

1 Q. **Reference: Application**

2 Please provide a summary of all laboratory testing conducted by Hydro in the 2024 Capital
3 Budget Application to verify the need for asset replacement.

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6 A. Please refer to Table 1 for a listing of the laboratory testing completed in relation to certain
7 investments included in Newfoundland and Labrador Hydro’s 2024 Capital Budget Application.

Table 1: Laboratory Testing for Select Investments

Test Completed	Test Type	Results	Proposed Investment
TJ H2b ¹ TASA ²	TJ H2b	TASA Assessment = 3	Quartzite 2 T2: Refurbish tap changer
Oil Quality Analysis	ASTM D971-20 ³	ASTM D971-20: 25.9 mN/m	South Brook T1: Oil refurbishment
Oil Quality Analysis	ASTM D924-15 ⁴	ASTM D924-15: 8.38%	South Brook T1: Oil refurbishment
Oil Quality Analysis	ASTM D971-20	ASTM D971-20: 24.1 mN/m	Wabush Terminal Station SS1: Oil replacement
Oil Quality Analysis	ASTM D924-15	ASTM D924-15: 6.56%	Wabush Terminal Station SS1: Oil replacement
Oil Quality Analysis	ASTM D1533-12 ⁵	ASTM D1533-12: 16 ppm	Wabush Terminal Station T1: Install online oil dehydrator
Oil Quality Analysis	ASTM D1816-12 ⁶	ASTM D1816-12: 38 kV	Wabush Terminal Station T1: Oil refurbishment
Oil Quality Analysis	ASTM D971-20	ASTM D971-20: 22.3 mN/m	Wabush Terminal Station T6: Oil refurbishment
Oil Quality Analysis	ASTM D924-15	ASTM D924-15: 7.72%	Wabush Terminal Station T6: Oil refurbishment

¹ TJ|H2b Analytical Services (“TJ|H2b”).

² Tap Changer Activity Signature Analysis (“TASA”).

³ ASTM International. (2020). ASTM Standard D971-20, *Standard Test Method for Interfacial Tension of Insulating Liquids Against Water by the Ring Method* (2020 ed.).

⁴ ASTM International. (2015). ASTM Standard D924-15, *Standard Test Method for Dissipation Factor (or Power Factor) and Relative Permittivity (Dielectric Constant) of Electrical Insulating Liquids* (2015 ed.).

⁵ ASTM International. (2012). ASTM Standard D1533-12, *Standard Test Method for Water in Insulating Liquids by Coulometric Karl Fischer Titration* (2012 ed.).

⁶ ASTM International. (2012). ASTM Standard D1816-12, *Standard Test Method for Dielectric Breakdown Voltage of Insulating Liquids Using VDE Electrodes* (2012 ed.).