

**Ministry of the Environment
and Climate Change**

**Ministère de l'Environnement et
de l'Action en matière de
changement climatique**

Safe Drinking Water
Branch

Direction du contrôle de la qualité de
l'eau potable

Owen Sound District Office
101 17th St. E, 3rd Floor
Owen Sound ON N4K 0A5

Bureau du district de Owen Sound
101, 17^e rue Est, 3^e étage
Owen Sound ON N4K 0A5



February 1, 2016

Sent by Email: billjones.nbp@eastlink.ca

The Municipality of Northern Bruce Peninsula,
56 Lindsay Rd, RR#2,
Lion's Head, Ontario,
N0H 1W0

Attention: Bill Jones, CAO

Re: 2015/2016 Inspection Report 1-BYSD4
Lion's Head WS
Drinking Water Licence 250-101
Drinking Water Works Permit, 250-201, Issue 1

The enclosed report documents findings of the inspection that was performed on December 10, 2015.

Two sections of the report, namely "Actions Required" and "Recommended Actions", specify due dates for the submission of information or plans to my attention.

Please note that "Actions Required" are linked to incidents of non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, orders or instructions; "Recommended Actions" convey information that the owner or operating authority should consider implementing in order to conform with existing and emerging industry standards.

The report includes an Inspection Summary Rating Record as an appendix. This record forms part of the ministry's comprehensive, risk-based inspection process. The rating provides a quantitative measure of the inspection results for this specific drinking water system for the reporting year. An inspection rating that is less than 100 per cent does not mean that the drinking water from the system is unsafe. The primary goals of this assessment are to encourage ongoing improvement of drinking water systems and to measure this progress from year to year.

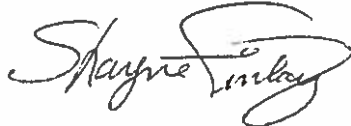
I would like to remind you that Section 19 of the Safe Drinking Water Act, 2002 (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems, including members of municipal councils. "Taking Care

of Your Drinking Water: A guide for members of municipal council”, a publication found on the [Drinking Water Ontario website](http://www.ontario.ca/environment-and-energy/municipal-drinking-water-systems-licencing-registration-and-permits) (<http://www.ontario.ca/environment-and-energy/municipal-drinking-water-systems-licencing-registration-and-permits>), provides further information about these obligations.

Should you have any questions regarding the content of the enclosed report, please do not hesitate to contact me.

Yours truly,

Signature



Shayne Finlay
Water Compliance Inspector
Phone: 519-376-2024
e-mail: shayne.finlay@ontario.ca

Enclosure

- ec: - Dr. Hazel Lynn, Medical Officer of Health, Grey-Bruce Health Unit
- Leo-Paul Frigault, Operations Manager OCWA
- Nancy Guest, Administrative Assistant, Source Water Protection Committee
- c: File SI-BR-NB-LI -540 (2016)



Ministry of the Environment and Climate Change

**LION'S HEAD DRINKING WATER SYSTEM
Inspection Report**

Site Number:	220002672
Inspection Number:	1-BYSD4
Date of Inspection:	Dec 10, 2015
Inspected By:	Shayne Finlay

OWNER INFORMATION:

Company Name: NORTHERN BRUCE PENINSULA, THE CORPORATION OF THE MUNICIPALITY OF
Street Number: 56 **Unit Identifier:**
Street Name: LINDSAY Rd
City: LION'S HEAD
Province: ON **Postal Code:** N0H 1W0

CONTACT INFORMATION

Type: Operating Authority **Name:** Leo-Paul Frigault
Phone: (519) 534-1610 **Fax:** (519) 534-3526
Email: lfrigault@ocwa.com
Title: Operations Manager

Type: Owner **Name:** Bill Jones
Phone: (519) 793-3522 **Fax:** (519) 793-3823
Email: billjones.nbp@eastlink.ca
Title: Chief Administrative Officer

INSPECTION DETAILS:

Site Name: LION'S HEAD DRINKING WATER SYSTEM
Site Address: 56 LINDSAY 5 RD LION'S HEAD ON N0H 1W0
County/District: Northern Bruce Peninsula
MOECC District/Area Office: Owen Sound Area Office
Health Unit: GREY BRUCE HEALTH UNIT
Conservation Authority: N/A
MNR Office: Owen Sound Regional Office
Category: Large Municipal Residential
Site Number: 220002672
Inspection Type: Unannounced
Inspection Number: 1-BYSD4
Date of Inspection: Dec 10, 2015
Date of Previous Inspection: Dec 16, 2014

COMPONENTS DESCRIPTION

Site (Name): MOE DWS Mapping
Type: DWS Mapping Point **Sub Type:**
Comments:
Not Applicable

Site (Name): Raw Water Intake

Type: Source

Sub Type: Surface

Comments:

The raw water intake system includes a 300 mm diameter intake pipe extending approximately 165 metres from the pumping station and is located at a depth of approximately 8.4 metres of water in Isthmus Bay, an inlet of Georgian Bay. The location of the intake is far enough from shore that the potential of frazil ice affecting the intake is minimized.

Pre-chlorination for zebra mussels occurs year-round. Chlorine dosing is increased when water temperatures rise above 11-12 degrees Celsius. A 13 mm chlorine feed line, encased in a 50 mm pipe that extends to the end of the 165 metre intake is used and the chlorine is dispensed through a diffuser ring at the end of the intake. The pre-chlorinated water is gravity-fed into the wet well within the water treatment plant.

Site (Name): Low-Lift Pumping Station

Type: Treated Water POE

Sub Type: Pumphouse

Comments:

The low-lift pumping station has undergone significant modifications. The station, once contained the complete treatment works, but now serves as a low-lift pumping station and a filling station for fire trucks.

Three low-lift variable speed centrifugal pumps (one 3 HP rated to deliver up to 5 L/s and two 5 HP rated to deliver up to 10 L/s) are located in the pumphouse. One of the 5 HP pumps operates continually to satisfy average and minimum demand requirements while the remaining pumps are started sequentially according to demand. A 25 HP pump is used for flushing the raw water line and for filling the fire pumper trucks at the low-lift station.

A float control was installed in the wet well to detect low water levels in the wet well, allowing an alarm to sound and also disable the low-lift pumps.

A standby diesel generator was permanently installed in the event of a power outage.

Site (Name): Membrane Filtration Plant

Type: Treated Water POE

Sub Type: Pumphouse

Comments:

The Lion's Head Water Treatment Plant (WTP) became operational on May 19, 2005. This WTP is categorized as a Class 2 Water Treatment Subsystem.

The plant, with an approximate footprint of 18 x 23 m, is located at the intersection of Ida and Helen Streets in the Village of Lion's Head.

It contains a combined 150 mm diameter raw water header hydraulically connected to two membrane filtration package systems (in parallel), with a total design capacity of 15.63 L/s. Each package system consists of a set of rack-mounted 10 hollow-fibre filter modules (with room for expansion to 12), one filter feed pump, one filter backwash pump with a rated capacity of 14.2 L/s, one turbidity analyzer and one particle counter, located on the effluent side of each system. One common clean-in-place hot water system has the ability for periodic full cleaning of the membrane filters using a chemical wash. A compressed air system is used for air scrubbing of the membrane filters.

There are two concrete chlorine contact tanks (in parallel), located below the filters, each tank is 96 cubic metres in size and with an overflow weir allowing water to flow to baffled reservoir tanks. The concrete reservoir tanks have a storage capacity of 576 cubic metres. Water flows from the water reservoirs to a common high-lift well header container, 384 cubic metres in size. Five variable speed vertical turbine high lift pumps draw water out of the well header, each discharging to a combined 150 mm diameter treated water header connected to the distribution system. Online instrumentation

includes continuous free chlorine residual, turbidity, pH, and flow measurement located on the treated water header.

The treatment process includes a sodium hypochlorite feed system consisting of four chemical feed pumps, each with a rated capacity of at least 680 L/hr, with two pumps (duty, standby) for injection at the backwash supply to each membrane filter and the other two pumps (duty, standby) for injection at the filtered discharge of each filter. Two 200 L day tanks, spill containment, piping, appurtenances, and associated controls. An acid feed system complete with two metering pumps each with a rated capacity of at least 680 L/hr, one 200 L day tank, spill containment, piping, appurtenances, and associated controls. A caustic feed system complete with two metering pumps each with a rated capacity of at least 680 L/hr, one 200 L day tank, spill containment, piping, appurtenances, and associated controls. One 250 kVA standby diesel generator set, complete with fuel containment, and associated controls. Backwash/wastewater handling facilities consisting of a 120 cubic metre backwash settling tank and two supernatant pumps each rated at 2.63 L/s at 6.1 m TDH, transferring supernatant to the storm sewer, all other controls, electrical equipment, instrumentation, piping, and appurtenances essential for the proper operation of the above-noted works.

A dedicated back-up power supply (diesel generator) is used to maintain the necessary electrical supply to operate the filtration plant during power outages. Lions Head CT Calculation / Minimum Free Chlorine residual provided by the OA OCWA.

The System requires 2 log removal of *Cryptosporidium* oocysts, 3 log removal of *Giardia* cysts and 4 log removal of viruses.

According to the Procedure for Disinfection of Drinking Water in Ontario in order to achieve four (4) log removal of viruses with free chlorine of drinking water with a temperature of 0.5 degrees Celsius and a pH between 6 and 9 a CT value of 12 is required. The Procedure for disinfection of Drinking Water in Ontario also requires that a minimum of 0.5 log removal/inactivation of *Giardia* cysts be achieved in the disinfection process, which in a worst case of a water temperature at or below 0.5 degrees Celsius and a pH between 8 and 8.5 a CT of 70 is required with a Free Chlorine residual of 2.0 mg/L.

Lions Head maximum flow = 1351 m³/day = 0.94 m³/min.

Contact chamber and reservoir volume = 1166 m³

Effective volume 1166 x 0.25 (% total volume) = 291.5 m³ x 0.7 (baffle factor) = 204.05 m³

204.05 m³ / 0.94 m³/min = 217 minutes of contact time.

12 (req'd ct value for Viruses) / 217 min = 0.06 mg/L minimum Free Chlorine residual.

70 (req'd ct for *Giardia*)/217 min = 0.32 mg/L minimum Free Chlorine residual.

In conclusion the Free Chlorine residual of drinking water being discharged from the facility while using only 25% of the total volume available for disinfection needs to be above 0.32 mg/L in the clearwell.

Plant discharge free chlorine residuals are to be used for CT calculation purposes while the Chlorine Contact Tank Free Chlorine residuals are to be used for alarming purposes in order to be able to maintain the required residuals at the end of the disinfection process due to the long retention time.

Site (Name): Wet Well (in Pumphouse)

Type: Treated Water POE

Sub Type: Pumphouse

Comments:

The wet well is 3.6 m in diameter, 6.1 m deep and has a water level around 2.75 m from the bottom. Raw water flows by gravity into the wet well which serves as the suction for the system pumps. An isolating valve is provided on the 300 mm diameter intake in the wet well to permit maintenance of the pump intake screens. Water flows through the intake and is discharged into the wet well through a 450 mm diameter perforated diffuser.

Site (Name): Distribution System

Type: Other

Sub Type: Other

Comments:

The Lion's Head distribution system is reported to be approximately twelve (12) km in length. It is comprised of approximately 95% poly vinyl chloride piping, mainly six-inch diameter with some two and three inch diameter piping, as well. There is approximately 300 metres of two-inch diameter polyethylene.

A target distribution pressure of around 65 -80 psi is maintained by the continuous monitoring and operation of the variable speed pumps. There are no storage reservoirs in the distribution system.

The distribution system has approximately 319 service connections, 307 of them being for residential and seasonal users, and the remaining 12 are non-domestic commercial and institutional users. The distribution system includes thirty five (35) fire hydrants. The Lion's Head drinking water distribution system is categorized as a Class 1 Water Distribution Subsystem.

INSPECTION SUMMARY

INTRODUCTION

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment and Climate Change (MOECC) legislation as well as evaluating conformance with ministry drinking water related policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment and distribution components as well as management practices.

This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O.Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.

This report is based on a "focused" inspection of the system. Although the inspection involved fewer activities than those normally undertaken in a detailed inspection, it contained critical elements required to assess key compliance issues. This system was chosen for a focused inspection because the system's performance met the ministry's criteria, most importantly that there were no deficiencies as identified in O.Reg. 172/03 over the past 3 years. The undertaking of a focused inspection at this drinking water system does not ensure that a similar type of inspection will be conducted at any point in the future.

This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

On December 10, 2015 Provincial Officer Shayne Finlay began conducting the inspection of the Lion's Head Water Treatment System located in the municipality of Northern Bruce Peninsula. The system is operated by OCWA. There were no AWQI'S during this year's inspection cycle which is from December 16, 2014 - December 10, 2015.

CAPACITY ASSESSMENT

- There was sufficient monitoring of flow as required by the Permit and Licence or Approval issued under Part V of the SDWA
- The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Permit and Licence or Approval issued under Part V of the SDWA.

Lion's Head Drinking Water System has the following control documents in place:

Municipal Drinking Water Licence Number: 250-101 Issue Number: 2 issued May 18th, 2012 with a rated capacity of 1351 m3/d.

Drinking Water Works Permit 250-201 Issue Number: 1 issued January 19, 2011.

PTTW 0748-7RMRYK Isthmus Bay issued May 6, 2009.

TREATMENT PROCESSES

- The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.

TREATMENT PROCESSES

- **Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a Permit, Licence or Approval issued under Part V of the SDWA at all times that water was being supplied to consumers.**

The Inactivation of Viruses and Giardia by Free Chlorine the OA chlorine credit is achieved when the OA maintains minimum Free Chlorine Concentration of 0.32 mg/L which is required to meet primary disinfection with a minimum clear well volume of 291.5 m³ (25%) as per the system's CT document dated May 1, 2012 provided by the OA.

Records reviewed indicate that the Lion's Head Water Treatment Plant was operated to achieve the necessary CT requirements and filter performance criteria for primary disinfection purposes during the inspection cycle.

- **Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/l free or 0.25 mg/l combined.**
- Free available chlorine residual is maintained out and into the distribution system for secondary disinfection purposes to reduce the potential for microbial re-growth within the distribution system, and in accordance with section 1-5 of Schedule 1, O.Reg.170/03.
- **The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03.**
- **The Operator-in-Charge had ensured that all equipment used in the processes was monitored, inspected, and evaluated.**

The operating authority (OA) performs physical checks daily verifying that treatment and monitoring equipment are operating properly during the day to day operations. Records are kept of these activities in various log sheet, logbooks and daily SCADA reports.

TREATMENT PROCESS MONITORING

- **Primary disinfection chlorine monitoring was being conducted at a location approved by Permit, Licence or Approval issued under Part V of the SDWA, or at/near a location where the intended CT had just been achieved.**

The plant discharge free chlorine analyzer is used for monitoring CT. The Chlorine Contact Tank Free Chlorine analyzer is used for alarming purposes in order to be able to maintain the required residuals at the end of the disinfection process due to the long retention time.

- **Continuous monitoring of each filter effluent line was being performed for turbidity.**

For large municipal residential systems that use surface water or GUDI as the source and are required to provide filtration, Reg. 170/03, Schedule 7 section 7(3)(2) requires continuous monitoring equipment of each filter effluent line. Lion's Head WTP has 2 Pall Membrane Filtration Skids each with a filtered effluent turbidity analyzer. Continuous monitoring for turbidity is required only of the filter effluent that is directed to the next treatment process/stage (and eventually to the distribution system). Gaps in data should correlate to times when the plant was not treating water, or for maintenance of the analyzer; this is being met.

TREATMENT PROCESS MONITORING

- **The secondary disinfectant residual was measured as required for the distribution system.**

Subsections 7-2 (3) of Schedule 7, O.Reg.170/03 requires the Owner and Operating Authority (OA) of a large municipal residential system that provides secondary disinfection to ensure that at least seven distribution system samples are taken each week and tested immediately for free chlorine residual. Where secondary disinfection monitoring is not being done on a daily basis, Subsection 7-2(4) of Schedule 7, O.Reg.170/03 requires that at least four of the seven required tests be taken on one day of the week at least 48 hours after the last samples were taken the week previous, while the remaining three tests are required to be collected within the same week and at least 48 hours after the initial four. Records provided by the OA and reviewed during the inspection indicate that the OA complied with these requirements, typically testing free chlorine residual for secondary disinfection monitoring purposes from four locations on Mondays and from three locations on Thursday of each week.

- **Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.**

A certified operator must examine all test results generated by continuous monitoring equipment within 72 hours of their generation; this requirement is being met. The OA reviews the SCADA reports daily. They also sign, date, document any findings. When the system has abnormal operating conditions the OA reviews, documents their finding on the printed trends which are attached to the daily SCADA report in order to satisfy Schedule 6, O.Reg.170/03 requirements for examination of continuous monitoring data.

- **All continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or approval or order, were equipped with alarms or shut-off mechanisms that satisfied the standards described in Schedule 6.**

The Lion's Head water treatment plant is equipped with continuous analyzers and alarms for free chlorine and turbidity. The alarm set points for Treated Water chlorine analyzer is Low 0.80 mg/L and Low, Low 0.75 mg/L. When reached the system locks out ensuring the system meets their CT requirements. The distribution water analyzer has two set points which it alarms out at low 0.60 mg/L and Low, Low 0.50 mg/L. The turbidity set points on the two Pall filter trains is High 0.10 NTU and High, High 0.2 NTU. Should the system be in alarm for more than 5 minutes an alarm sequence is triggered and the Pall skids are locked out, ceasing water production and preventing any adverse conditions.

- **Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.**
- **All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.**

Routine analyzer maintenance, accuracy verification checks and calibrations are conducted by the operator which are recorded in plant logs and daily SCADA reports. The OA has yearly calibrations conducted by an outside source company and they also calibrate their analyzers on a monthly basis.

OPERATIONS MANUALS

- **The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**

An operations and maintenance manual has been created for the operator's use for the Lion's Head drinking water system. The manual appears to be sufficient, enabling staff to safely operate the drinking water system.

OPERATIONS MANUALS

- **The operations and maintenance manuals did meet the requirements of the Permit and Licence or Approval issued under Part V of the SDWA.**

As per Condition 16, Schedule B of the Licence # 250-101 prescribes that an up-to-date operations and maintenance manual or manuals is maintained and applicable parts of the manual or manuals are made available for reference by all persons responsible for all or part of the operation or maintenance of the drinking water system; this requirement has been met.

LOGBOOKS

- **Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.**

For LMR systems only a certified operator or water quality analyst can conduct tests required by O.Reg. 170/03 Sch. 7; this requirement has been met.

SECURITY

- **The owner had provided security measures to protect components of the drinking-water system.**

CERTIFICATION AND TRAINING

- **The overall responsible operator had been designated for each subsystem.**

James Learn is the designated overall responsible operator for the Lion's Head drinking water system.

- **Operators in charge had been designated for all subsystems which comprised the drinking-water system.**
- **Only certified operators made adjustments to the treatment equipment.**

Records provided for review indicate that the OA operators appear to be the only persons who are adjusting water treatment equipment and processes at the water treatment plant.

WATER QUALITY MONITORING

- **All microbiological water quality monitoring requirements for distribution samples were being met.**

The owner of a large municipal residential drinking water system shall ensure that if the system serves a population of 100,000 or less, at least 8 distribution samples plus one for every thousand people served by the system are taken every month. At least one of the samples must be taken each week. As Lion's Head population is under 1000 residents, eight samples must be collected monthly as a minimum requirement from the distribution system. These samples are required to be tested for E.Coli. and total coliform; and at least 25 percent of the samples are required to be tested for general bacteria populations expressed as colony counts on a heterotrophic plate count.

A review of the data provided by the OA indicates that the OA is routinely collecting two distribution samples each week in order to comply with the regulatory requirement. Each of those samples were tested for E.Coli., total coliform, and approximately half of the samples were tested for general bacteria populations expressed as colony counts on a heterotrophic plate count.

WATER QUALITY MONITORING

- * **All microbiological water quality monitoring requirements for treated samples were being met.**

Section 10-3 of Schedule 10, O.Reg.170/03 requires the Owner and the OA to ensure samples are collected at least once every week from the system's treated water at the point of entry into the distribution system. The samples collected are required to be tested for E.Coli and total coliform, and general bacteria populations expressed as colony counts on a heterotrophic plate count.

Records reviewed in the course of this inspection indicate that the OA complied with these requirements.

- * **All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Sampling and testing for inorganic parameters has been conducted for the Lion's Head drinking water system in accordance with Schedule 13-2 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months and tested for each parameter listed in Schedule 23; this requirement has been met. The most recent samples were collected on January 6, 2015 and there were no concerns identified from the results.

- * **All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Sampling and testing for organic parameters has been conducted for the Lion's Head drinking water system in accordance with Schedule 13-4 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months and tested for each parameter listed in Schedule 24; this requirement has been met. The most recent samples were collected on January 6, 2015 and there were no concerns identified from the results.

- * **All trihalomethanes water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-6 of Schedule 13, O.Reg.170/03 requires the Owner and the Operating Authority to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system, or in plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of Trihalomethanes (THMs), and tested for THMs. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period.

Sampling occurred January 6, 2015, April 7, 2015; July 13, 2014, and October 7, 2015 The running annual average of samples collected in 2015 is 26 ug/L.

- * **All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.**

Section 13-7 of Schedule 13, O.Reg.170/03 requires the Owner and Operating authority to ensure that at least one water sample is taken every three months and tested for nitrates and nitrites. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. Complying with these requirements, the operating authority conducted the required monitoring on January 6, 2015, April 7, 2015; July 13, 2015, and October 7, 2015. There were no concerns identified with the sample results.

- * **All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-8 of Schedule 13, O.Reg.170/03 requires that the Owner and the Operating Authority ensure that a treated water sample is taken every 60 months and is tested for sodium. Records provided by the OA and reviewed during the inspection, indicate that the OA conducted sampling for sodium on January 7, 2013 and achieved a result of 6.21 mg/L.

WATER QUALITY MONITORING

- **All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-9 of Schedule 13, O.Reg. 170/03 requires the Owner and the Operating Authority to ensure that at least one water sample is taken every 60 months and tested for Fluoride. The OA last conducted Fluoride sampling on January 7, 2013, and achieved a result of 0.10 mg/L.

- **All water quality monitoring requirements imposed by the Permit and Licence or Approval issued under Part V of the SDWA were being met.**

- **All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.**

The owner of the drinking water system and the operating authority ensured that they have met their conditions of Schedule D 1.5 of their Municipal Licence to test at 2 locations in the distribution system when they sampled on March 23, 2015, and on August 10, 2015 for lead, total alkalinity and pH.

- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**

WATER QUALITY ASSESSMENT

- **Records show that water sample results taken during the review period met the Ontario Drinking Water Quality Standards (O. Reg. 169/03), with the following exceptions:**

On November 2, 2015 the OA collected a distribution water sample with a total coliform count of 107. The OA collected a set of re-samples which showed no sign of contamination.

REPORTING & CORRECTIVE ACTIONS

- **Corrective actions (as per Schedule 17) had been taken to address adverse conditions, including any other steps that were directed by the Medical Officer of Health.**

On November 2, 2015 the OA collected a distribution water sample with a total coliform count of 107. Corrective actions were met when the OA collected a set of re-samples which showed no sign of contamination.

- **All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.**

Verbal notification for AWQI # 127237 was provided by the OA on November 4, 2015.

- **Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions.**
- **When the primary disinfection equipment, other than that used for chlorination or chloramination, has failed causing an alarm to sound or an automatic shut-off to occur, a certified operator responded in a timely manner and took appropriate actions.**

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

Not Applicable

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

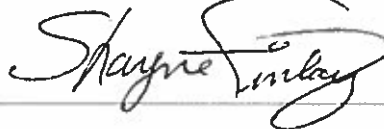
Not Applicable

SIGNATURES

Inspected By:

Shayne Finlay

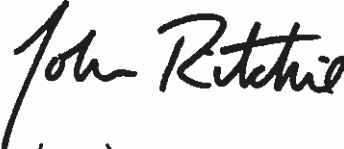
Signature: (Provincial Officer):



Reviewed & Approved By:

John Ritchie

Signature: (Supervisor):



Review & Approval Date: 28/01/2016 (dd/mm/yyyy)

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.



Ontario

**Ministry of the Environment and Climate Change
Drinking Water Inspection Report**

APPENDIX A

INSPECTION SUMMARY RATING RECORD

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2015-2016)

DWS Name: LION'S HEAD DRINKING WATER SYSTEM
DWS Number: 220002672
DWS Owner: Northern Bruce Peninsula, The Corporation Of The Municipality Of
Municipal Location: Northern Bruce Peninsula

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Focused
Inspection Date: December 10, 2015
Ministry Office: Owen Sound District Office

Maximum Question Rating: 542

Inspection Module	Non-Compliance Rating
Capacity Assessment	0 / 30
Treatment Processes	0 / 98
Operations Manuals	0 / 28
Logbooks	0 / 14
Certification and Training	0 / 28
Water Quality Monitoring	0 / 124
Reporting & Corrective Actions	0 / 87
Treatment Process Monitoring	0 / 133
TOTAL	0 / 542

Inspection Risk Rating 0.00%

FINAL INSPECTION RATING: 100.00%

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2015-2016)

DWS Name: LION'S HEAD DRINKING WATER SYSTEM
DWS Number: 220002672
DWS Owner: Northern Bruce Peninsula, The Corporation Of The Municipality Of
Municipal Location: Northern Bruce Peninsula

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Focused
Inspection Date: December 10, 2015
Ministry Office: Owen Sound District Office

Maximum Question Rating: 542

Inspection Risk Rating 0.00%

FINAL INSPECTION RATING: 100.00%