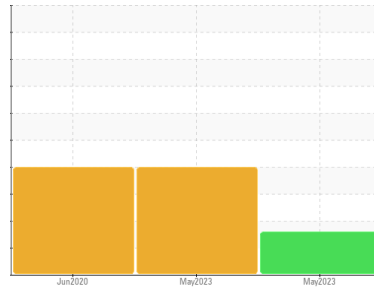




PROBLEM SUMMARY

Sample Rating Trend



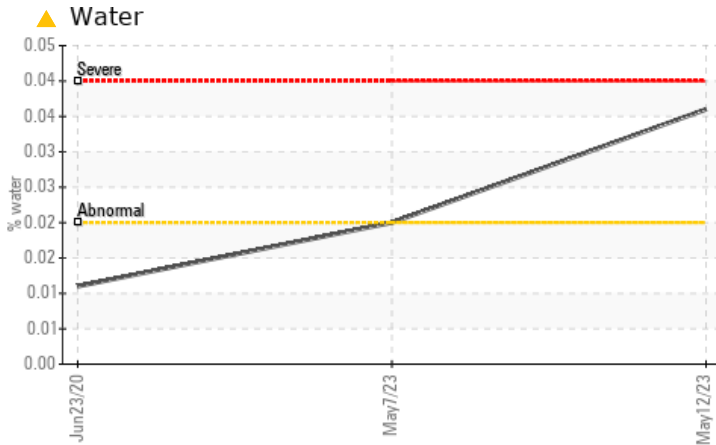
WATER



Machine Id
BDE UNIT 2 (S/N Bx00003-002)

Component
Transformer Oil
Fluid
ENVIROTEMP FR3 FLUID (1620 LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	SEVERE	SEVERE	
Water	%	ASTM D6304*	>0.02	▲ 0.036	● 0.020	0.011
ppm Water	ppm	ASTM D6304*	>200	▲ 364.3	● 209.0	0

Customer Id: NEWMIL
Sample No.: WC0380013
Lab Number: 02562002
Test Package: TRF 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Bill Quesnel CLS,OMA II,MLA-III,LLA-I +1
(289)291-4641 x4641
Bill.Quesnel@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you drain the transformer oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.

HISTORICAL DIAGNOSIS

07 May 2023 Diag: Bill Quesnel

WATER



The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend an early resample to monitor this condition. {not applicable} There is a high concentration of water present in the transformer oil. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The Interfacial Tension (IFT) of the fluid is low. The AN level is acceptable for this fluid. The transformer oil is no longer serviceable.

view report



23 Jun 2020 Diag: Bill Quesnel

DEGRADATION



We recommend that you drain the transformer oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. The water content is negligible. There is no indication of any contamination in the transformer oil. The AN level is acceptable for this fluid. The interfacial tension (IFT) for this fluid is very low. The transformer oil is no longer serviceable.

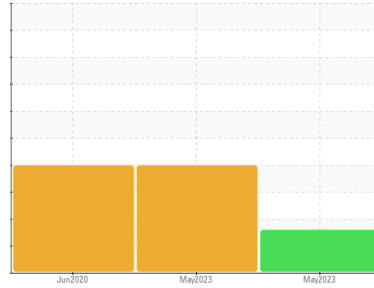
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
BDE UNIT 2 (S/N Bx00003-002)

Component
Transformer Oil

Fluid
ENVIROTEMP FR3 FLUID (1620 LTR)

DIAGNOSIS

▲ Recommendation

We recommend an early resample to monitor this condition.

Wear

{not applicable}

▲ Contamination

There is a moderate concentration of water present in the transformer oil. The system cleanliness is acceptable for your target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The transformer oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0380013	WC0645956	WC0380019
Sample Date	Client Info		12 May 2023	07 May 2023	23 Jun 2020
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	SEVERE	SEVERE

CONTAMINANTS

	method	limit/base	current	history1	history2	
Water	%	ASTM D6304*	>0.02	▲ 0.036	● 0.020	0.011
ppm Water	ppm	ASTM D6304*	>200	▲ 364.3	● 209.0	0

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	15191	3787	7560
Particles >6µm	ASTM D7647	>1300	4891	1096	3337
Particles >14µm	ASTM D7647	>160	377	120	724
Particles >21µm	ASTM D7647	>40	96	47	393
Particles >38µm	ASTM D7647	>10	3	6	41
Particles >71µm	ASTM D7647	>3	1	2	2
Oil Cleanliness	ISO 4406 (c)	>19/17/14	21/19/16	19/17/14	20/19/17

DISSOLVED GAS ANALYSIS (DGA)

	method	limit/base	current	history1	history2
DGA - H2	ppm	ASTM D3612(e)*	3	0	---
DGA - O2	ppm	ASTM D3612(e)*	283	6653	---
DGA - N2	ppm	ASTM D3612(e)*	56140	52375	---
DGA - CO	ppm	ASTM D3612(e)*	27	40	---
DGA - CO2	ppm	ASTM D3612(e)*	705	568	---
DGA - Methane	ppm	ASTM D3612(e)*	2	2	---
DGA - Acetylene	ppm	ASTM D3612(e)*	0	0	---
DGA - Ethylene	ppm	ASTM D3612(e)*	2	3	---
DGA - Ethane	ppm	ASTM D3612(e)*	162	103	---
DGA - Total Gas Content	%	ASTM D3612(e)*	57324	59744	---
DGA - Total Combustible Gas	ppm	ASTM D3612(e)*	196	148	---

FLUID DEGRADATION

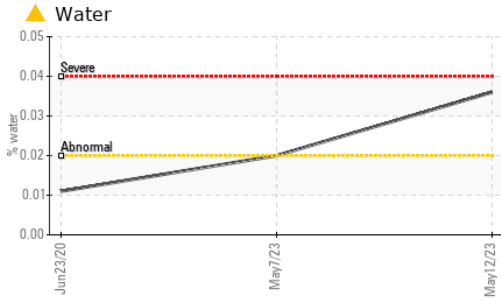
	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.22	0.06	0.07	0.05

VISUAL

	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML



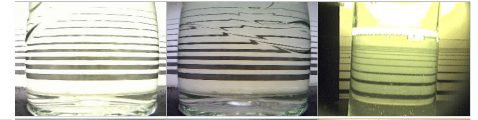
OIL ANALYSIS REPORT



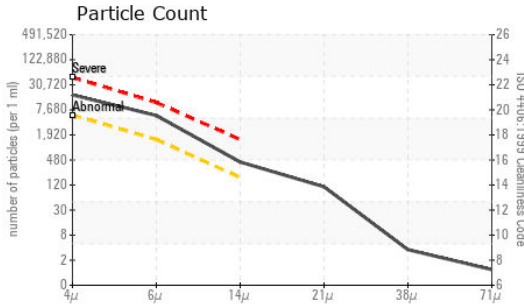
FLUID PROPERTIES	method	limit/base	current	history1	history2
Specific Gravity	ASTM D4052(e)	0.92	0.921	0.921	0.922
Dielectric Breakdown	kV ASTM D3612(e)*		47	61	38
Interfacial Tension	mN/m ASTM D971(e)*		12.71	▲ 12.95	● 12.55
ASTM Color	scalar ASTM D1500(e)		L0.5	<0.5	>0.5

SAMPLE IMAGES	method	limit/base	current	history1	history2
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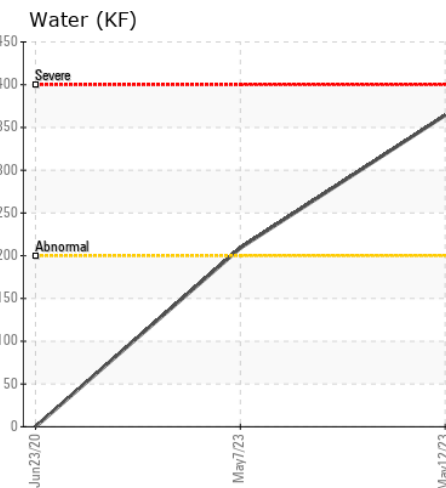
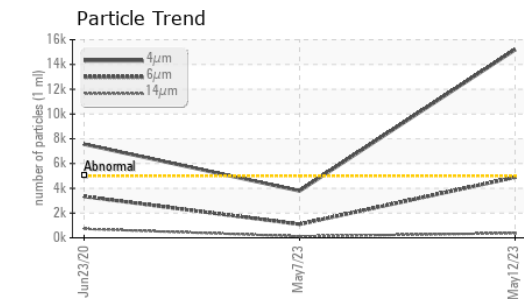
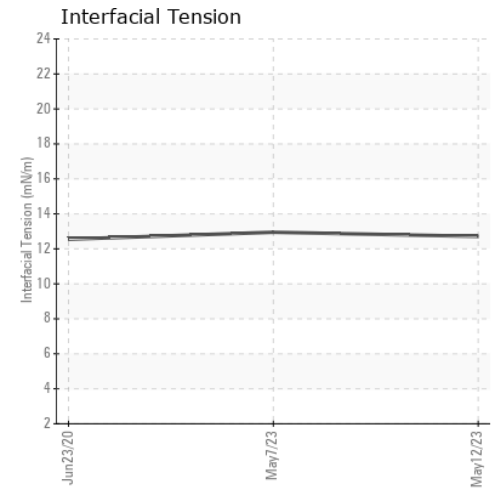
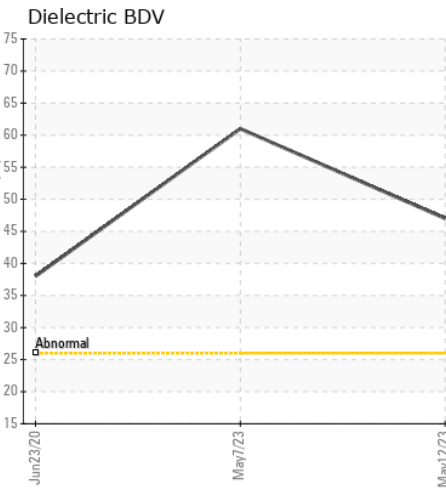
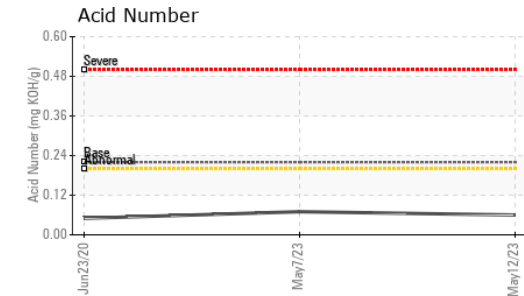
Color



Bottom



GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 NEWFOUNDLAND & LABRADOR HYDRO
Sample No. : WC0380013 **Received** : 05 Jun 2023
Lab Number : 02562002 **Diagnosed** : 27 Jul 2023
Unique Number : 5591043 **Diagnostician** : Bill Quesnel
Test Package : TRF 2 (Additional Tests: PrtCount)

BAY D'ESPOIR WHSE., 1 CAMP BOGGY RD., PO BOX 100
MILLTOWN, BAY D'ESPOIR, NL
CA A0H 1W0

Contact: Matthew Lambert
matthewlambert@nlh.nl.ca

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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