

## **Bijaya Adhikari**

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**From:** Joshua Clark <jclark@ntpc.com>  
**Sent:** July 3, 2018 3:02 PM  
**To:** Bijaya Adhikari  
**Cc:** Lloyd\_Gruben@gov.nt.ca; smcintyre@matrix-solutions.com; Margaret Allan  
**Subject:** 2018 Aklavik Water Results  
**Attachments:** 21784-546 tab18.pdf

Hi Bijaya,

Please see the attached water analysis results for the Aklavik remediation project. All parameters are below the release criteria.

Thanks,

**Joshua Clark**  
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**TABLE 3**

**Water Quality Results - Water Characterization**

Northwest Territories Power Corporation  
Aklavik, N.W.T.

Sample Point Sample Date MSI Sample Number		Post-treatment 16-Aug-17 21784170816001	Post-treatment 29-Aug-17 21784170829001	Post-treatment 11-Sep-17 21784170911001	Pre-treatment 14-Sep-17 21784170914002	Background 14-Sep-17 21784170914001	Holding Tank 19-Jun-18 21784180619103	Pre-treatment 19-Jun-18 21784180619101	Post-Treatment 19-Jun-18 21784180619102	Site Specific Water Release Criteria*
<b>General and Inorganic Parameters</b>										
pH		<b>9.91</b>	7.6	7.73	7.79	7.81	8.37	8.11	8.32	6 to 9
Lab EC	µS/cm	1100	769	1130	2320	1650	939	785	759	NS
Ca	mg/L	240	99.9	169	388	235	115	120	109	NS
Mg	mg/L	2.5	28.5	52.9	130	44.9	28.3	32.2	31.2	NS
Na	mg/L	4.8	11.4	7	14.6	38.4	27.1	5.5	9.4	NS
K	mg/L	1.1	7.5	3.9	4.9	7.1	23.1	2.1	4.2	NS
Cl	mg/L	17	10	3	5.9	236	41.9	2.3	2.5	NS
SO <sub>4</sub>	mg/L	188	302	500	1160	72.3	293	295	265	NS
F	mg/L	1.28	<0.05	0.27	0.09	0.07	0.34	0.14	0.21	NS
NO <sub>2</sub> -N	mg/L	0.09	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	NS
NO <sub>3</sub> -N	mg/L	0.72	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	NS
NO <sub>2</sub> +NO <sub>3</sub> -N	mg/L	0.81	<0.02	<0.02	<0.02	<0.02	0.02	0.02	<0.02	NS
T-Alkalinity	mg/L	665	103	178	470	462	149	136	118	NS
HCO <sub>3</sub>	mg/L	<5	126	218	574	564	175	166	143	NS
Hardness	mg/L	610	367	640	1500	772	404	432	401	NS
TDS	mg/L	747	521	843	1990	911	615	539	492	NS
TSS	mg/L	<b>30</b>	14	<b>20</b>	<b>176</b>	<b>965</b>	8	2	<2	15
<b>Total Metals</b>										
Cd	mg/L	0.000714	0.0000085	0.000393	0.000232	0.00359	0.000098	0.000056	0.000038	NS
Cr	mg/L	<0.001	<0.001	<0.001	0.0028	0.0683	<0.0005	<0.0005	<0.0005	NS
Cu	mg/L	0.283	0.05	0.1	0.0071	0.14	0.0036	0.0015	0.0035	NS
Fe	mg/L	7.1	5.1	8.3	6.7	170	1.7	0.3	1.3	NS
Pb	mg/L	<b>0.184</b>	<b>0.0303</b>	<b>0.0673</b>	0.0037	<b>0.101</b>	0.0014	<0.0005	0.0011	0.007 <sup>H</sup>
Hg	mg/L	<0.000005	<0.000005	<0.000005	<0.000025	0.00027	---	---	---	NS
Mo	mg/L	0.014	0.002	0.002	0.003	0.004	0.002	0.002	0.002	NS
Ni	mg/L	0.014	0.004	0.016	0.022	0.137	<0.003	0.003	0.003	NS
Zn	mg/L	21.5	0.56	<0.03	0.09	0.976	1.09	0.007	0.504	NS
<b>Petroleum Hydrocarbons</b>										
Benzene	mg/L	0.0081	---	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.37
Toluene	mg/L	0.0004	---	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.002
Ethylbenzene	mg/L	<0.0005	---	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.09
Xylenes	mg/L	<0.0005	---	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.03
Total Petroleum Hydrocarbons	mg/L	0.4	---	0.5	1.5	4.4	0.8	0.1	0.8	5
Oil & Grease	mg/L	0.5	---	none <sup>†</sup>	1.1	<b>18.7</b>	0.9	0.8	<0.2	5
<b>Polycyclic Aromatic Hydrocarbons</b>										
Benzo[a]pyrene	µg/L	<0.007	---	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	0.015

**Notes:**

- NS - not specified
- - not analyzed
- <sup>H</sup> - dependent on hardness value
- <sup>†</sup> - laboratory visual determination
- \* - Water Licence N3L8-1838 (Inuvialuit Water Board 2016)
- Italics** - indicates values do not meet applicable guidelines