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**Re: March 2015 – Monthly Monitoring Report for Water Licence 2BE-HOP1222**

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This report is comprised of monitoring requirements as set out in Part J, Items 2 through 8, and 10 of water licence 2BE-HOP1222. Some monitoring requirements stipulated in this Part refer to facilities that have not been constructed, facilities that no longer exist, or facilities where activity is seasonal. Water levels in Windy Lake will be monitored in accordance with Part J, Item 9 during open water season. Sampling locations monitored under this licence (seasonally or when facilities are operational) are provided in Figure 1.

During the period of this report the project was operating in care and maintenance status with water management, drill exploration, and environmental compliance being the focus of current activities.

**Part I Conditions Applying to Abandonment and Restoration**

No abandonment or restoration work was conducted during the month.

**Part J Items 2, 3, 4, 5, 6, 10: Sewage Treatment Effluent, Bulk Fuel Containments, and Quarries**

Windy Camp has been closed for operations since October 23, 2008; therefore the licence requirements relating to the WWTF (HOP-2 and HOP-3) are not applicable. HOP-5 (Bulk Fuel Storage – Windy Camp) and HOP-6 (Bulk Fuel Storage Facility – Patch Lake) were dismantled in 2012. HOP-8 (Bulk Fuel Storage Facility at New Windy Camp) has not been constructed. Water quality sampling and management was not required at HOP-7A, B or D (quarries A, B and D) as these facilities are frozen.

**Part J Item 7: Under-Ice Drilling Samples**

Pre-drilling water quality samples were collected from Patch Lake on March 13 prior to the commencement of the 2015 winter ice drilling program. Water quality results are presented in Table 1 below.

Table 1. Pre-Drilling Under-Ice Water Quality Results (Patch Lake)

Sample ID			PL-13MAR15A	PL-13MAR15B	PL-13MAR15C	PL-13MAR15D	PL-13MAR15E
ALS ID			L1589853-1	L1589853-2	L1589853-3	L1589853-4	L1589853-5
Date Sampled			3/13/2015 1:40:00 PM	3/13/2015 2:05:00 PM	3/13/2015 2:17:00 PM	3/13/2015 2:28:00 PM	3/13/2015 2:39:00 PM
Parameter	Units	Detection Limit	Water	Water	Water	Water	Water
Conductivity	uS/cm	2	518	522	520	530	513
Hardness (as CaCO <sub>3</sub> )	mg/L	0.5	94.8	96.3	98	99.2	98.2
pH	pH	0.1	7.87	7.88	7.92	7.9	7.92
Total Suspended Solids	mg/L	3	<3.0	<3.0	<3.0	<3.0	<3.0
Aluminum (Al)-Total	mg/L	0.005	0.0296	0.0262	0.0253	0.0311	0.029
Antimony (Sb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Arsenic (As)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Barium (Ba)-Total	mg/L	0.02	<0.020	<0.020	<0.020	<0.020	<0.020
Beryllium (Be)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron (B)-Total	mg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium (Cd)-Total	mg/L	0.00001	0.000019	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	0.1	17.1	17.3	17.7	17.9	17.8
Chromium (Cr)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	0.0003	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Copper (Cu)-Total	mg/L	0.001	0.0016	0.0015	0.0015	0.0015	0.0015
Iron (Fe)-Total	mg/L	0.03	0.051	0.045	0.044	0.048	0.053
Lead (Pb)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Lithium (Li)-Total	mg/L	0.005	0.0068	0.0072	0.0072	0.0075	0.0076
Magnesium (Mg)-Total	mg/L	0.1	12.7	12.9	13.1	13.3	13.1
Manganese (Mn)-Total	mg/L	0.0003	0.00463	0.00448	0.00455	0.0047	0.00586
Mercury (Hg)-Total	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel (Ni)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Potassium (K)-Total	mg/L	2	4.6	4.6	4.7	4.8	4.7
Selenium (Se)-Total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Silver (Ag)-Total	mg/L	0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium (Na)-Total	mg/L	2	59.4	60.1	60.7	61.9	60.7
Thallium (Tl)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Tin (Sn)-Total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Titanium (Ti)-Total	mg/L	0.01	<0.010	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Total	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vanadium (V)-Total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

**Part J Item 8: Water Use Volumes**

This month, water was extracted from Windy Lake for domestic use at Doris Camp. Water was also extracted from Patch Lake to support the winter ice drilling program. No water was used for dust suppression purposes this month. Geographical locations for all water sources and usage is maintained on file. All usage from water sources during the month were metered at the source or measured by truck haul load. Daily water usage for the month is presented in Table 2.

Table 2: Daily water usage in cubic meters, March 2015.

Date	Regional Drill Water Usage Metered (m <sup>3</sup> )	Domestic Water Consumption at Doris (m <sup>3</sup> )	Total Daily Usage (m <sup>3</sup> )
Mar-01	0	0	0
Mar-02	0	14	14
Mar-03	0	0	0
Mar-04	0	0	0
Mar-05	0	0	0
Mar-06	0	14	14
Mar-07	0	0	0
Mar-08	0	0	0
Mar-09	0	0	0
Mar-10	0	14	14
Mar-11	0	0	0
Mar-12	0	0	0
Mar-13	0	0	0
Mar-14	0	28	28
Mar-15	0	0	0
Mar-16	0	0	0
Mar-17	0	0	0
Mar-18	0	0	0
Mar-19	5.1	0	5.1
Mar-20	7.6	30	37.6
Mar-21	16.7	0	16.7
Mar-22	15.5	0	15.5
Mar-23	20	0	20
Mar-24	12.1	28	40.1
Mar-25	12.1	0	12.1
Mar-26	14.1	21.5	35.6
Mar-27	6.3	0	6.3
Mar-28	1.9	0	1.9
Mar-29	9.6	14	23.6
Mar-30	3.3	0	3.3
Mar-31	7.1	14	21.1

A total of 48.5 m<sup>3</sup> of water was applied this month for ice road construction. An audit was conducted of 2015 water tracking records to date resulting in corrected values of water applied for ice road development under 2BE-HOP1222 in January 2015 to 1350 m<sup>3</sup> and in February 2015 to 632 m<sup>3</sup>.

Water quality monitoring results from licence 2AM-DOH1323, Schedule J for Station ST-7A, freshwater pumped from the Windy Lake freshwater intake, are presented in the monthly monitoring report for 2AM-DOH1323.

**Incident Reporting**

No incidents pertaining to this licence occurred this month.

Should there be any questions regarding this monthly report, please contact John Roberts at [John.Roberts@tmacresources.com](mailto:John.Roberts@tmacresources.com).

Yours sincerely,



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Figure 1. 2BE-HOP1222 SNP Monitoring Locations

