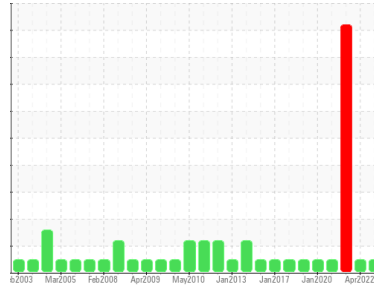


Area
Fwd Machinery Space [450143433]
Machine Id
Transformer 8 MVA - Dielectric Fluid (S/N Sample Tag ET-81001B-S1)
Component
Transformer Oil
Fluid
MIDEL 7131 (2852 LTR)



DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
{not applicable}

Contamination
The water content is negligible. There is no indication of any contamination in the transformer oil.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the transformer oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 history2

Sample Number	Client Info	PC	PC	PC
Sample Date	Client Info	12 Nov 2023	25 Apr 2022	25 Nov 2021
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		NORMAL	NORMAL	SEVERE

WEAR METALS method limit/base current history1 history2

PQ	ASTM D8184*	>65	0	0	0
Iron	ppm ASTM D5185(m)	>125	0	---	---
Chromium	ppm ASTM D5185(m)		0	---	---
Nickel	ppm ASTM D5185(m)		<1	---	---
Titanium	ppm ASTM D5185(m)		0	---	---
Silver	ppm ASTM D5185(m)	>2	<1	---	---
Aluminum	ppm ASTM D5185(m)	>5	0	---	---
Lead	ppm ASTM D5185(m)	>30	<1	---	---
Copper	ppm ASTM D5185(m)	>10	<1	---	---
Tin	ppm ASTM D5185(m)	>2	0	---	---
Antimony	ppm ASTM D5185(m)		0	---	---
Vanadium	ppm ASTM D5185(m)		0	---	---
Beryllium	ppm ASTM D5185(m)		0	---	---
Cadmium	ppm ASTM D5185(m)		0	---	---

ADDITIVES method limit/base current history1 history2

Boron	ppm ASTM D5185(m)		<1	---	---
Barium	ppm ASTM D5185(m)		0	---	---
Molybdenum	ppm ASTM D5185(m)		0	---	---
Manganese	ppm ASTM D5185(m)		0	---	---
Magnesium	ppm ASTM D5185(m)		0	---	---
Calcium	ppm ASTM D5185(m)		0	---	---
Phosphorus	ppm ASTM D5185(m)		<1	---	---
Zinc	ppm ASTM D5185(m)		<1	---	---
Sulfur	ppm ASTM D5185(m)		4	---	---
Lithium	ppm ASTM D5185(m)		<1	---	---

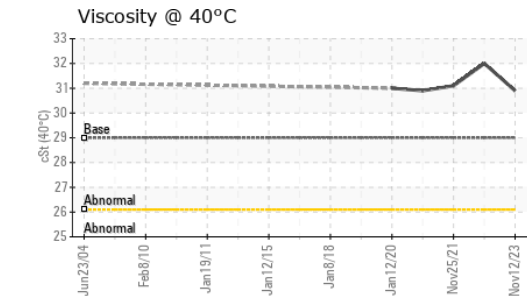
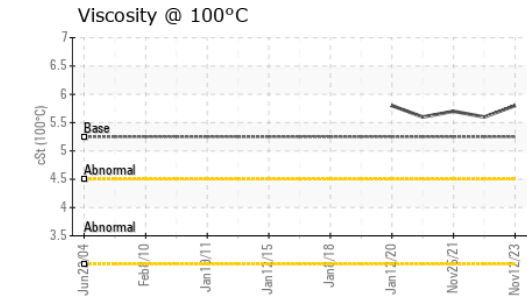
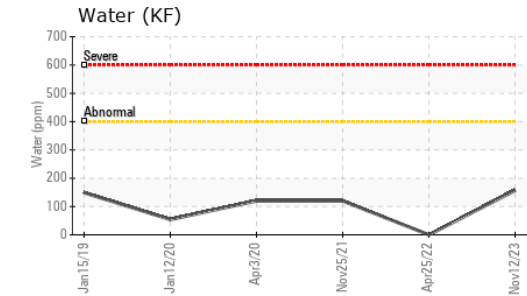
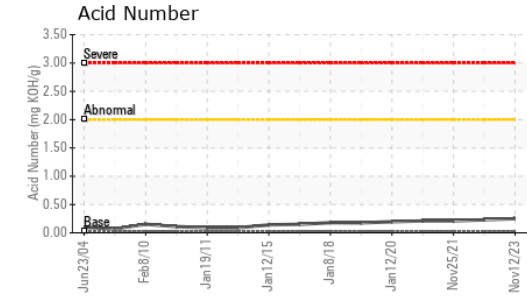
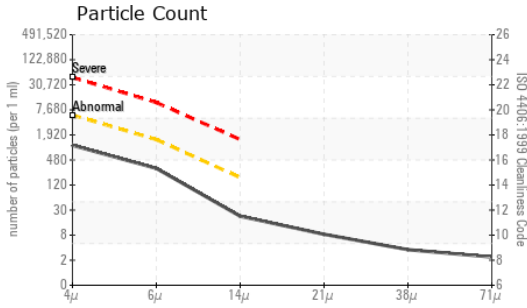
CONTAMINANTS method limit/base current history1 history2

Silicon	ppm ASTM D5185(m)	>25	370	---	---
Sodium	ppm ASTM D5185(m)		<1	---	---
Potassium	ppm ASTM D5185(m)	>20	0	---	---
Water	% ASTM D6304*	>0.04	0.015	0.015	0.012
ppm Water	ppm ASTM D6304*	>400	157	0	120

FLUID CLEANLINESS method limit/base current history1 history2

Particles >4µm	ASTM D7647	>5000	948	1008	367
Particles >6µm	ASTM D7647	>1300	265	178	72
Particles >14µm	ASTM D7647	>160	19	10	5
Particles >21µm	ASTM D7647	>40	7	3	1
Particles >38µm	ASTM D7647	>10	3	1	0
Particles >71µm	ASTM D7647	>3	2	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	17/15/11	17/15/10	16/13/10

OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.03	0.25	0.23	0.21

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
Emulsified Water	scalar	Visual*	>0.04	NEG	---	---
Free Water	scalar	Visual*		NEG	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		ASTM D4052(e)	0.970	0.971	0.971	0.971
Visc @ 40°C	cSt	ASTM D7279(m)	29.0	30.9	32	31.1
Visc @ 100°C	cSt	ASTM D7279(m)	5.25	5.8	5.6	5.7
Viscosity Index (VI)	Scale	ASTM D2270*	112	132	113	125
Dielectric Breakdown	kV	ASTM D3612(e)*		56	56	58
Interfacial Tension	mN/m	ASTM D971(e)*		27.32	27.84	▲ 22.28
ASTM Color	scalar	ASTM D1500(e)		<0.5	<0.5	<0.5

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : **02599010** **Received** : 27 Nov 2023
Unique Number : 5684090 **Diagnosed** : 07 Dec 2023
Test Package : TRF 1 (Additional Tests: ICP, KV100, KV40, PQ, PrtCount, Spat, VI) **Diagnostician** : Bill Quesnel

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 Scotia Centre, 235 Water Strret
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
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 T: (709)778-3575
 F: (709)724-2835

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.