Aquaculture Stewardship Council Salmon Standard

First Surveillance Assessment Report

Tassal Operations Pty Ltd Macquarie Harbour MF 214 Middle Harbour and MF 219 Gordon

Tassal Operations
Level 9, 1 Franklin Wharf, Hobart 7000, Australia

USING: ASC Salmon Standard V1.0 June 2012

AUDITORS: Dr Christine Crawford, D.B. O'Sullivan, Todd Frank and Dr Sabine Daume

ONSITE DATES: 11-15th May 2015

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Acronyms

ABM	Area Based Management
ADAS	Australian Diver Accreditation Scheme
ADD	Acoustic Deterrent Device
AHD	Acoustic Harassment Device
AGD	Amoebic Gill Disease
AMA	Area Management Agreement
AMAMG	Area Management Agreement Management Group
AMBI	AZTI Marine Biotic Index
APC	Australian Packaging Covenant
APVMA	Australian Pesticides and Veterinary Medicines Authority
ASC	Aquaculture Stewardship Council
ASI	Accreditation Services International
ASX	Australian Stock Exchange
AWU	Australian Workers' Union
AZE	Allowable Zone Effect
BAP	Best Aquaculture Practices
BET	Bigeye Tuna
BMP	Best Management Practices
BOD	biochemical oxygen demand
BQI	Benthic Quality Index
CAB	Conformity Assessment Body
CoC	Chain of Custody
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DHI	DHI Water & Environment
DNA	Deoxyribonucleic Acids
DO	Dissolved Oxygen
DPIPWE	Department of Primary Industry, Parks, Water and Environment
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPA	Environmental Protection Authority
EPO	Eastern Pacific Ocean
EUL	Estimated Unexplained Losses
FCR	Food Conversion Rates
FFDRo	Fish Oil Forage Fish Dependency Ratio
FFDRm	Fishmeal Forage Fish Dependency Ratio
FFEMP	Fish Farm Environmental Management Plan
FFL	Fish farm license
FHMP	Fish Health Management Plan
FIP	Fisheries Improvement Project
FM	Fish meal
FO	Fish oil
FRDC	Fisheries Research & Development Corporation
GHG	Green House Gas
GMO	Genetically Modified Organism

GO	Gordon Farm
GWP	Global Warming Potential
Ha	Hectares
HAC	Huon Aquaculture Group
HO	Head Office
HoS	Head of Sustainability
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IFFO RS	The International Fishmeal and Fish Oil Organisation - Responsible Supply
IFS	Inland Fisheries Service
IMAS	Institute of Marine & Antarctic Studies, University of Tasmania
ISEAL	International Social and Environmental Accreditation and Labeling Alliance
ISO	International Organization for Standardization
ITI	Infaunal Trophic Index
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unregulated, and Unreported
JSA	Job safety Analysis
LGA	Life Cycle Analysis/Assessment
LPG	Liquid Petroleum Gas
MAS	Marine Aeromonad Disease of Salmonids
MDS	multidimensional scaling
MF	Marine Farm
MFB	Marine Farming Branch
MFDP	Marine Farm Development Plan
MH	Macquarie Harbour
MHAMA	Macquarie Harbour Area Management Agreement
MiH	Middle Harbour Farm
MOP	Marine Operations Protocol
MSC	Marine Stewardship Council
MSDS	Material Safety Data Sheet
MT	Metric Tonne
NC	Nonconformity
OH&S	Occupational Health and Safety
OIE	World Organization for Animal Health
OTC	Oxytetracycline
PAL	Petuna Aquaculture Ltd
PPE	Personal Protective Equipment
PSM	Pacific Seafood Management
QA	Quality Assurance
RCD	Residue Current Device
ROV	Remotely Operated Vehicle
RTRS	Roundtable for Responsible Soy
SAD	Salmon Aquaculture Dialogue
SAI	Social Accountability International
SARDI	South Australian Research and Development Institute
SCAT	Southern Coastcare Association of Tasmania
SMFH	Senior Manager Fish Health

SOP	Standard Operating Procedure
SPP	Special Plumbing Permit
SRAC	Sustainability Report Advisory Committee
SROI	Social Return on Investment
TAB	Tasmanian aquabirnavirus
TARFISH	Tasmanian Association for Recreational Fishing
TasSR	Tasmanian Salmonid Rickettsiosis
TCT	Tasmanian Conservation Trust
TFDA	Tasmania Fisheries Development Authority
TIMS	Tassal's integrated Management System
Tpa	tonnes per annum
TRCI	Tasmanian River Condition Index
TSGA	Tasmanian Salmonid Growers Association
TSHSP	Tasmanian Salmonid Health Surveillance Program
TSIC	Tasmanian Seafood Industry Council
TWG	Technical Working group
TWWHA	Tasmanian Wildlife World Heritage Area
USA	United States of America
WCC	West Coast Council
WDP	Waste Disposal Plan
WHS	Work Health and Safety
WHO	World health Organization
WIP	Wildlife Interaction Plan
WPA	Workplace Partnerships Agreement
WWF	World Wildlife Fund

1. Summary

The Tassal Operations Pty Ltd's (Tassal) salmon culturing sites within the scope of this first-surveillance, marine farms MF 214 Middle Harbour and MF 219 Gordon, in Macquarie Harbour, continue to show good overall compliance to the Aquaculture Stewardship Council (ASC) salmon standard. The surveillance team evaluated the operations against the ASC Salmon Standard V. 1.0 June 2012.

Overall progress against the 8 minor non-conformities (NCs) identified during the full assessment of the Middle Harbour and Gordon sites and in accordance with the action plans were assessed during this first surveillance audit.

During the full assessment audit in 2014 the audit team identified one NC in Principle 1 (Comply with all applicable national laws and local regulations), because the land base was not meeting all legislative requirements, and two in Principle 2 (Conserve natural habitat, local biodiversity and ecosystem function), one about feed testing, one about access to information by the public. One NC in Principle 4 (Use resources in an environmentally efficient and responsible manner) related to the feed ingredients used at the farming sites. There was one NC in Principle 5 (Manage disease and parasites in an environmentally responsible manner) in relation to the frequency of farm site visits by the company vets. Two NCs were identified in Principle 7 (Be a good neighbour and conscientious citizen), the first one was about informing the community regarding antibiotic treatments and potential health risks, and the second was about lack of

consultation with aboriginal groups. One NC was identified in Section 8 (Requirements for suppliers of smolt) about dissolved oxygen (DO) measurements in effluent of the semi-open hatchery system at Russell Falls.

The annual surveillance audit confirmed the closing of 7 NCs and raising one to a major NC. The community, in particular the West Coast Community Advisory Forum, was not sufficiently informed regarding antibiotic treatments and potential health risks.

Evidence to close the major non-conformance was submitted by Tassal on the 13th August 2015. The lead auditor examined the evidence and in discussion with the team members decided to close out the major NC.

Evidence provided by Tassal on the 13th August 2015 that led to the decision of closing the major NC included:

- Copy of the first issue of an electronic community newsletter that Tassal developed, which includes information on antibiotic use and potential health risks
- Copy of the newsletter distribution list and email cover letter

Three recommendations were also made:

1. A standard method of sampling and testing the feed should be used at each Tassal lease every quarter;
2. Mortality data, antibiotic use and estimated unexplained losses on the ASC Dashboard should be provided for each Marine Farm rather than summarized for each region, and
3. The list of all veterinary visits should be consolidated in one register.

Several issues were identified as becoming significant since the full assessment was conducted in 2014, and five have been raised as new minor non-conformities (NCs). These include one new NC in Principle 2, one related to average weekly dissolved oxygen levels. One NC in Principle 7 identified that there was not a policy for resolution of complaints by community stakeholders and three NCs in Principle 8 included hatcheries with total phosphorous values greater than ASC standards at Russell Falls and no data from SALTAS, the second was because no quarterly water quality monitoring of river outlets from SALTAS was conducted in February 2015, and the third related to two biomonitoring reports for the Florentine in 2014 not being compliant with ASC Salmon Standards for aquatic macroinvertebrates. There was also one new recommendation that results of the IMAS studies be examined of the effects of low DO on benthic ecology in Macquarie Harbour.

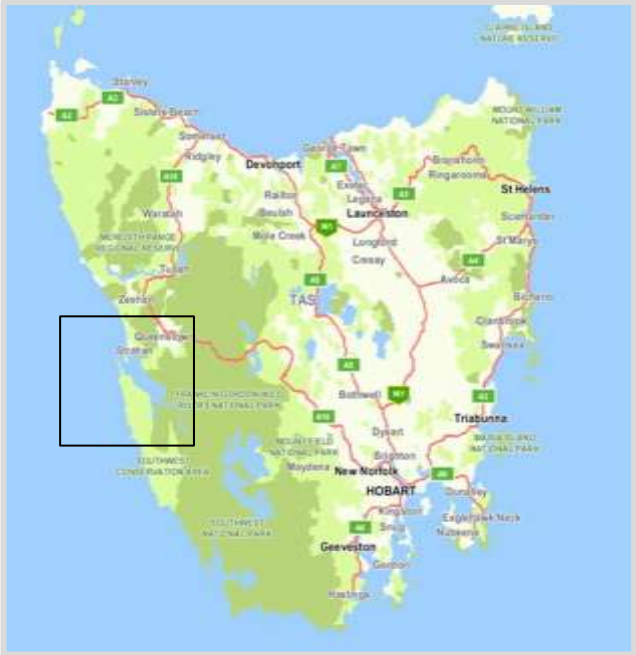
2 Background of Farm and Updates to Farming Operations

The Tassal MFs, 214 Middle Harbour and 219 Gordon, each contain 80 ha in zones 9 and zone 8, respectively, in Macquarie Harbour for the growout of salmon (Figure 1). Tassal is permitted to farm finfish in these zones as per provisions of its marine farming licences. The Middle Harbour lease has been operating for 14 years and Gordon 14 years. These farms currently operate with 24 available pen bays positions per farm, and 18 in use for Middle Harbour and Gordon, respectively. At the farms polar circle pens, 120m in circumference, are used with stocking densities of approximately 15kg/m^3 maximum following internal Tassal policies.

Tassal is the largest salmon aquaculture company in Australia, employing over 850 people. A vertically integrated company, Tassal operates two salmon hatcheries, three processing facilities, two retail outlets and marine farms in six regions throughout the state. Tassal is producing salmon predominately for the Australian

market, and has a retail presence in over 2,000 outlets around Australia. Tassal Group Pty Ltd is an ASX 300 public company listed on the Australian Securities Exchange.

A



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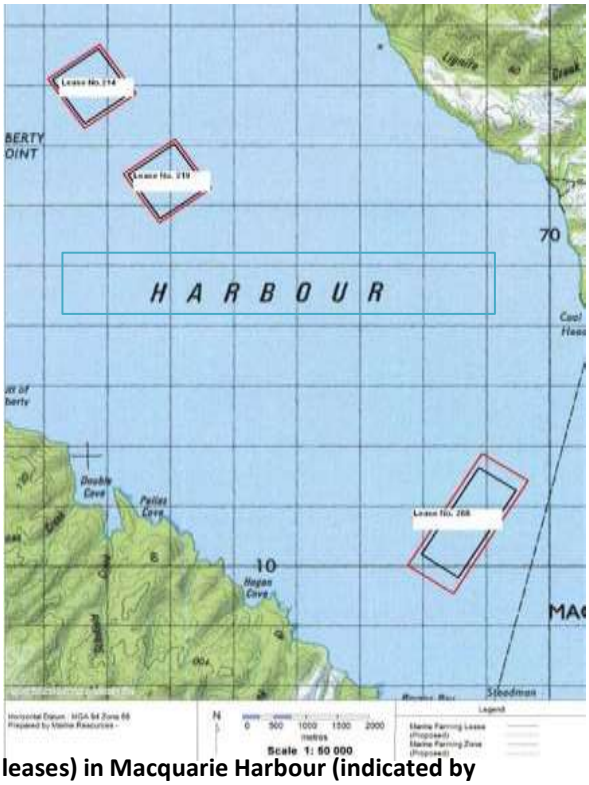

Figure 1. Map A: Area that contains the 2 sites (MF 214 & 219 leases) in Macquarie Harbour (indicated by black box), Tasmania, Australia. Map B: Close-up location of the lease sites 214 Middle Harbour and 219 Gordon which are undergoing the first surveillance assessment. The new site, 266 – Franklin is undergoing a full site assessment at the same time.

Since the full assessment audit for compliance to the ASC salmon standard in 2014 and the identification of 8 non-conformities, Tassal has implemented a number of new operating procedures and new equipment.
These include:

1. Land base including the wharf operations area, net pad & equipment storage paddock and mortality tip are operated in line with legislative requirements for WHS and environmental protection.
2. Tassal has complied with ASC requirement for quarterly veterinary visits to farm sites.
3. Tassal is improving fish mortality reporting procedures and diagnosis.
4. In conjunction with local stakeholders and the other two aquaculture companies operating in Macquarie Harbour (Huon Aquaculture and Petuna Seafoods), Tassal has participated in the creation of the West Coast Community Advisory Forum. This forum is intended to facilitate a formal dialogue between the aquaculture companies and the West Coast community. Quarterly meetings have been held with stakeholders resulting in an effective platform for consultation with local stakeholders.
5. Tassal has reached out to indigenous communities, established lines of communication, and begun consultation with these communities.
6. Provided additional documentation and other evidence for the SALTAS hatchery. All three hatcheries (Russell Falls, Rookwood Rd & SALTAS) have been included in the determinations of energy use and GHG emissions.

3. Scope

Reference Standard & Guidance	ASC Salmon Standard V1.0 June 2012 Audit Manual, ASC Salmon Standard V1.0
Scheme Documents	ASC Certification and Accreditation Requirements V1.0
Audit Scope	Farm-level production (Atlantic salmon - *Salmo salar*) Macquarie Harbour (MF 214 and MF 219)
Receiving water body	Macquarie Harbour, Tasmania, Australia

4. Audit Plan

4.1 Previous Audits

A pre-assessment of Tassal Operations Pty Ltd's (Tassal) Macquarie Harbour Sites (Lease 214 – Middle Harbour and Lease 219 – Gordon) was conducted in July/ August 2013 as a desktop audit, only. After the pre-assessment, the applicants for certification authorized the formal, full assessment of the two Macquarie Harbour Sites. Tassal received ASC certification for marine farm leases 214 and 219 on 3 April 2014.

All aspects of the assessment process were carried out under the auspices of SCS Global Services Inc. (SCS), an ASC-accredited conformity assessment body (CAB), and in direct accordance with ASC requirements.

4.2 Names of Auditors

The following auditors comprised the assessment team: Dr. Sabine Daume, D.B. O'Sullivan, Dr. Christine Crawford and Todd Frank.

Dr. Sabine Daume, SCS Global Services – Regional Director, MSC and ASC Lead Auditor

Dr. Daume is responsible for leading SCS's Sustainable Seafood Certification program in Australia, which includes aquaculture and fishery certification under the auspices of both the Aquaculture Stewardship Council (ASC) and the Marine Stewardship Council (MSC). She has been part of the global steering committee for the Abalone Dialogue to develop the Abalone standard for ASC and sits on the Technical Advisory Group for the Aquaculture Stewardship Council. Prior to joining SCS, Dr. Daume worked as a Senior Research Scientist at the Research Division of the Department of Fisheries in Western Australia and at Deakin University in Victoria, Australia.

Past research conducted by Dr. Daume has focused on invertebrate aquaculture and fisheries. She has led several nationally FRDC funded, multi-year research grants on abalone broodstock conditioning and improvements to hatchery and nursery production as well as fisheries enhancement. Dr. Daume is a certified lead auditor under the ISO 9001:2008 and SAI's training for SA 8000 (social accountability) and trained to conduct ASC audits against the salmon and abalone standards. She has led numerous pre- and full- MSC assessments of various size and scale, including many fisheries in Australia. She also has experience working with diverse stakeholder groups, often in remote marine environments. Sabine has published in the peer-

reviewed scientific literature (e.g. *Aquaculture Research, Journal of Shellfish Research*) as well as produced research reports and produced interactive training materials for the industry and led industry workshops.

David Bruce O'Sullivan, Dosaqua Pty Ltd- Technical Expert

Dos O'Sullivan is a Director and principal consultant with Dosaqua Pty Ltd. He has been involved in information dissemination since 1986, not only through industry workshops and seminars but also as a lecturer at three universities and several TAFE colleges.

His consulting specialties include project development and downstream management; industry status and potential; freshwater crayfish production; expert witness; environmental management / impact assessment; education, feasibility and risk analyses; industry liaison and extension; and independent analysis. With AusAID funds PSM established a 100-tonne/yr marine finfish farm in Philippines in 1999. For 5 years he was non-technical director of a large (800 tpa) Barramundi farm located in NE USA which was listed on the Australian Stock Exchange, this company has also developed a 2,000 MT capacity barramundi seapen farm and hatchery in Vietnam. Until 2012 Dos wrote annual reports on the status of aquaculture in Australia and he is recognised as the major commentator on industry issues and trends. He also has a major interest in promoting Aboriginal aquaculture and training; he is currently working with communities in Tasmania and South Australia.

Since 2009 Dos has been specializing in the establishment, implementation or improvement of Management Systems including effective Internal Audits and Management Reviews as well as training of auditors (RABQSA certified). In addition, he has been providing contract Third Party Certification for Environmental Systems (ISO 14001, EMAS, Ecomapping), Food Safety (ISO22000) & HACCP, Quality (ISO 9001) and OH&S (AS4801/OHSAS 18001), MSC Chain of Custody, GAA BAP (Hatcheries, Farms, Seafood Processing – GFSI standard) and Global GAP (Farms and Aquaculture).

Dr Christine Crawford – Technical Expert

Dr Christine Crawford has over thirty years' experience in shellfish and finfish aquaculture, including hatchery and intertidal shellfish production, and effects of aquaculture on the environment, both in Australia and overseas. She is currently a Senior Research Fellow at the Institute for Marine and Antarctic Studies, University of Tasmania. Dr Crawford has also lead research projects investigating the ecology and health and monitoring of estuaries, including environmental flows and links between changing climatic conditions and estuarine water quality. Dr Crawford has worked for the Tasmanian government for many years. In recent years she has conducted ecological sustainability assessments for aquaculture operations in Australia and overseas for WWF.

Dr Crawford has published widely in the international peer-reviewed literature, including 38 papers, 6 book chapters, book co-editor and over a hundred reports to industry and government. Her work has also included a diverse range of stakeholders, often in remote locations.

Todd Frank, SCS Global Services –Director of SCS Southeast Asia, Fair Trade Auditor

Mr. Frank is the Director of SCS Southeast Asia and President Director of PT SCS Indonesia. Mr. Frank represents SCS at the regional level and provides daily oversight, management and business development for the subsidiary. In this role, he has helped establish a strong presence for SCS in the region across a wide range of industries with a focus on forestry and timber legality. Mr. Frank also serves as lead auditor for a range of certification programs and has conducted audits in 13 countries. Previously Mr. Frank helped to establish the SCS Greenhouse Gas Program during which time he was the founding manager and lead the program to become a global leader in the areas of forest carbon and REDD+ verification, carbon footprint

verification and industrial carbon offset verification. Mr. Frank also helped lead the initiative to establish SCS as one of the first companies in the world accredited to ISO 14065 for the validation and verification of greenhouse gases. Mr. Frank holds a Bachelor's degree in Geography and Conservation and Resource Studies from the University of California at Berkeley and a Master's degree in International Environmental Policy from the University of California San Diego.

4.3 Audit Plan as Implemented

The general steps followed were:

- Announcement of the intention for Tassal's Macquarie Harbour sites to undergo a first surveillance assessment 10 April 2015.
- Onsite audit and meetings with the company staff and stakeholders (11- 15th May 2015). SCS planned for and conducted meetings in Hobart, Tasmania, Australia and in Strahan, Tasmania, Australia the closest township to the Macquarie Harbour sites as well as the actual lease sites and land based sites relevant to the unit of certification.
- Gathering of further evidence (May 2015). Evidence in the form of documents, reports and internal protocols and procedures were received before the audit commenced.
- Drafting of the report (May 2015). The assessment team drafted the report in accordance with ASC required processes and layout.
- Review of the report. The report was submitted to the client for review, and reviewed internally at SCS. The team revised the report, taking client and technical experts' comments into account.
- Release of Report (14 August 2015). SCS released the Report for posting on the ASC website.

4.4 Staff Interviews

The Table below summarizes the staff interviews that were conducted at Tassal HO and at the land based office for the Macquarie Harbour full assessment audit.

Table 1. Summary of Staff Interviews

Linda Sams – Head of Sustainability
Heidi Hansen – Environmental Certification Officer
Fiona Ewing – Community Engagement Officer
Ian Miles – Head of Safety
Zack Wingfield – Regional Manager Macquarie Harbour
Karl Von Minden- Senior WHS Adivsor
Kaylene Little – Head of People, Culture & QA
Wildlife management staff member
Fish Health staff member
Team Leader 1
Team Leader 2
Maintenance Officer 1
Dive Team Member 1
Dive Team Member 2
Dive Team Member 3
Farm Attendant 1
Farm Attendant 2
Farm Attendant 3
Farm Attendant 4
Farm Attendant 5

5. Findings

5.1 Reports on Previous Non Conformities

The first surveillance audit concentrated on the non-conformities identified during the full assessment for Macquarie Harbour marine farms 214 and 219, against ASC Salmon Standard V1.0 and these are reported below. Compliance with other criteria for ASC certification were also considered during the surveillance audit and are also updated below.

Table 2. 2014 Non Conformities, client action plans and Progress

No. of criteria	Year	Category	Summary of non-conformity	Client Root Cause Analysi	Client Action Plan	Deadline
1.1.1 a	2014	Minor	The land base including the wharf operations area, net pad & equipment storage paddock and mortality tip were not always operated in line with legislative requirements for WHS and environmental protection (e.g. some testing of RCDs is overdue, dive bottles & gas bottles are not always secured, the licence for one of the Pest Control technicians was out of date (initials RBJ), and at the net pad there were some loose pieces of plastic and feedbags).	Operator error. Not following documented process.	Before the first surveillance audit in 2015, Tassal will do a general clean-up of site and maintain land based operations to ensure operations are in line with regulations.	To be reviewed at the first surveillance audit.

Progress against action plan:

Inspections of the land base including the wharf operations area, net pad & equipment storage paddock and mortality tip showed that they were operated in line with legislative requirements for WHS and environmental protection. The considerable evidence included many safety signs displayed, WHS noticeboards and posters, safety committee meetings minutes (last 7/5/15), Visitor/ Contractor Sign In Registration (MO-F308 Issue 2, 24/07/2013, 1p) with PPE and access requirements, tag out of damaged or untested equipment, lockout stations, locked gates when no staff around (security cameras for wharf), appropriate storage of chemicals & fuels (with mostly current MSDS), well stocked spill kits, first aid kits (check quarterly in house and external 6-monthly) and eye wash stations, testing & tagging of electrical equipment (including RCDs on wharf sheds as well as feed barges), chain & block test & tagging, securing of gas bottles (including welding, dive bottles & LPG), testing & tagging of fire extinguishers, blankets & hoses, pre-starts and maintenance checks for forklifts, pest control through Morris at Wharf (with up-to-date licences for GK expiry 25/9/14 & GM expiry 17/7/15, bait maps, two insurance policies and MSDS), recycling bins and waste control, appropriate facilities for staff for eating, drinking & ablutions.
Tassal staff was quick to correct any problems identified during the inspections including replacement of missing or out of date MSDS (x4), removal of out of date tagged electrical cords (x2).
Status of NC: Closed

2.3.1.a	2014	Minor	Currently the feed used at the Macquarie Harbour sites is not tested for fines (dust and fragments in the feed) quarterly.	Feed has been tested annually by feed supplier, as per contractual agreement. At the time of the audit Tassal was in the process of implementing internal quarterly testing procedures but historical evidence was not yet available.	Before the first surveillance audit in 2015, equipment to be purchased and procedure (including training) to be developed and implemented at site. Quarterly testing will be conducted going forward.	To be reviewed at the first surveillance audit.

Progress against action plan:

Quarterly testing of dust and fragments in feed commenced in February 2014 in Macquarie Harbour but methodology is still being refined between Tassal farming regions. There is some ambiguity in the procedures provided in the ASC Salmon Standard version 1, June 2012, Appendix 1-2. Calculation methodology for the percent fines in feed. Although the Standard provides calculations for dust only, i.e. weight of feed that passes through all sieves, the introduction describes this method as determining 'fines' (dust and small fragments). A standard method is being developed which will be conducted quarterly at each lease. There was also some confusion over whether the feed had to be tested at each farm in MH each quarter.

Because quarterly feed testing has been implemented as a routine procedure, we concluded that this criterion is being met, but with the recommendation below.

Status of NC: Closed

Recommendation: A standard method of sampling and testing the feed to be used at each of Tassal leases 214 and 219 every quarter.

2.5.5.b	2014	Minor	Currently, information about lethal incidents is not made publically available within 30 days.	Historically, Tassal has reported lethal incidents annually in their Sustainability Report. The commitment has been made to report any lethal incidents on their website within 30 days; however there have been no lethal incidents at this Region in the previous 12 months and therefore nothing to report.	A new website will include a tab for all ASC reporting requirements. Any lethal incidents will be reported there within 30 days. This change is planned with the new website to be launched in March 2014.	To be reviewed at the first surveillance audit.

Progress against action plan:

Examination of the Tassal website showed that it has been upgraded to include a tab under Sustainability for ASC reporting requirements. This tab, the ASC Dashboard, includes a section on Wildlife Interactions which shows the six farming regions on a map of Tasmania. Clicking on a farming region brings up a list of mortalities for that. The list of wildlife interactions for Macquarie Harbour documents no bird or seal mortalities in April 2015. Lethal incidents are now being communicated on the Tassal website within 30 days so this non-compliance for not communicating lethal incidents can now be closed. However, we make the recommendation that mortality data is specified by lease.

Status of NC: CLOSED

Recommendation: We recommend that the mortality data on the Dashboard is provided for each Marine Farm, as specified by the ASC Standard, rather than a total for each region.

4.3.2.b	2014	Minor	Not all ingredients of the feeds used at the MH sites achieve individual fish source scores >6.	Feed ingredients purchased prior to ASC commitment.	Working with Skretting to achieve full compliance to the criteria	To be reviewed at the first surveillance audit.

Progress against action plan:

Skretting uses the mass balance method for traceability of feed ingredients: at the start of each new quarter the purchased volumes of fishmeal and fish oil which meets the criteria in the ASC standard. Based on the average inclusion rate of fishmeal and fish oil in salmon diets, these purchased volumes of raw materials are transferred into 'ASC Feed Certificates'. Fishmeal and fish oil that are in surplus are put in stock with an expiry date of 18 months. Justification of 18 months is that an average production cycle of a generation of salmon is 15-18 months. The same expiry date (18 months) is valid for produced 'ASC Feed Certificates' 4.3.2 and 4.3.4 are recorded. Skretting is able to demonstrate that it will not issue or sell ASC certificates unless these are covered by buying fishmeal and fish oil that meets the criteria in the ASC standard.
Note: The Fish Source score for trimmings sources is not a requirement for the ASC Salmon Standard; however Skretting provides these scores as well.
According to invoices from feed supplier, the feed used by Tassal complies with criteria 4.3.2 (source of marine raw materials) of the ASC Standard using principle 2 (mass balance). These invoices can be used in addition to the general information provided by Skretting to demonstrate this amount of feed is in compliance with the feed related criteria of the ASC Standard.
Skretting has commissioned an independent "Marine Assessment Report" by Dr. Sarah Irvine (15/1/14 82p) (Appendix 6) reviewed the status and Fish Source Scores of fisheries from which fish meal and fish oil are sourced, including reduction fisheries and trimmings of certain species. This report was updated in 2015 and will be updated annually to report changes that occurred during the previous year.

Status of NC: Closed

5.1.2.a	2014	Minor	During the last 2 years, visits by the company vet were not conducted quarterly.	Historically, the Fish Health team (including company vet) have visited Tassal regions as required with no specific schedule in place. This process has been implemented, however there is no historical evidence to support this.	Before the first surveillance audit in 2015, the fish health team will visit site quarterly, as per site visit planner.	To be reviewed at the first surveillance audit.

Progress against action plan:

According to farm visit records examined, the Contract Vet (AB) or the SMFH (CH) visited the two leases in the past 2-3 years:
- Gordon 21-23/1/13, 30/1/13, 18/2/14, 15/9/14, 27-28/11/14, 7/1/15, 14-15/1/15, 23-24/2/15
- Middle Harbour 21-23/1/13, 7/10/13, 2/12/13, 19/12/13, 24/6/14, 15/9/14, 27-28/11/14, 8-9/1/15.

Farms have also been visited by Fish Health Officers Daniel Smith and Chantelle Reid every month.
Visits for the next 12 months will be assessed at the next surveillance audit.

Status of NC: Closed

Recommendation: We recommend the consolidation of the list of all veterinary visits in one register, as information now is found in 3 separate spreadsheets.

7.1.1.d and 7.1.3 c	2014	Minor	Currently there is no direct communication with interested communities regarding antibiotics treatments and potential health risks.	Historically, Tassal has reported antibiotic use and supplied relevant information annually in their Sustainability Report. There is also information supplied on their current website (to be updated March 2014). Although Emergency Response Plans are in place, there is currently no communication with specific communities.	A community consultative forum is in the process of being established and it will be through this forum and before the first surveillance audit in 2015, that we will prepare the local community with the context for releasing information regarding potential future antibiotic treatments. We will take care to communicate the health risks associated with consuming fish treated with antibiotics before they have undergone a suitable withdrawal period. Plan for communicating the use of antibiotics for the West Coast is to advertise it on the Tassal website, but also in the "latest news" section of the West Coast Council website. We will also consult the forum as to the most appropriate method of informing the community in the future.	To be reviewed at the first surveillance audit.

Progress against action plan:

The topic of antibiotic treatment is covered in Tassal's 2014 Sustainability Report, which outlines the amounts of antibiotics used and potential risks associated with antibiotic treatments. New information about antibiotic use has also been added to the company's website. These are positive steps towards transparency on this issue.
However, Tassal has not directly informed the local West Coast community forum about antibiotic treatments. Thus, a minor nonconformity was raised in this regard during the last audit.
It was suggested during the last audit, that once it was established, the West Coast Community Advisory Forum would be provided with information on antibiotic use and any potential risks to the community. However, in reviewing the meeting minutes from the forum and discussing with Tassal staff, it became evident that the forum has not yet been provided with information on antibiotic use and potential health risks. As this issue remains incomplete the minor nonconformity from the prior audit will be raised to a major non-conformity.

Status: Minor non-conformity raised to Major non-conformity: Closed on 14 August 2015
Since the last audit there has been no direct communication with interested communities regarding antibiotics treatments and potential health risks. Within 3 month of issuing the draft report and before the final report can be issued indicating compliance with the 'Requirements for Continued Certification' this major NC needed to be closed out.

Evidence to close the major non-conformance was submitted by Tassal on the 13th August 2015. The lead auditor examined the evidence and in discussion with the team members decided to close out the major NC.

7.2.2. a, b	2014	Minor	Currently there are no consultations with aboriginal groups.	While significant engagement is undertaken in the communities in which Tassal operates, no engagement strategies have been implemented to consult, in a focused manner, with aboriginal groups.	Before the first surveillance audit in 2015 Tassal is planning to engage Cradle Coast NRM, who are prepared to assist Tassal in forming a relationship with one of the indigenous organisations (Aboriginal Land Council of Tasmania). An initial framework for the relationship will be the inclusion of sites of aboriginal cultural significance in Tassal's employee induction package.	To be reviewed at the first surveillance audit.

Progress against action plan:

Since the last audit, Tassal has undertaken a number of steps to engage with and consult with aboriginal groups. Confidential information for this compliance criterion is provided in the Confidential Annex of this report.

Status: NC closed

8.33	2014	Minor	DO saturation is not currently measured at Russell Falls, a semi-closed hatchery system that supplied some smolt to the Macquarie Harbour farm sites.	Alternate process currently being followed. Task-specific equipment not yet received.	Before the first annual surveillance audit, the DO saturation will be measured as per ASC requirements.	To be reviewed at the first surveillance audit.
Progress against action plan: Since October 2014 DO saturation is being measured at Russell Falls and SALTAS, a semi-closed hatchery system that supplied some smolt to the Macquarie Harbour farm sites. **Status of NC: Closed**						

6. Evaluation Results for Criteria with new Non Conformities

SUMMARY OF FINDINGS BY CRITERION for new Non-Conformities and Recommendations identified in the annual surveillance assessments		
2.2.1 Weekly average percent saturation of dissolved oxygen (DO) on farm, calculated following methodology in Appendix I-4		
a	Monitor and record on-farm percent saturation of DO at a minimum of twice daily using a calibrated oxygen meter or equivalent method. For first audits, farm records must cover ≥ 6 months.	DO together with salinity and temperature is measured twice daily at approximately 7 am and 3 pm (Daily and Weekly Environmental Parameters tables and figures). DO measurements are taken at 1, 5 and 10 m depth. Tassal reports to ASC on DO measurements taken at 5 m depth following the methodology outlined in Appendix 1 of the ASC salmon standard.
b	Provide a written justification for any missed samples or deviations in sampling time.	N/A
c	Calculate weekly average percent saturation based on data.	Weekly Environmental Parameters tables and figures were not calculated prior to audit.
d	If any weekly average DO values are < 70%, or approaching that level, monitor and record DO at a reference site and compare to on-farm level	During the audit weekly average DO values at 5 m depth (following the methodology outlined in Appendix 1 of the ASC salmon standard) were calculated and were <70% on one occasions DO was not recorded at a reference site during these low DO values. **Minor non-conformity:** The average weekly DO dropped below 70 % once at each lease in the 16 months between the full assessment and the surveillance audit. When this occurred it was not compared to the reference site record
2.4.1 Evidence of an assessment of the farm's potential impacts on biodiversity and nearby ecosystems that contains at a minimum the components outlined in Appendix I-3		
a	Perform (or contract to have performed) a documented assessment of the farm's potential impact on biodiversity and nearby ecosystems. The assessment must address all components outlined in Appendix I-3.	Reviewed Environmental Impact Statement (EIS) and Appendices to accompany the Draft Amendment No. 1 to the "Macquarie Harbour Marine Farming Development Plan, October 2005". All components outlined in Appendix I-3 are addressed.

b	If the assessment (2.4.1a) identifies potential impact(s) of the farm on biodiversity or nearby critical, sensitive or protected habitats or species, prepare plan to address those potential impacts.	The EIS for Macquarie Harbour was submitted as part of the farm extension process. The farm expansion was approved by the Minister for Primary Industry and Water under the conditions to address four areas of concern: Benthic flux; Maugean Skate; Macroalgae; Water quality triggers- Page 462 of the EIS provides a summary of the potential impacts and what plans are in place to minimize impacts. The prior chapter provides detail for some of these. Water quality deterioration was identified as having the potential to cause short term depressions in DO in the TWWHA, as well as potential impacts on native flora and fauna. Annual Compliance Survey Report February 2015 included video surveys which show the presence of numerous opportunistic polychaetes on the sediment surface outside lease areas and extending into the TWWHA. Thus, MF 266 was not compliant with environmental standards for visual impacts as defined in the Licence conditions, Schedule 3. This has triggered a detailed assessment of benthic fauna by IMAS, which is currently in progress to better understand the ecology of these polychaetes.

c	Keep records to show how the farm implements plan(s) from 2.4.1b to minimize potential impacts to critical or sensitive habitats and species.	The tables following Page 462 of the Addendum to the Environmental Impact Statement (EIS) provides a summary of the potential impacts and what plans are in place to minimize these impacts. Lower DO levels were listed as a potential threat but it was predicted that this impact would be predominately confined to the marine farming zone. However, ongoing water quality monitoring as per Schedule 3 BEMP (Broad Scale Environmental Monitoring) Macquarie Harbour) in the Marine Farming Licence conditions has shown a decrease in mid to bottom water dissolved oxygen levels, averaged across compliance monitoring sites from 2011 to 2014, to very low levels in winter 2014, but subsequently increasing to approximately 2011 concentrations. A Macquarie Harbour Dissolved Oxygen Working group was established in 2014 to verify the scope of DO reductions and to determine attribution, and to work cooperatively in the study of DO issues; a detailed assessment has been conducted. As no bottom water DO concentration targets have been set either by ASC or the Tasmanian Government and no clear adverse effects of low DO have been observed, no compliance conditions have been breached. The effects of low DO on benthic ecology of MH, including TWWHA, and the endangered Maugean skate are currently being investigated in IMAS research projects. **Recommendation**: Results of the IMAS studies are to be examined to provide a better understanding of the relationship between marine farming and low DO in Macquarie Harbour and the effects of low DO on benthic ecology, including the Maugean skate.
7.1.2 Presence and evidence of an effective policy and mechanism for the presentation, treatment and resolution of complaints by community stakeholders and organizations		

Farm policy provides a mechanism for presentation, treatment and resolution of complaints lodged by stakeholders, community members, and organizations.		It was found during the audit process that Tassal does not have a formal policy for the presentation, treatment and resolution of the complaints by stakeholders, community members and organizations. While the company does have a mechanism in place (Complaints Process document), an overall written policy is not in place. Tassal's website, Facebook and Twitter pages, and its Customer Feedback Procedure (QA-109 4/4/13 3p) provide various other mechanisms for the presentation of complaints from groups and individuals outside Tassal. Tassal's Community Engagement Officer is also available to receive complaints directly. Records of all complaints are maintained in Tassal's complaints database. **Minor nonconformity:** A formal policy for the presentation, treatment and resolution of complaints by community stakeholders and organizations was found not to be present.
8.4 Monitoring total amount of phosphorus		
a	Obtain records from smolt suppliers showing amount and type of feeds used for smolt production during the past 12 months.	The Skretting ASC Feed phosphorous declaration (DH 31.18.16 v0 1p) states that annually Skretting provide the hatcheries with a feed declaration detailing the total amount of phosphorous in their smolt feeds – for example Russell Falls Phosphorus calculation – Calendar year 2014. This allows the hatchery to calculate the total phosphorous discharged per ton of smolt produced. The third hatchery Rookwood Rd is fully recirculating, with no effluent discharge into the environment other than onto licensed agricultural land.
b	For all feeds used by the smolt suppliers (result from 8.4a), keep records showing phosphorus content as determined by chemical analysis or based on feed supplier declaration (Appendix VIII-1).	Reviewed records of phosphorus content based on feed supplier declaration for Russell Falls - Phosphorus release - RF - Calendar year 2013_2014. No calculations have been provided for SALTAS.
c	Using the equation from Appendix VIII-1 and results from 8.4a and b, calculate the total amount of phosphorus added as feed during the last 12 months of smolt production.	This is calculated by: P released to the water body per unit of smolt produced = (P in – P out)/biomass produced for the above P in calculation, the total phosphorous is derived from the value specified on the product data sheet.
d	Obtain from smolt suppliers records for stocking, harvest and mortality which are sufficient to calculate the amount of biomass produced (formula in Appendix VIII-1) during the past 12 months.	This is documented in the spread sheet Phosphorus release - RF - Calendar year 2013 & 2014 (1/1/14 to 31/12/14). No calculations have been provided for SALTAS.
e	Calculate the amount of phosphorus in fish biomass produced (result from 8.4d) using the formula in Appendix VIII-1.	See above

f	If applicable, obtain records from smolt suppliers showing the total amount of P removed as sludge (formula in Appendix VIII- 1) during the past 12 months.	Calculations provided for Russell Falls. No calculations have been provided for SALTAS.
g	Using the formula in Appendix VIII-1 and results from 8.4a-f (above), calculate total phosphorus released per ton of smolt produced and verify that the smolt supplier is in compliance with requirements.	The spread sheet Phosphorus release - RF - Calendar year 2013 & 2014 records the Total phosphorus discharged per ton of smolt produced for 1/1/14 to 31/12/14 as greater than the ASC Requirement 5kg/mt (until 2015) and 4kg/mt thereafter **Minor non-conformance:** Calculations of total phosphorus released per ton of smolt produced show that for 1/1/14 to 31/12/14 for Russell Falls it was greater than the ASC Requirement 5kg/mt (until 2015) and 4kg/mt thereafter. No calculations have been provided for SALTAS.
8.32 Water quality monitoring matrix completed and submitted to ASC		
a	Obtain records from smolt suppliers showing that water quality monitoring was conducted at least quarterly (i.e. once every 3 months) over the last 12 months.	Reviewed copies of the Rookwood Road and Russell Falls water quality monitoring spreadsheets showing at least quarterly sampling for both hatchery sites and less often for partially owned third hatchery. Files include: - Florentine and Wayatinah Cross Tab 19/3, 11/7 & 9/10/14, the Feb15 sampling was missed, however 2 samples for each River have been submitted to AST Labs on 11/5/15 which will be provided as Report #70755. - HRH_Re-UseWaterQuality_CrossTab – monthly - Russell Falls & KaranjaCrossTab – 19/3/14, 11/7/14 & 9/10/14 & 11/3/15
b	Obtain water quality monitoring matrix from smolt suppliers and review for completeness.	Refer above **Minor Nonconformance:** The Water Quality monitoring spreadsheet for the two rivers outlets for SALTAS (Florentine and Wayatinah) includes data for March, July and October 2014, however the Feb15 quarterly sampling was not undertaken. May15 samples have been submitted for analysis.
8.34 Macro-invertebrate surveys downstream from the farm's effluent discharge		

a	Obtain documentation from smolt supplier(s) showing the results of macro-invertebrate surveys.	This is not relevant for the Rookwood Hatchery as it is a full recirculation system with no discharge. Reports on file for monitoring benthic macroinvertebrates by Freshwater Systems include: - Florentine Biomonitoring report 2014 (SALTAS Hatchery) - Florentine Biomonitoring report Spring 2014 (SALTAS Fall Hatchery) - Tyenna Biomonitoring report 2013 (Russell Falls Hatchery) - Tyenna Biomonitoring report 2014 (Russell Falls Hatchery) - Wayatinah Biomonitoring report 2014 - Notification from Freshwater Systems of 2015 Surveys at SALTAS Wayatinah and Florentine Hatcheries
b	Review supplier documents (8.34a) to confirm that the surveys followed the prescribed methodology (Appendix VIII-3).	Florentine Biomonitoring report 2014 (SALTAS) conclusion: Lack of equivalence in TRCI Aquatic life macroinvertebrate condition status ratings between the upstream and downstream sites in summer 2014 indicates non-compliance with this criterion of the ASC Salmon Standard (2012). Florentine Biomonitoring report Spring 2014 (SALTAS Hatchery) conclusion: Lack of equivalence in TRCI Aquatic life macroinvertebrate condition status ratings between the upstream and downstream sites in spring 2014 again indicated non-compliance. A further follow-up survey in 2015 is to be conducted. Email (17/4/15) from contractor Freshwater Systems scheduling next sampling for 23/4/15 for all three sites. Tyenna Biomonitoring report 2014 (Russell Falls Hatchery) conclusion: Equivalence in TRCI Aquatic life macroinvertebrate condition (MI) scores between the upstream and downstream sites in spring 2014 indicated compliance with the ASC Salmon Standard (2012). Wayatinah Biomonitoring report 2014 (SALTAS) conclusion: Equivalence in TRCI Aquatic life macroinvertebrate condition scores was not achieved between the upstream and downstream sites in summer 2014. However, overall Macroinvertebrate Condition status ratings were equivalent, with both upstream and downstream site condition status rated as Poor. This indicates compliance with the ASC Salmon Standard (2012), though the low condition score for the downstream site detected warrants a follow up at the next surveillance audit.

c	Review supplier documents (8.34a) to confirm the survey results show that benthic health is similar to or better than upstream of the supplier's discharge.	See above for results. New survey results to be provided in June 15. **Minor non-conformance:** Two consecutive Biomonitoring reports for 2014 (initial and follow-up monitoring) at the SALTAS Florentine Hatchery showed that the benthic health at the hatchery sites were not similar or better. A watching brief has been recommended for Florentine Hatchery.

6.1 Non Conformities

The following Table summarizes the areas needing improvement with identified Non-conformities to the ASC Salmon Standard V. 1.0. Items from the requirements are listed in order of Principles and performance indicators and not in order of magnitude or importance.

During the surveillance audit several issues were identified as becoming significant since the full assessment was conducted in 2014, and five have been raised as new minor non-conformities (NCs). One NC from the previous audit was raised to a major. Evidence to close the major non-conformance was submitted by Tassal on the 13th August 2015 and the major NC was closed out on the 14th August 2015 (see below).

Table 3. Non Conformities and client action plans

No. of criteria	Year	Category	Summary of non-conformity	Client Root Cause Analysis	Client Action Plan	Deadline
2.2.1d	2015	Minor	The average weekly DO dropped below 70 % once at each lease in the 16 months between the full assessment and the surveillance audit. When this occurred it was not compared to the reference site record.	Percent saturation of DO is monitored daily, however average was not being calculated weekly and therefor it was unknown that it had dropped below 70%. This occurred on one occasion at MF 214 and one occasion at MF 219 from the time of the full assessment audit to the first surveillance audit	Weekly averages will be extracted from Fishtalk at the end of each week. If percent saturation of DO is < 70%, on farm results will be compared to results from a reference site	To be reviewed at the second surveillance audit
7.1.2a	2015	Minor	A formal policy for the presentation, treatment and resolution of complaints by community stakeholders and organizations was not present.	An informal procedure and mechanism exist, and all records of complaints are maintained in a register, however no formal policy has been implemented	Tassal will document a formal complaints policy and implement through their integrated management system	To be reviewed at the second surveillance audit

7.1.1.d and 7.1.3 c	2015	Major Major closed on 14th Aug. 2015.	Since the last audit there has been no direct communication with interested communities regarding antibiotics treatments and potential health risks.	The West Coast Community Advisory Forum has been operating for 18 months. Tassal and other members of the salmon industry have been working hard to establish community trust and confidence in aquaculture operations in the region. The forum deals with a range of issues that have been identified as a priority for the local community, such as the impact of trucking movements and the impact of the building of the aquaculture hub. Initially the community forum was envisaged to be a perfect vehicle for communicating antibiotic use directly with the community. However, levels of transparency within the industry differ markedly. Politically it was difficult for Tassal to declare individual treatments in the region, without compromising the reputation of other industry members.	Individual treatments are detailed on the ASC dashboard of the Tassal website, which is well known amongst representatives of the Strahan community members within the forum. Tassal will develop an electronic community newsletter and distribute to stakeholder state wide.	Follow –up examination will occur at the second surveillance audit

8.4g	2015	Minor	Calculations of total phosphorus released per ton of smolt produced show that for 1/1/14 to 31/12/14 for Russell Falls it was greater than the ASC Requirement 5kg/mt (until 2015) and 4kg/mt thereafter. No calculations have been provided for Saltas	Total phosphorus release per ton of smolt was higher in calendar year 2014 then the previous calendar year 2013 because no sludge was removed in this time. Tassal experience administrative delays in getting accurate results from lab to calculate total phosphorus release for Saltas as the service provider who removed the sludge was the owner of the lab results	Tassal is currently developing a proposal and have council approval to install a drum screen on the effluent at Russell Falls. Tassal has gained permission from Saltas to have access to lab results from service providers removing sludge at their sites	To be reviewed at the second surveillance audit
8.32b	2015	Minor	The Water Quality monitoring spreadsheet for the two river outlets for Saltas (Florentine and Wayatinah) includes data for March, July and October 2014, however the February 2015 quarterly sample was not taken. May 2015 sampling has been completed and submitted for analysis.	February 2015 sampling was missed due to logistical issues getting samples taken from the Saltas Wayatinah and Florentine hatcheries and returned to the lab in Hobart. Ownership of sampling had not been defined	Tassal will conduct all Saltas water quality sampling going forward and will schedule them in line with the Russell Falls quarterly sampling schedule	To be reviewed at the second surveillance audit

8.34c	2015	Minor	Two consecutive biomonitoring reports in 2014 for the industry owned Saltas Florentine hatchery showed lack of equivalence in TRCI Aquatic life macroinvertebrate condition status ratings between the upstream and downstream sites. While a high score was observed for two aspects at the downstream site, the abundance metric was classified as low, although the report concluded that there was an improved condition rating observed since the initial survey	Existing settlement pond may not be coping adequately with the solids discharged from the hatchery	Tassal will work with Saltas and consultants to determine the scale of works required to improve the abundance aspect of macroinvertebrate conditions downstream of the Saltas Florentine hatchery	To be reviewed at the second surveillance audit

Recommendation 2.4.1

Results of the IMAS studies are to be examined to provide a better understanding of the relationship between marine farming and low DO in Macquarie Harbour and the effects of low DO on benthic ecology, including the Maugean skate.

7. Results and Conclusions

In this audit cycle SCS reviewed Tassal Operations Pty Ltd's (Tassal) salmon culturing sites (MF 214 and 219) in Macquarie Harbour. Seven non-conformities raised during the full assessment audit have been closed. However, one NC was raised to a major non-conformance and was closed out within 3 months of issuing the draft report. Evidence to close the major non-conformance was submitted by Tassal on the 13th August 2015. The lead auditor examined the evidence and in discussion with the team members decided to close out the major NC. In addition, during this audit cycle five new NCs were identified by the assessment team. Progress towards these will be evaluated at the 2016 surveillance audit.

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