IND II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	SEVERE
OIL CONDITION	NORMAL

Machine Id
NO UNIT WC0896799
Component
Unknown Component
Fluid
{not provided} (--- GAL)

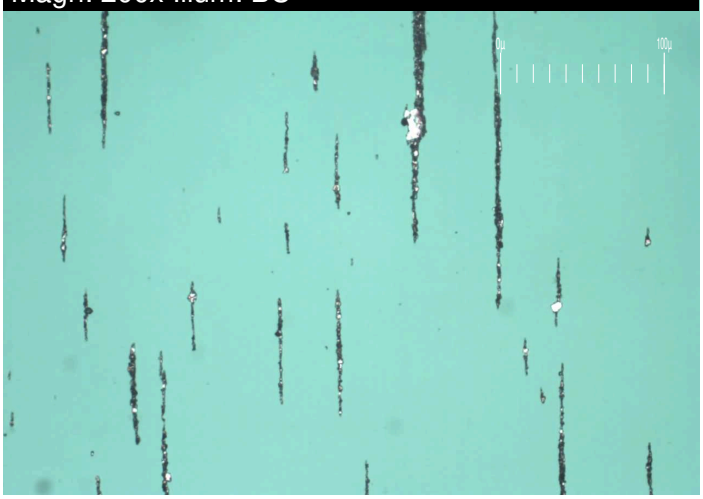
RECOMMENDATION

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Please note that this sample was received without a component ID. Check seals and/or filters for points of contaminant entry. 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 you service the filters on this component. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

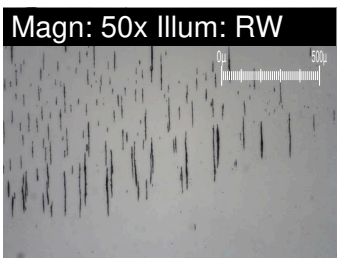
WEAR

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

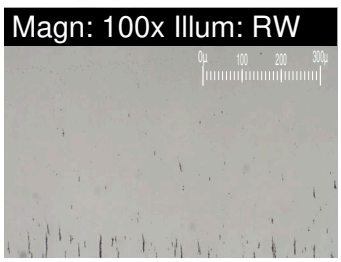
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0896799	---	---
Sample Date		Client Info		27 May 2024	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---
Iron	ppm	ASTM D5185(m)		5	---	---
Chromium	ppm	ASTM D5185(m)		0	---	---
Nickel	ppm	ASTM D5185(m)		0	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)		<1	---	---
Lead	ppm	ASTM D5185(m)		0	---	---
Copper	ppm	ASTM D5185(m)		<1	---	---
Tin	ppm	ASTM D5185(m)		<1	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Large Particles		DR-Ferr*		8.4	---	---
Small Particles		DR-Ferr*		1.8	---	---
Total Particles		DR-Ferr*	>---	10.2	---	---
Large Particles Percentage	%	DR-Ferr*		64.7	---	---
Severity Index		DR-Ferr*		55	---	---
Ferrous Rubbing	Scale 0-10	ASTM D7684*		3		
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1		
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*		1		
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				

CONTAMINANTS

There is a high amount of silt (particulates < 14 microns in size) present in the sample. The water content is negligible.

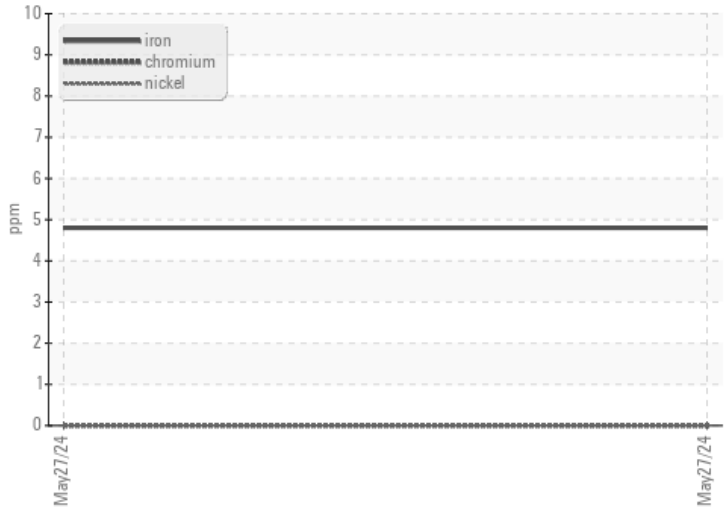
Silicon	ppm	ASTM D5185(m)		**16**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**4**	---	---
Water	%	ASTM D6304*		**0.024**	---	---
ppm Water	ppm	ASTM D6304*		**245**	---	---
Particles >4µm		ASTM D7647	>5000	▲ **71464**	---	---
Particles >6µm		ASTM D7647	>1300	▲ **2642**	---	---
Particles >14µm		ASTM D7647	>160	**10**	---	---
Particles >21µm		ASTM D7647	>40	**3**	---	---
Particles >38µm		ASTM D7647	>10	**2**	---	---
Particles >71µm		ASTM D7647	>3	**1**	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **23/19/10**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**VLITE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*		**NEG**	---	---
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		**1**		
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		**1**		

OIL CONDITION

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

Sodium	ppm	ASTM D5185(m)		**5**	---	---
Boron	ppm	ASTM D5185(m)		**261**	---	---
Barium	ppm	ASTM D5185(m)		**0**	---	---
Molybdenum	ppm	ASTM D5185(m)		**29**	---	---
Manganese	ppm	ASTM D5185(m)		**0**	---	---
Magnesium	ppm	ASTM D5185(m)		**6**	---	---
Calcium	ppm	ASTM D5185(m)		**2283**	---	---
Phosphorus	ppm	ASTM D5185(m)		**624**	---	---
Zinc	ppm	ASTM D5185(m)		**698**	---	---
Sulfur	ppm	ASTM D5185(m)		**2299**	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*		**1.36**	---	---
Visc @ 40°C	cSt	ASTM D7279(m)		**98.3**	---	---
Lubricant Degradation	Scale 0-10	ASTM D7684*				

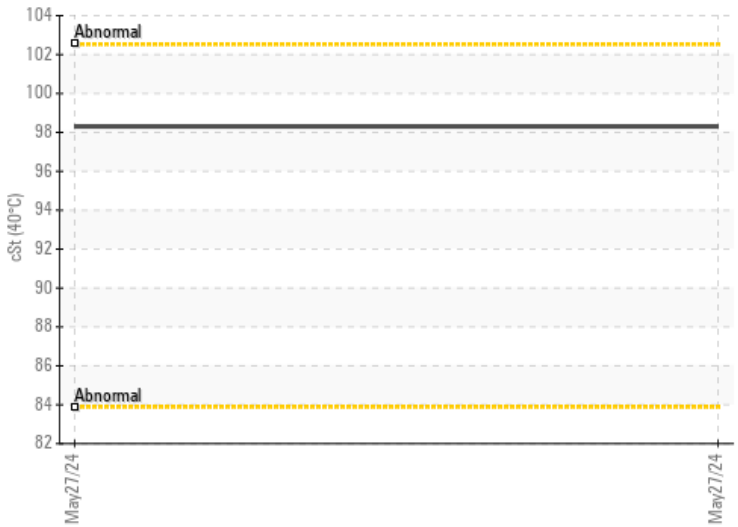
Ferrous Alloys



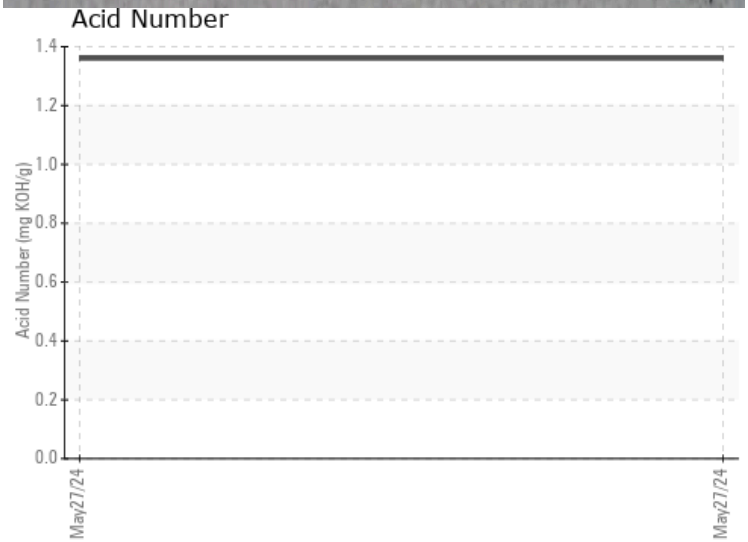
Particle Filter (Magn: 200 x)

Non-ferrous Metals

Viscosity @ 40°C



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9		
Sample No.	: WC0896799	**Received**	: 28 May 2024
Lab Number	: 02638046	**Tested**	: 03 Jun 2024
Unique Number	: 5787208	**Diagnosed**	: 03 Jun 2024 - Kevin Marson
Test Package	: IND 2 (Additional Tests: A-FERR, BottomAnalysis, DR-FERR, FILTERPATCH, PrtFilter, TAN, Visc)		

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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