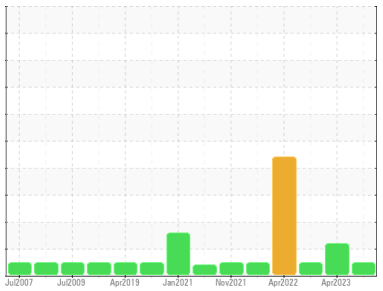
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
System 67 - Chemical Injection
Machine Id
Z-6704-DT01 CLORINATOR DISTRIBUTION TRANSFORMER
Component
Transformer Oil
Fluid
IRVING TRANSFORMER OIL (1770 LTR)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Insufficient sample was received to conduct all the routine laboratory tests (Interfacial Tension).

Wear
{not applicable}

Contamination
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

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		**PP**	PP	PP
Sample Date		Client Info		**29 Oct 2023**	16 Apr 2023	28 Jul 2022
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**	ATTENTION	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>125	**0**	0	0
Chromium	ppm	ASTM D5185(m)		**0**	0	0
Nickel	ppm	ASTM D5185(m)		**<1**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>5	**0**	0	<1
Lead	ppm	ASTM D5185(m)	>30	**<1**	0	<1
Copper	ppm	ASTM D5185(m)	>10	**<1**	0	0
Tin	ppm	ASTM D5185(m)	>2	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	0	0
Barium	ppm	ASTM D5185(m)		**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**0**	0	0
Calcium	ppm	ASTM D5185(m)		**0**	5	0
Phosphorus	ppm	ASTM D5185(m)		**0**	0	1
Zinc	ppm	ASTM D5185(m)		**<1**	1	<1
Sulfur	ppm	ASTM D5185(m)		**45**	59	66
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**<1**	<1	0
Sodium	ppm	ASTM D5185(m)		**0**	0	0
Potassium	ppm	ASTM D5185(m)	>20	**0**	0	<1
Water	%	ASTM D6304*	>0.0035	**0.003**	0.001	0.00
ppm Water	ppm	ASTM D6304*	>35	**26.4**	3.6	0.00

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**2599**	▲ 6361	481
Particles >6µm		ASTM D7647	>1300	**733**	▲ 1676	108
Particles >14µm		ASTM D7647	>160	**51**	92	12
Particles >21µm		ASTM D7647	>40	**15**	20	4
Particles >38µm		ASTM D7647	>10	**2**	1	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**19/17/13**	▲ 20/18/14	16/14/11

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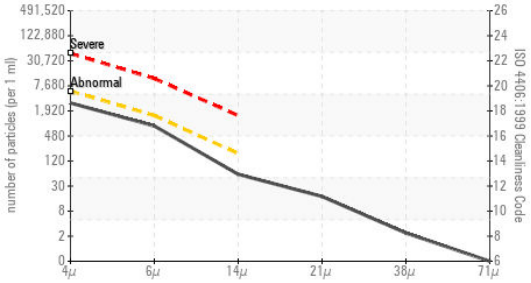
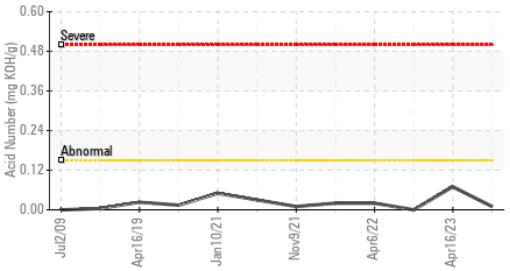
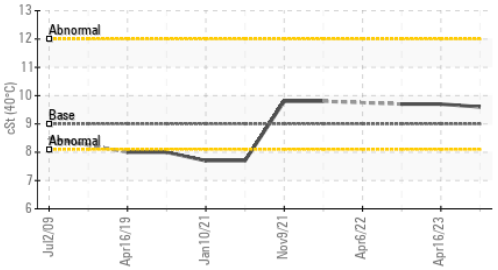
Particle Count



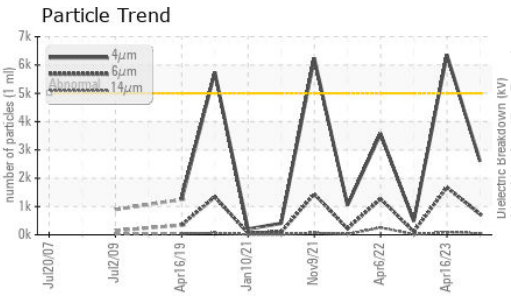
Acid Number



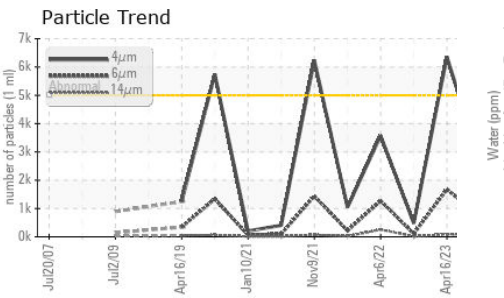
Viscosity @ 40°C



Particle Trend



Particle Trend

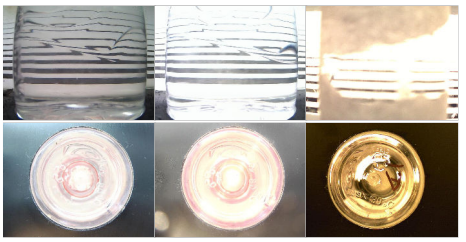


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.01**	0.07	0.00

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

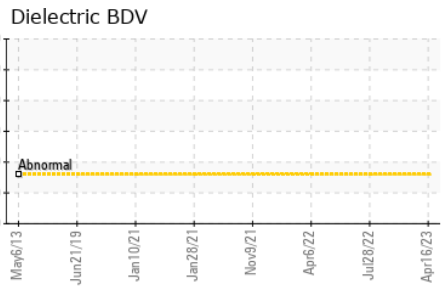
FLUID PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		ASTM D4052(e)	0.865	**0.881**	0.881	0.881
Visc @ 40°C	cSt	ASTM D7279(m)	9	**9.6**	9.7	9.7
Interfacial Tension	mN/m	ASTM D971(e)*		**---**	44.27	46.56
ASTM Color	scalar	ASTM D1500(e)		**<0.5**	<0.5	1.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

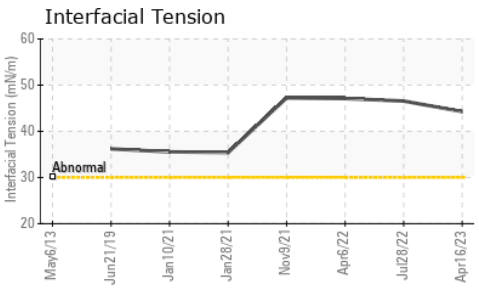


GRAPHS

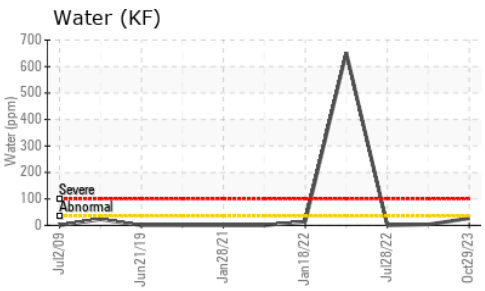
Dielectric BDV



Interfacial Tension



Water (KF)



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP
Lab Number : 02592792
Unique Number : 5669871
Test Package : TRF 1 (Additional Tests: ICP, KV40, PrtCount)

Recieved : 30 Oct 2023
Diagnosed : 18 Dec 2023
Diagnostician : Bill Quesnel

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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Report Id: HIBSTJ [WCAMIS] 02592792 (Generated: 12/18/2023 15:22:51) Rev: 1

Submitted By: ?