

**From:** [David Hohnstein](#)  
**To:** ["Phyllis Beaulieu"](#)  
**Cc:** [Stephen Lines](#)  
**Subject:** FW: NWB File no. 3BC-FOH0919  
**Date:** Thursday, September 17, 2009 12:15:27 PM  
**Importance:** High

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Hi Phyllis,

For the files. From the information provided below it appears as though the FOX-M site is using a reservoir which is operated, refilled and used by the Hamlet. However the Hamlet of Hall Beach water licence indicates that the water is drawn from "Water Supply Lake", no storage reservoir is mentioned? This has apparently been in place since 1999 and was included in the 2003 renewal application for FOX-M. I will send a quick email back to Mr. Kalen, requesting the site plan drawing he indicated was attached, and see if he can tell me who "owns" the reservoir facility.

dh

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**From:** KIM.KALEN@forces.gc.ca [mailto:[KIM.KALEN@forces.gc.ca](mailto:KIM.KALEN@forces.gc.ca)]  
**Sent:** Thursday, September 17, 2009 11:23 AM  
**To:** [dts@nunavutwaterboard.org](#)  
**Subject:** RE: NWB File no. 3BC-FOH0919  
**Importance:** High

Hi, David,

Here is the information you seek, regarding the Water Reservoir at Hall Beach/FOX-M.

The water reservoir covers an area approximately 228 meters by 193 meters and is located 540 meters west of the NWS facility and south of the road from the NWS facility to the decommissioned water lake. I've attached a site plan drawing for your reference. It should be noted that this water reservoir is not only used by the NWS site FOX-M but also by Hamlet of Hall Beach. FOX-M draws its water from a 2" diameter, heat-traced, water line while Hall Beach has a truck filling station.

The water reservoir is designed for year round water including 270 days of winter water storage. The total capacity of the reservoir is 107,100 cubic meters.

- Design water usages for 270 days of winter - 32,700 cubic meters for Hamlet of Hall Beach
- Design water usages for 270 days of winter - 5,400 cubic meters for NWS site FOX-M
- Total capable 270 days of winter water storage - 41,000 cubic meters of water
- Ice thickness - 56,100 cubic meters
- Unusable water at the bottom - 10,000 cubic meters.
- Depth of water reservoir - 6.2 - 6.5 meters
- 2.2 meters of potable water
- 2.5 meters of maximum ice thickness
- 1.0 meters of freeboard (height from water level to top of reservoir wall)

The water reservoir is replenished seasonally by the Hamlet of Hall Beach during the spring and late autumn. The water reservoir is replenished by some natural snow melt though it's primarily filled using a portable pump drawing from the near by fresh water lake. As this operation is conducted by the Hamlet of Hall Beach I do not know the quantities that are transferred. If necessary, these numbers could be estimated by breaking down the estimated yearly water usage into months ( $32,700 + 5,400 = 38,100$  cu. meters per year / 12 = 3,175 cu. meters per month). If the water is not able to be filled for

9 months a year (270 days) due to winter I assume the spring water reservoir top up to be roughly 28,575 cubic meters of water ( $9 \times 3,175 = 28,575$ ) and the late autumn fill to be 9,525 cubic meters of water ( $3 \times 3,175 = 9,525$ ).

As mentioned above, the NWS site FOX-M draws their water directly from the lake on an as-needed basis. Inside the building train at FOX-M there is a water flow totalizer located between two water storage tanks. A new flow meter is currently being installed on an inlet water line prior to the first storage tank. However, all the water pumped into the building train to be consumed must pass through this water totalizer. In summer of 2008 I was able to document the flow totalizer values. Based on these values the site consumed roughly 1000 - 2000 gallons (3.79 - 7.58 cubic meters) of water per day. These numbers vary due to site loading and time of the year though I would assume these numbers are fairly consistent throughout the year as it is a fully manned site.

Best regards,

K.E. (Kim) Kalen  
Environmental Officer - North Warning System  
R&CS 3-4-3  
(613) 998-8482  
FAX: (613) 998-9261

-----Original Message-----

**From:** David Hohnstein [mailto:[dts@nunavutwaterboard.org](mailto:dts@nunavutwaterboard.org)]  
**Sent:** Tuesday, 15 September, 2009 17:33  
**To:** Kalen KE@ADM(Mat) DAEPM(R&CS)@Ottawa-Hull  
**Subject:** NWB File no. 3BC-FOH0919  
**Importance:** High

Good afternoon Kim,

A couple quick questions as I'm reviewing the information on the FOX-M application and draft licence. The 2003 licence application indicated in the questionnaire that the water source was "Water Lake", and that the water was pumped from the "water reservoir". The new application (2008-9) indicates the water source as the "water reservoir". The previous licence simply indicated that the water was obtained from "Water Supply Lake", which I'm thinking was an error on our part. The drawing from the 2003 app. showed the reservoir and water lake, but had also (decommissioned) written on the drawing for the water lake?

Question is? If the water supply for the facilities is coming directly from the water reservoir, how and when is the reservoir replenished? Naturally, Seasonally, pumped (volumes), volume of the storage reservoir, year-round use? Etc.

Second question is in relation to fuel storage on site, several storage vessels are listed in the Questionnaire, for fuel types it shows "PGS" and "Aviation Fuel". I'm unfamiliar with the term "PGS" and cannot find anywhere, another reference to this, even in the spill plan as to what it is? References to MSDS only name Aviation? Also, with respect to fuels on site, is there no diesel, gasoline or other fuels stored/used on site. This is true I believe for CAM-M as well as the other 4

unmanned sites where Aviation fuel is the only fuel listed (are there not generators/boilers/etc that run on diesel? Or other vehicles that require gasoline, snowmachines, atv's, portable generators, small engine tools, etc.).

Your help on this will be useful in finalizing some of the details of these licences prior to issuing. If I have any other questions, I'll be sure to get an email off to you asap.

Regards,

Dave

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David Hohnstein, C.E.T.,  
A/Director Technical Services

Nunavut Water Board | ᐃᓇᐃᑲ ሀᓪᓗᓂᐊᕐ᷄ ንᓇᓂ᷄ ᓂᓇ᷄ ᓂᓇ᷄ ᓂᓇ᷄ NUNAVUT IMALIRIYIN KATIMAYINGI Office Des Eaux Du  
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