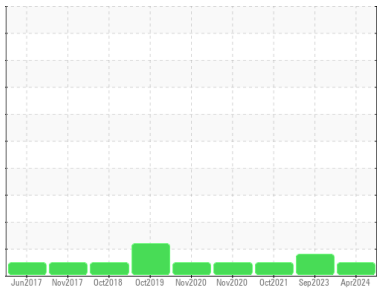
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
PIERRE DE SAUREL
Machine Id
ZF 06 (S/N 93705)
Component
Wind Turbine Gearbox
Fluid
MOBIL MOBILGEAR SHC XMP 320 (475 LTR)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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 oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0855619**	WC0855632	WC0318540
Sample Date		Client Info		**25 Apr 2024**	29 Sep 2023	26 Oct 2021
Machine Age	hrs	Client Info		**64000**	48000	33963
Oil Age	hrs	Client Info		**20000**	15000	7000
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**NORMAL**	ATTENTION	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>80	**0**	0	0
Iron	ppm	ASTM D5185(m)	>90	**3**	3	2
Chromium	ppm	ASTM D5185(m)	>4	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>3	**0**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>10	**0**	0	0
Lead	ppm	ASTM D5185(m)	>11	**<1**	<1	0
Copper	ppm	ASTM D5185(m)	>55	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>10	**0**	0	0
Antimony	ppm	ASTM D5185(m)	>5	**<1**	0	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)	0	**<1**	<1	<1
Barium	ppm	ASTM D5185(m)		**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	**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	**0**	<1	<1
Phosphorus	ppm	ASTM D5185(m)	485	**355**	343	372
Zinc	ppm	ASTM D5185(m)	0	**12**	11	10
Sulfur	ppm	ASTM D5185(m)		**514**	578	494
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>45	**1**	4	8
Sodium	ppm	ASTM D5185(m)	>11	**<1**	<1	0
Potassium	ppm	ASTM D5185(m)	>20	**<1**	0	<1
Water	%	ASTM D6304*	>0.0301	**0.007**	0.004	0.003
ppm Water	ppm	ASTM D6304*	>301	**79**	43.9	31.3

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	**217**	2684	758
Particles >6µm		ASTM D7647	>640	**86**	425	210
Particles >14µm		ASTM D7647	>80	**17**	12	24
Particles >21µm		ASTM D7647	>20	**5**	2	6
Particles >38µm		ASTM D7647	>4	**1**	0	0
Particles >71µm		ASTM D7647	>3	**1**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	**15/14/11**	19/16/11	17/15/12

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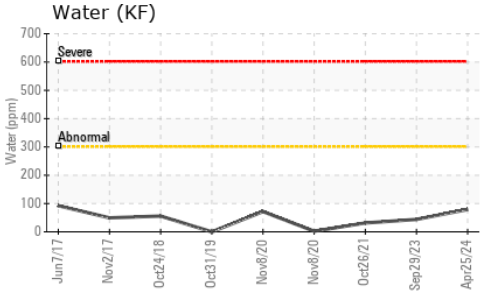
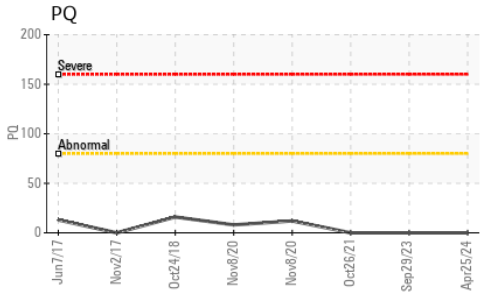
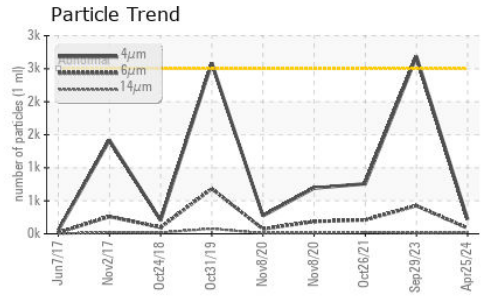
Water (KF)



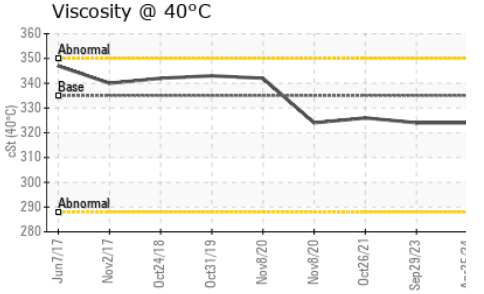
PQ



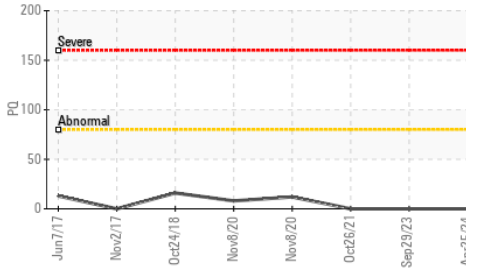
Particle Trend



Viscosity @ 40°C



PQ

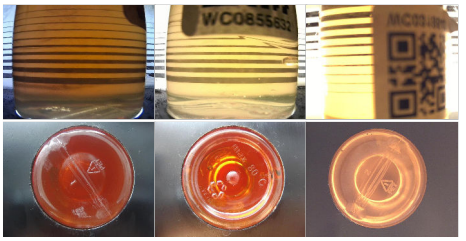


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.85	**0.73**	0.69	0.50

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*	>0.0301	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

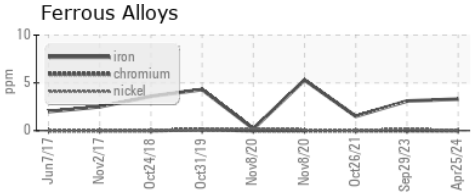
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	335	**324**	324	326

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

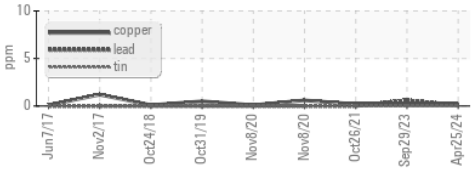


GRAPHS

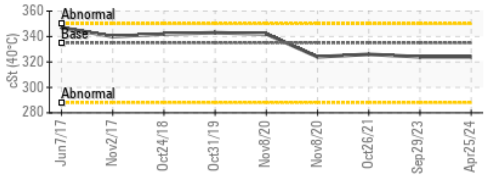
Ferrous Alloys



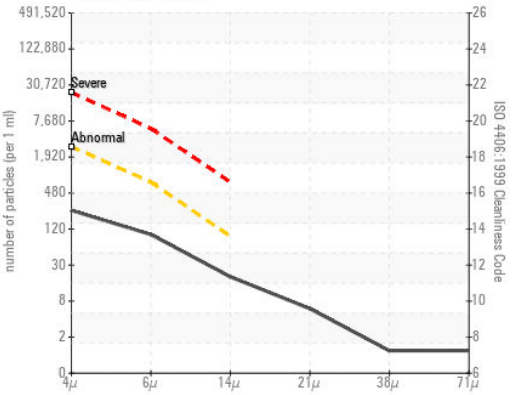
Non-ferrous Metals



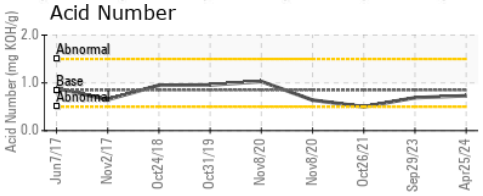
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0855619 **Received** : 18 Jul 2024
Lab Number : 02648817 **Tested** : 22 Jul 2024
Unique Number : 5814369 **Diagnosed** : 22 Jul 2024 - Wes Davis
Test Package : IND 2 (Additional Tests: KF, PQ)

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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