## Appendix A

**Monitoring Program Station No. ALT-1**
**Year:** 2010 (As of issuance of licence: Aug. 4, 2010.)
**Name:** Water Supply at Raw Water Intake
**Licence Daily Water Use (to not exceed) Limit: 185 cubic metres [m3].**

**Results:**

All Purpose Water Monitoring

| | | |
|---|---|---|
| Daily Water Intake from Source: | 278 | cubic metres [m3]. |
| Daily Water Return to Source: | 98 | cubic metres [m3]. |
| **Daily Water Usage Quantity:** | **180** | **cubic metres [m3].** |
| **Annual Water Usage Quantity:** | **65,658** | **cubic metres [m3].** |

Please note: Water Usage Data is monitored and collected daily.
Water Licence effective August 2010.

**Average Daily Water Usage at CFS Alert - 3BC-ALT1015**

| **Year** *[yr]* | **Month** *[mo]* | **Days** *[dd]* | **Average Daily Intake** *[m3/day]* | **Average Daily Return** *[m3/day]* | **Average Daily Utilized** *[m3/day]* | | **Quantity Utilized [m3]** |
|---|---|---|---|---|---|---|---|
| 2010 | JAN | 31 | 278 | 99 | **179** | | 5,559 |
| 2010 | FEB | 28 | 278 | 98 | **180** | | 5,036 |
| 2010 | MAR | 31 | 278 | 98 | **180** | | 5,576 |
| 2010 | APR | 30 | 278 | 98 | **180** | | 5,396 |
| 2010 | MAY | 31 | 278 | 98 | **180** | | 5,576 |
| 2010 | JUN | 30 | 278 | 98 | **180** | | 5,396 |
| 2010 | JUL | 31 | 278 | 98 | **180** | | 5,576 |
| 2010 | AUG | 31 | 278 | 98 | **180** | | 5,576 |
| 2010 | SEP | 30 | 278 | 98 | **180** | | 5,396 |
| 2010 | OCT | 31 | 278 | 98 | **180** | | 5,576 |
| 2010 | NOV | 30 | 279 | 98 | **181** | | 5,418 |
| 2010 | DEC | 31 | 278 | 98 | **180** | | 5,576 |
| | | **Annual Average [m3/day]:** | **278** | **98** | **180** | **Total Annual [m3]:** | **65,658** |

Description of Water Pumps

Make: Red Jacket BIG-FLO submersible pump, 10LB6, 55 GPM (maximum).
Make: Franklin Electric submersible motor, 10HP, Model 2345983403.

**Notes:**

On February 9th, 2011, the Nunavut Water Board was notified that Alert has temporarily lost freshwater flow monitoring capability since the summer of 2010 affecting Alert's water usage monitoring capabilities. However, as there has not been any change to pumps or valve settings, the Department of National Defence (DND) has no reason to believe that the Alert's water usage is any different than in the preceding months. The freshwater intake is on average of 278 m3/day with the fresh water return averages 98 m3/day (prior to faulty flow metering), and the resulting Alert water usage is 180 m3/day. New magnetic flow meters are scheduled to replace the faulty meters, and an intake pump flow regulation system is to be installed, during the construction season of summer 2011.

-----Original Message-----
From: Karen Kharatyan [mailto:k.kharatyan@nunavutwaterboard.org]
Sent: Tuesday, 15, February, 2011 18:37 PM
To: Craig D@CAS D Air Prog@Ottawa-Hull
Cc: Phyllis Beaulieu
Subject: FW: 3BC-ALT1015

Hi Douglas,

If there has not been any changes to pump/valve settings, I believe that the water usage should remain the previous average.
However, you are advised to provide this information with the monitoring results as well.

Regards,

Karén Kharatyan, Ph.D
Technical Advisor
Nunavut Water Board

(Ph.) 867-360-6338 ext. 30
(Fx.) 867-360-6369
k.kharatyan@nunavutwaterboard.org

-----Original Message-----
From: Phyllis Beaulieu
Sent: Tuesday, February 15, 2011 4:16 PM
To: Karen Kharatyan
Subject: FW: 3BC-ALT1015

Please advise if this should just be filed to monitoring.

-----Original Message-----
From: DOUGLAS.CRAIG@forces.gc.ca [mailto:DOUGLAS.CRAIG@forces.gc.ca]
Sent: Wednesday, February 09, 2011 8:16 AM
To: licensing@nunavutwaterboard.org
Cc: Andrew.Tam@forces.gc.ca
Subject: FW: 3BC-ALT1015

> Good morning Phyllis,
>

> The purpose of this communication to to notify the Board that CFS Alert has temporarily lost freshwater flow monitoring capability. During the summer of 2010, work was undertaken on the heat tracing on the freshwater return line (to Upper Dumbell lake). This work will have the effect of requiring less water to be in continuous flow (to prevent freeze-up) once the intake pumps are improved to allow flow regulation this summer. It was just recently noted that the return flow rate reading has changed, even though the settings have not yet been adjusted. Investigation has determined that the flowmeter on the fresh water return is faulty, and has potentially been providing a false reading since the work on the return line was completed this past summer. Since the Station water usage is the difference between the intake pumps (at Upper Dumbell Lake) and the freshwater return, the loss of either flowmeter prevents estimation of water usage.
>
> Since there has not been any change to pump or valve settings, we have no reason to believe that the Station water usage is any different than in the months preceeding the work on the freshwater return line and subsequent flowmeter malfunction. The intake flowrate is constant as there is currently no regulation capability on the intake pumps. The freshwater intake has continued to average 278 m3/day, and the fresh water return averaged 98 m3/day (prior to faulty flowmeter issue), resulting in an estimated Station water usage of 180 m3/day.
>
> The fresh water return line flowmeter is scheduled to be replaced, and intake pump flow regulation system installed, during the construction season of summer 2011.
>
> Douglas Craig, M.Sc.
> D Air Prog 3-5 Environment| D Prog Air 3-5 Environnement Directorate
> of Air Programmes | Directorat des programmes de la Force aérienne
> Chief of the Air Staff | Chef d'état-major de la Force aérienne
> National Defence | Défense nationale Ottawa, Canada K1A 0K2
> Douglas.Craig@forces.gc.ca Telephone | Téléphone 613-995-4937
>