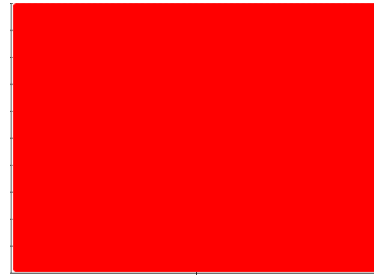




PROBLEM SUMMARY

Sample Rating Trend

ISO



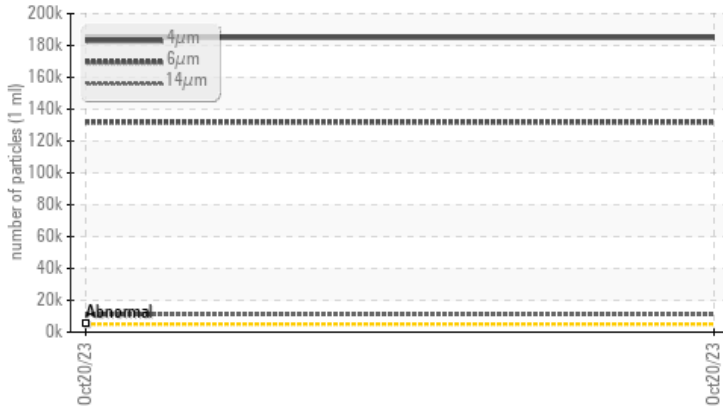
Machine Id
BOW THRUSTER

Component
Bow Thruster

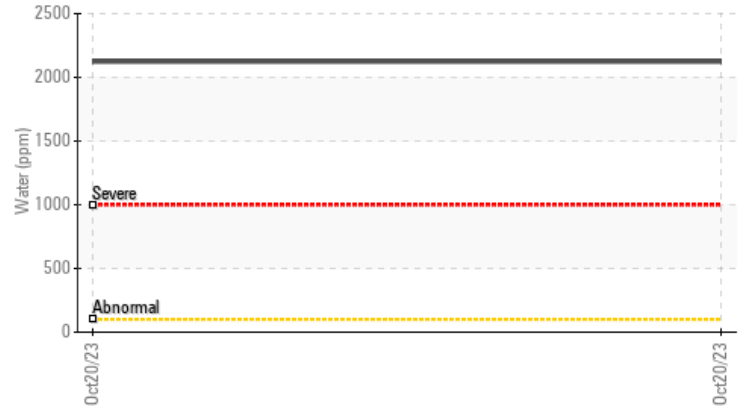
Fluid
GEAR OIL SAE 75W90 (1 LTR)

COMPONENT CONDITION SUMMARY

Particle Trend



Water (KF)



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. 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 advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 75W90. Please confirm.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	---	---
Water	%	ASTM D6304*	>0.2	▲ 0.212	---	---
ppm Water	ppm	ASTM D6304*		▲ 2124.0	---	---
Particles >4µm		ASTM D7647	>5000	● 185010	---	---
Particles >6µm		ASTM D7647	>1300	● 131861	---	---
Particles >14µm		ASTM D7647	>160	● 10990	---	---
Particles >21µm		ASTM D7647	>40	● 1020	---	---
Particles >38µm		ASTM D7647	>10	▲ 24	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	● 25/24/21	---	---
Appearance	scalar	Visual*	NORML	▲ WGOIL	---	---
Emulsified Water	scalar	Visual*	>0.2	▲ .5%	---	---
Free Water	scalar	Visual*		▲ 1%	---	---

Customer Id: SACREDBAY
Sample No.: WC0857888
Lab Number: 02591413
Test Package: MAR 5



To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Alert	---	---	?	The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 75W90. Please confirm.
Information Required	---	---	?	The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 75W90. Please confirm.
Check Breathers	---	---	?	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.
Check Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

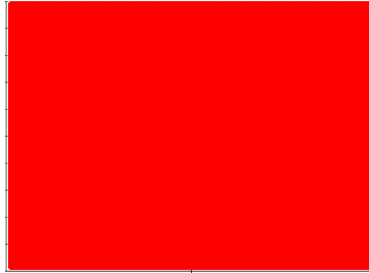
HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Machine Id
BOW THRUSTER

Component
Bow Thruster

Fluid
GEAR OIL SAE 75W90 (1 LTR)

DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. 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 advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 75W90. Please confirm.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil. There is a moderate concentration of water present in the oil. Free water present.

Fluid Condition

The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0857888	---	---
Sample Date	Client Info		20 Oct 2023	---	---
Machine Age	mths	Client Info	0	---	---
Oil Age	mths	Client Info	7	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			SEVERE	---	---

WEAR METALS	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	89	---
Chromium	ppm	ASTM D5185(m)	>10	2	---
Nickel	ppm	ASTM D5185(m)	>10	1	---
Titanium	ppm	ASTM D5185(m)		0	---
Silver	ppm	ASTM D5185(m)		<1	---
Aluminum	ppm	ASTM D5185(m)	>10	7	---
Lead	ppm	ASTM D5185(m)	>20	1	---
Copper	ppm	ASTM D5185(m)	>20	2	---
Tin	ppm	ASTM D5185(m)	>15	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	---

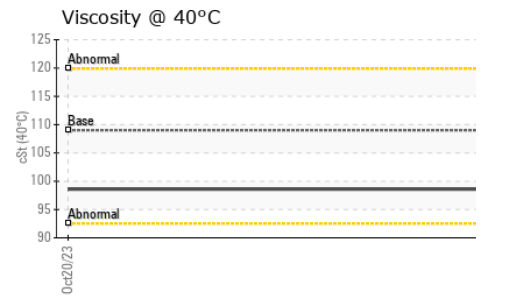
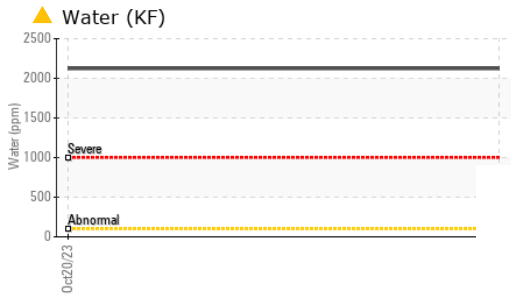
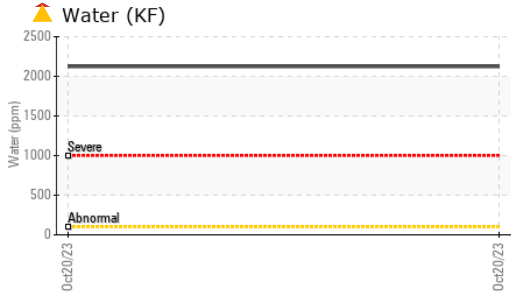
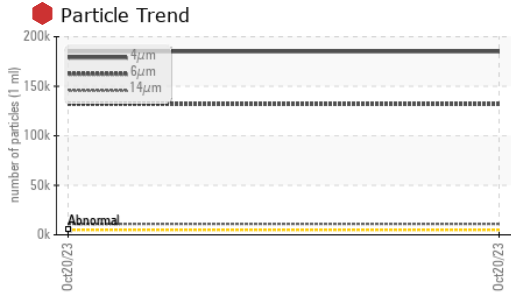
ADDITIVES	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	400	1	---
Barium	ppm	ASTM D5185(m)	200	3	---
Molybdenum	ppm	ASTM D5185(m)	12	0	---
Manganese	ppm	ASTM D5185(m)		<1	---
Magnesium	ppm	ASTM D5185(m)	12	15	---
Calcium	ppm	ASTM D5185(m)	150	25	---
Phosphorus	ppm	ASTM D5185(m)	1650	709	---
Zinc	ppm	ASTM D5185(m)	125	102	---
Sulfur	ppm	ASTM D5185(m)	22500	15722	---
Lithium	ppm	ASTM D5185(m)		<1	---

CONTAMINANTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>7	7	---
Sodium	ppm	ASTM D5185(m)		21	---
Potassium	ppm	ASTM D5185(m)	>20	<1	---
Water	%	ASTM D6304*	>0.2	▲ 0.212	---
ppm Water	ppm	ASTM D6304*		▲ 2124.0	---

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	● 185010	---	---
Particles >6µm	ASTM D7647	>1300	● 131861	---	---
Particles >14µm	ASTM D7647	>160	● 10990	---	---
Particles >21µm	ASTM D7647	>40	● 1020	---	---
Particles >38µm	ASTM D7647	>10	▲ 24	---	---
Particles >71µm	ASTM D7647	>3	1	---	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	● 25/24/21	---	---



OIL ANALYSIS REPORT



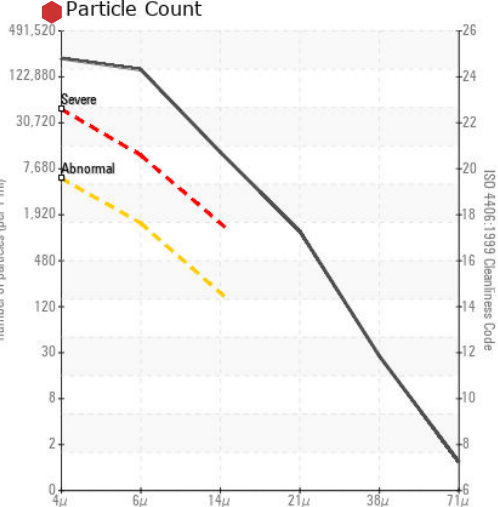
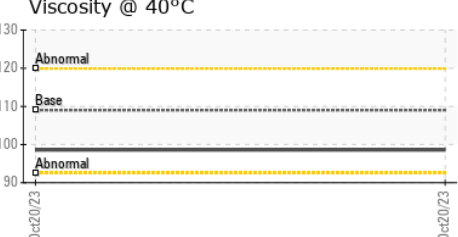
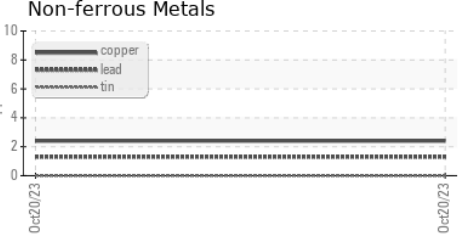
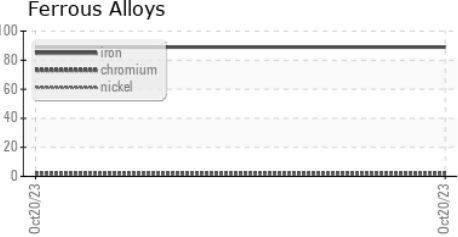
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	VLITE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	▲ WGOIL	---
Odor	scalar	Visual*	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	▲ .5%	---
Free Water	scalar	Visual*		▲ 1%	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	109	98.6	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color				no image	no image
Bottom				no image	no image

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0857888 **Received** : 24 Oct 2023
Lab Number : 02591413 **Diagnosed** : 25 Oct 2023
Unique Number : 5668492 **Diagnostician** : Kevin Marson
Test Package : MAR 5 (Additional Tests: ICP, KF, KV40, PrtCount, Spat, Visual)

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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.