFICATES OF ANALYSIS

SSQC shall provide customers with a certificate of analysis for the samples submitted. The certificate shall include the following disclaimers in line with our accreditation:

- Results relate only to the items tested. Where the laboratory has not been responsible for sampling, results apply to the samples as received.
- This report may only be reproduced in full with permission from SSQC Ltd.

A statement may also be made if the samples deviate from the accredited procedure. E.g. Incubation temperature deviated from acceptable range or time since sampling unable to be verified.

Results shall, unless requested otherwise, be reported using scientific notation. For example:

RESULT	NUMBER
3.4 x 10 ⁻²	3400
3.4 x10 ⁻³	34000

3.4×10^{-4}	340000
3.4×10^{-5}	3400000

Where customer email addresses have been provided, interim results shall be sent by email. These results have not been checked as correct which shall only be undertaken when the hard copy certificate is signed.

Certificates of analysis are usually mailed out in hard copy. An electronic version may be emailed to the customer on request.

10. Uncertainty of Measurement

Uncertainty of measurement is a parameter associated with the result of measurement and is only applicable to enumeration methods. Testing undertaken within the laboratory comes with a degree of uncertainty of measurement as no measurement is perfect and imperfections may give rise to error.

Levels of uncertainty for all enumeration methods undertaken in the laboratory are known and available within the laboratory documentation.

As a general rule, Certificates of analysis do not include a statement on the uncertainty of measurement but where a customer requires this to be included the laboratory will be happy to comply with the request and include a statement of measurement uncertainty on the customer certificate.