



PROBLEM SUMMARY

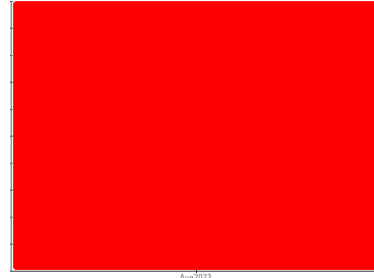
Sample Rating Trend

VISUAL METAL

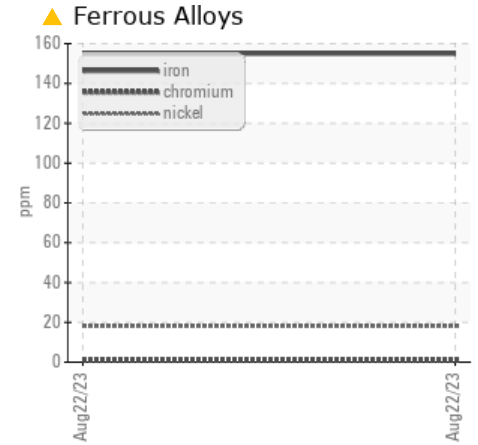
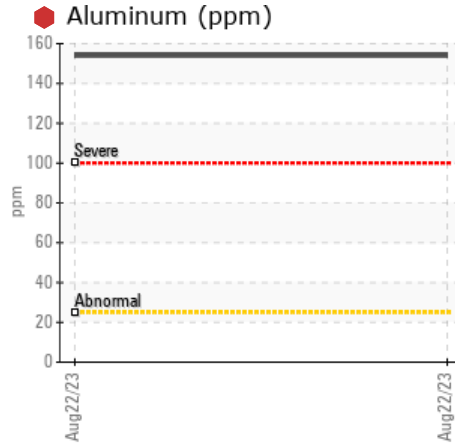
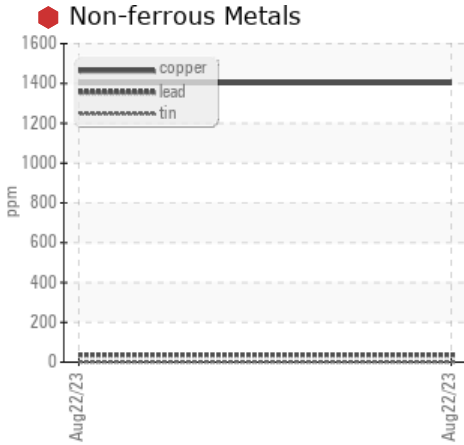
Machine Id
NO UNIT WC0788037

Component
Gearbox

Fluid
SHELL OMALA 220 (--- GAL)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for visible metal particles in the oil. Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review. We recommend that you drain the oil from the component if this has not already been done. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	---	---
Nickel	ppm	ASTM D5185(m)	>15	▲ 18	---	---
Aluminum	ppm	ASTM D5185(m)	>25	● 154	---	---
Copper	ppm	ASTM D5185(m)	>200	● 1402	---	---
Yellow Metal	scalar	Visual*	NONE	● HEAVY	---	---
PrtFilter					no image	no image

Customer Id: IVEMIS
 Sample No.: WC0788037
 Lab Number: 02577824
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
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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
Inspect Wear Source	---	---	?	An inspection for the source(s) of wear may be warranted at this time.
Monitor	---	---	?	Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review.
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF).
Alert	---	---	?	Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Check For Visual Metal	---	---	?	We advise that you check for visible metal particles in the oil.

HISTORICAL DIAGNOSIS



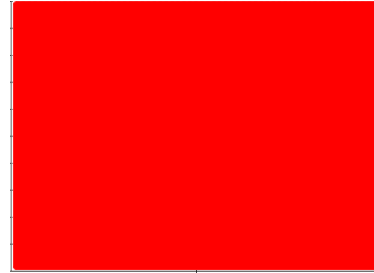
OIL ANALYSIS REPORT

Sample Rating Trend

VISUAL METAL

Machine Id
NO UNIT WC0788037

Component
Gearbox
Fluid
SHELL OMALA 220 (--- GAL)



DIAGNOSIS

Recommendation

We advise that you check for visible metal particles in the oil. Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review. We recommend that you drain the oil from the component if this has not already been done. An inspection for the source(s) of wear may be warranted at this time. We recommend an early resample to monitor this condition. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

Copper and aluminum ppm levels are severe. Nickel ppm levels are abnormal. High concentration of visible metal present. Thrust washer and/or bearing/bushing wear is indicated.

Contamination

The water content is negligible. There is no indication of any contamination in the oil.

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		WC0788037	---	---
Sample Date	Client Info		22 Aug 2023	---	---
Machine Age	mths	Client Info	0	---	---
Oil Age	mths	Client Info	6	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			SEVERE	---	---

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		56	---	---
Iron	ppm	ASTM D5185(m) >200	155	---	---
Chromium	ppm	ASTM D5185(m) >15	1	---	---
Nickel	ppm	ASTM D5185(m) >15	18	---	---
Titanium	ppm	ASTM D5185(m)	<1	---	---
Silver	ppm	ASTM D5185(m)	0	---	---
Aluminum	ppm	ASTM D5185(m) >25	154	---	---
Lead	ppm	ASTM D5185(m) >100	36	---	---
Copper	ppm	ASTM D5185(m) >200	1402	---	---
Tin	ppm	ASTM D5185(m) >25	2	---	---
Antimony	ppm	ASTM D5185(m) >5	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) 4.4	10	---	---
Barium	ppm	ASTM D5185(m) 0.0	15	---	---
Molybdenum	ppm	ASTM D5185(m) 0	1	---	---
Manganese	ppm	ASTM D5185(m)	6	---	---
Magnesium	ppm	ASTM D5185(m) 0	6	---	---
Calcium	ppm	ASTM D5185(m) 0	51	---	---
Phosphorus	ppm	ASTM D5185(m) 215	181	---	---
Zinc	ppm	ASTM D5185(m) 0	30	---	---
Sulfur	ppm	ASTM D5185(m) 7039	12687	---	---
Lithium	ppm	ASTM D5185(m)	<1	---	---

CONTAMINANTS

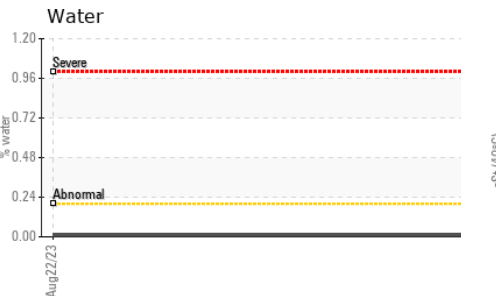
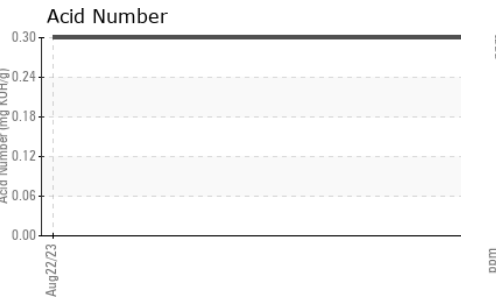
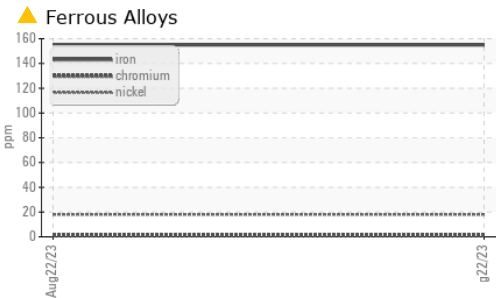
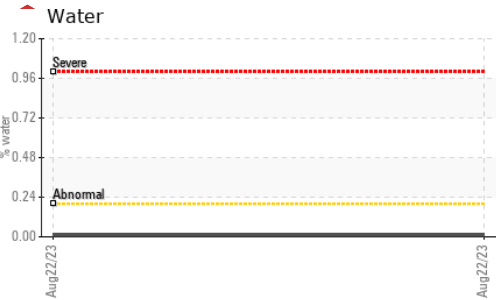
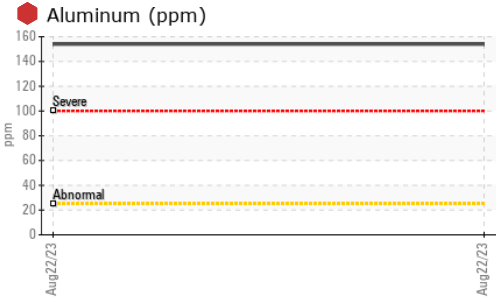
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	2	---	---
Sodium	ppm	ASTM D5185(m)	2	---	---
Potassium	ppm	ASTM D5185(m) >20	<1	---	---
Water	%	ASTM D6304* >0.2	0.010	---	---
ppm Water	ppm	ASTM D6304* >2000	102.5	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.30	---	---



OIL ANALYSIS REPORT



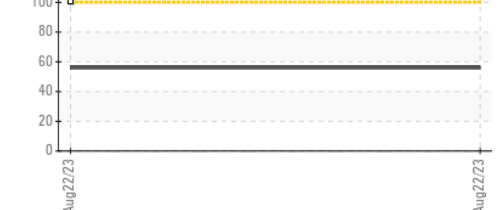
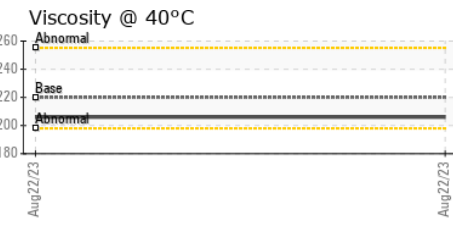
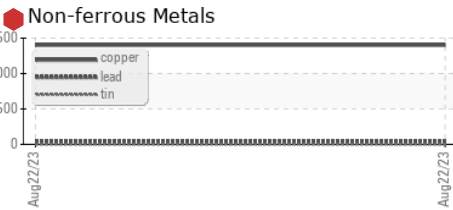
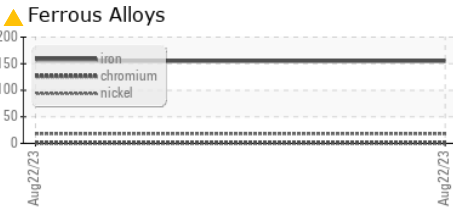
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	● HEAVY	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	.2%	---
Free Water	scalar	Visual*		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	220	206	---

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

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0788037
Lab Number : 02577824
Unique Number : 5630884
Test Package : IND 2 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, KF, TAN Man)

Ivex Protective Packaging
 930 Britannia Rd E
 Mississauga, ON
 CA L4W 5M7
 Contact: Terry Earle
 Terry.Earle@ivexpackaging.com

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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