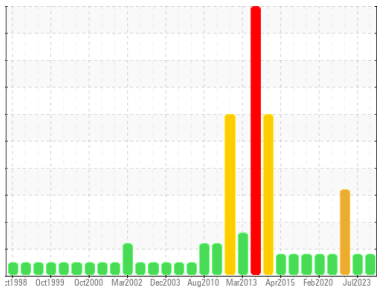
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
Caster/Segment Drives
Machine Id
B - Strand 2 - 2 Gear Box Roll # 31 Top
Component
Gearbox
Fluid
SHELL OMALA 220 (36 GAL)

DIAGNOSIS

Recommendation
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

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 oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0968474**	WC0838960	WC0743631
Sample Date		Client Info		**17 Jul 2024**	13 Jul 2023	13 Sep 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				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>DFLT	**0**	0	0
Iron	ppm	ASTM D5185(m)	>200	▲ **874**	▲ 836	▲ 785
Chromium	ppm	ASTM D5185(m)	>15	**8**	8	8
Nickel	ppm	ASTM D5185(m)	>15	**2**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>25	**1**	1	1
Lead	ppm	ASTM D5185(m)	>100	**2**	3	3
Copper	ppm	ASTM D5185(m)	>200	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>25	**0**	0	0
Antimony	ppm	ASTM D5185(m)	>5	**0**	0	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	4.4	**1**	1	3
Barium	ppm	ASTM D5185(m)	0.0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Manganese	ppm	ASTM D5185(m)		**3**	2	2
Magnesium	ppm	ASTM D5185(m)	0	**1**	1	<1
Calcium	ppm	ASTM D5185(m)	0	**2**	1	<1
Phosphorus	ppm	ASTM D5185(m)	215	**548**	574	556
Zinc	ppm	ASTM D5185(m)	0	**67**	70	65
Sulfur	ppm	ASTM D5185(m)	7039	**7101**	7172	7078
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	**2**	2	2
Sodium	ppm	ASTM D5185(m)		**3**	3	3
Potassium	ppm	ASTM D5185(m)	>20	**3**	3	3
Water	%	ASTM D6304*	>5	**0.065**	0.053	0.091
ppm Water	ppm	ASTM D6304*	>50000	**659**	535.9	916.6

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**232125**	193551	181536
Particles >6µm		ASTM D7647	>10240000	**89701**	89363	74426
Particles >14µm		ASTM D7647	>10240000	**858**	1700	1164
Particles >21µm		ASTM D7647	>2560000	**146**	380	201
Particles >38µm		ASTM D7647	>640000	**8**	11	3
Particles >71µm		ASTM D7647	>160000	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>--/30/30	**25/24/17**	25/24/18	25/23/17

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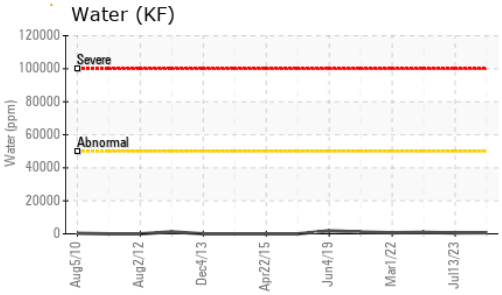
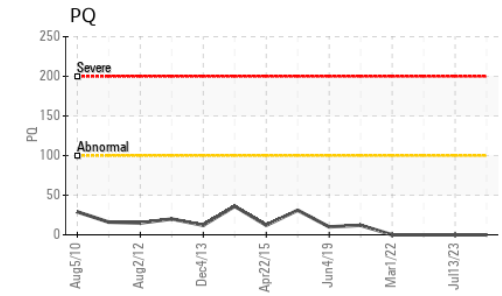
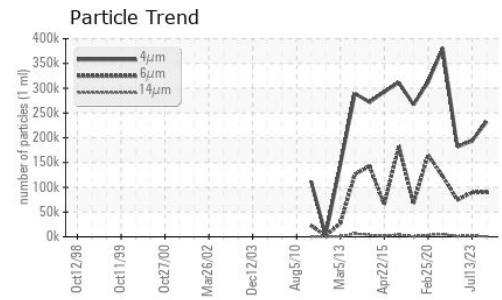
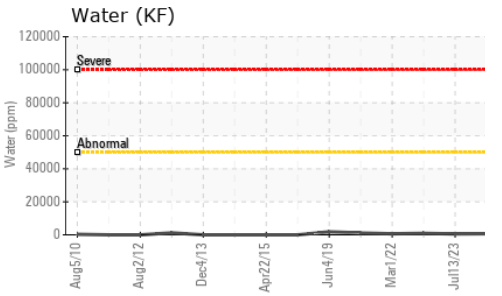
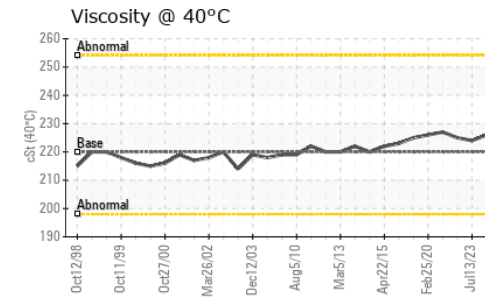








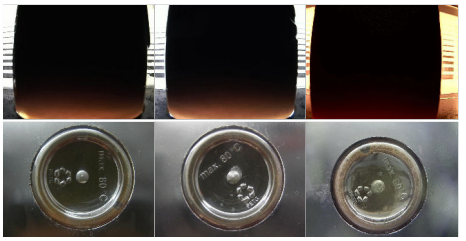


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**1.65**	1.88	1.86

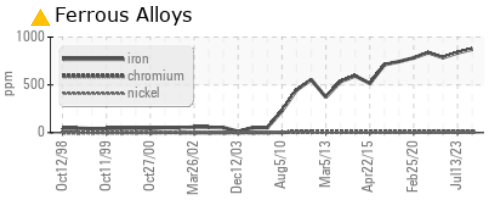
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**WGOIL**	NORML	▲ WGOIL
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>5	**.2%**	.2%	.2%
Free Water	scalar	Visual*		**NEG**	NEG	▲ 1%

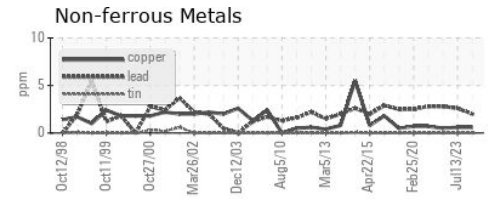
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	220	**226**	224	225

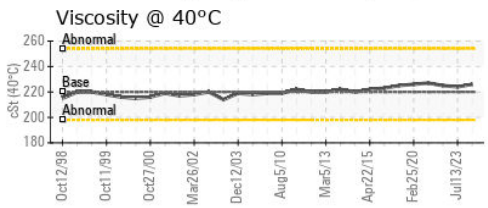
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

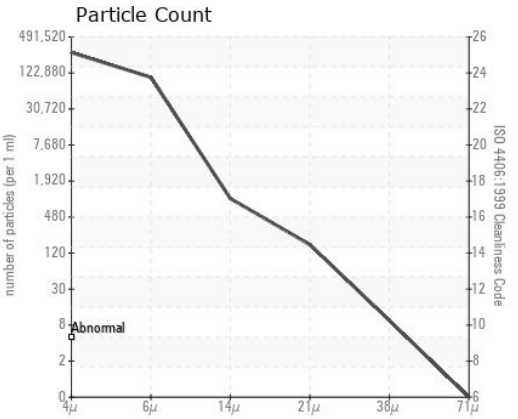


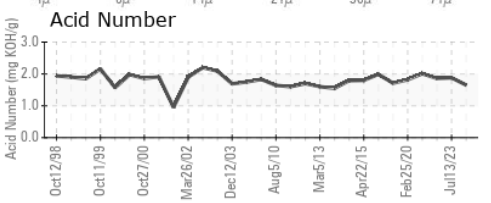
GRAPHS











ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0968474
Lab Number : 02648503
Unique Number : 5814055
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

Received : 17 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 19 Jul 2024 - Kevin Marson

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: LEWBOSC [WCAMIS] 02648503 (Generated: 07/19/2024 10:42:16) Rev: 1

Submitted By: Bob Melanson