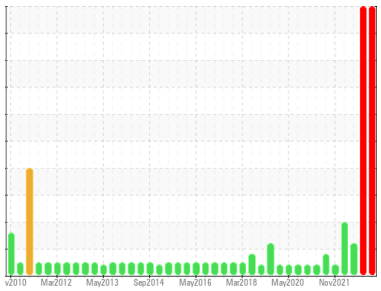
PROBLEM SUMMARY

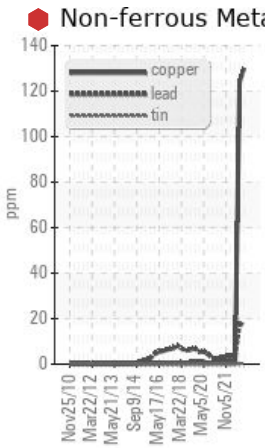
Area
GC01
Machine Id
GC01
Component
Hydraulic System
Fluid
HYDRAULIC OIL FG ISO 32 (--- GAL)

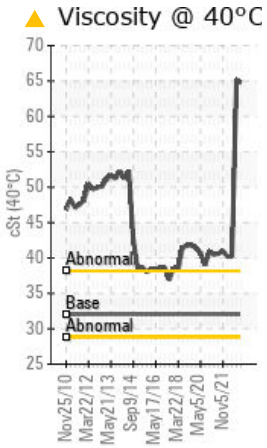
Sample Rating Trend

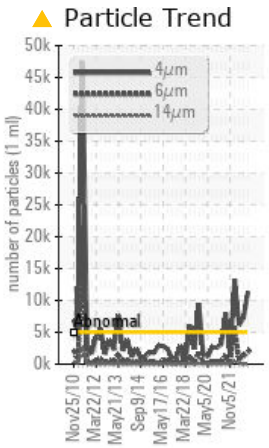


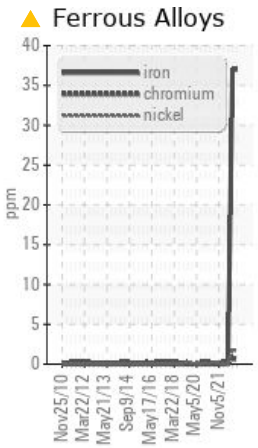
WEAR

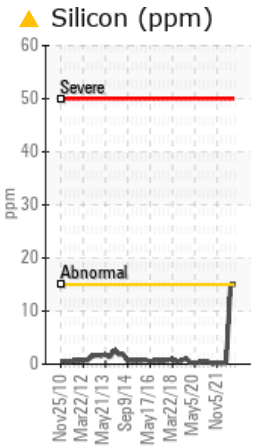
COMPONENT CONDITION SUMMARY











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. Due to this condition we recommend the following action... We advise an early resample to confirm this situation. NOTE: The current sample results do not match this units historical trend, indicating the sample may not be from this component/unit.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185(m)	>20	▲ **37**	▲ 37	<1
Aluminum	ppm	ASTM D5185(m)	>20	▲ **6**	▲ 7	<1
Copper	ppm	ASTM D5185(m)	>20	⬢ **130**	⬢ 124	<1
Magnesium	ppm	ASTM D5185(m)	5	▲ **35**	▲ 35	0
Calcium	ppm	ASTM D5185(m)	12	▲ **74**	▲ 72	37
Phosphorus	ppm	ASTM D5185(m)	400	▲ **799**	▲ 782	86
Zinc	ppm	ASTM D5185(m)	12	▲ **596**	▲ 573	7
Sulfur	ppm	ASTM D5185(m)	650	▲ **2362**	▲ 2356	266
Silicon	ppm	ASTM D5185(m)	>15	▲ **15**	▲ 15	<1
Particles >4µm		ASTM D7647	>5000	▲ **11367**	▲ 7256	▲ 6164
Particles >6µm		ASTM D7647	>1300	▲ **1942**	1260	801
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/18/13**	▲ 20/17/12	▲ 20/17/13
Visc @ 40°C	cSt	ASTM D7279(m)	32	▲ **64.8**	▲ 65.1	▲ 40.2

Customer Id: GOONAP
Sample No.: WC22128048
Lab Number: 02553673
Test Package: IND 2

To manage this report scan the QR code

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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
Resample	---	---	?	We advise an early resample to confirm this situation.
Alert	---	---	?	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. NOTE: The current sample results do not match this units historical trend, indicating the sample may not be from this component/unit.

HISTORICAL DIAGNOSIS

WEAR

24 Apr 2023 Diag: Kevin Marson

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. Due to this condition we recommend the following action... We advise an early resample to confirm this situation. NOTE: The current sample results do not match this units historical trend, indicating the sample may not be from this component/unit.Copper ppm levels are severe. Iron ppm levels are abnormal. Aluminum ppm levels are noted. Oil cooler core leaching or motor piston wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is a light amount of silt (particulates < 14 microns in size) present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component. Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

VISCOSITY

05 Nov 2022 Diag: Kevin Marson

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. We recommend you service the filters on this component. Resample at the next service interval to monitor. 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.All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

VISCOSITY

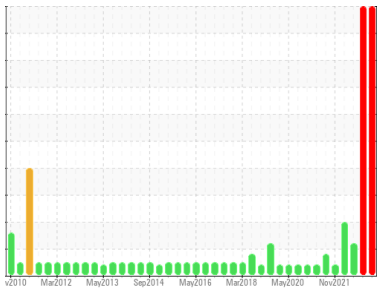
27 Oct 2022 Diag: Kevin Marson

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. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. 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.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >14µm are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
GC01
Machine Id
GC01
Component
Hydraulic System
Fluid
HYDRAULIC OIL FG ISO 32 (--- GAL)

DIAGNOSIS

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. Due to this condition we recommend the following action... We advise an early resample to confirm this situation. NOTE: The current sample results do not match this units historical trend, indicating the sample may not be from this component/unit.

Wear

Copper ppm levels are severe. Iron ppm levels are abnormal. Aluminum ppm levels are noted. Oil cooler core leaching or motor piston wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

Fluid Condition

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. 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		**WC22128048**	WC0299467	WC0754399
Sample Date		Client Info		**25 Apr 2023**	24 Apr 2023	05 Nov 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				**SEVERE**	SEVERE	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	---
Iron	ppm	ASTM D5185(m)	>20	▲ **37**	▲ 37	<1
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	0
Nickel	ppm	ASTM D5185(m)	>20	**2**	2	0
Titanium	ppm	ASTM D5185(m)		**<1**	<1	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	▲ **6**	▲ 7	<1
Lead	ppm	ASTM D5185(m)	>20	**17**	18	4
Copper	ppm	ASTM D5185(m)	>20	● **130**	● 124	<1
Tin	ppm	ASTM D5185(m)	>20	**<1**	<1	0
Antimony	ppm	ASTM D5185(m)		**<1**	0	0
Vanadium	ppm	ASTM D5185(m)		**<1**	<1	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**<1**	<1	0

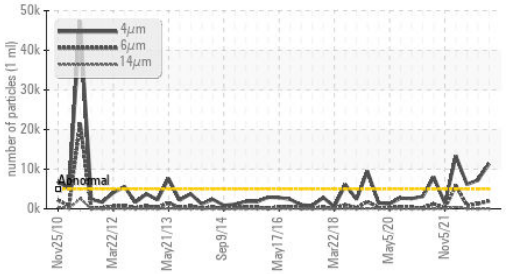
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	5	**<1**	<1	<1
Barium	ppm	ASTM D5185(m)	5	**<1**	<1	0
Molybdenum	ppm	ASTM D5185(m)	5	**0**	0	0
Manganese	ppm	ASTM D5185(m)		**<1**	<1	0
Magnesium	ppm	ASTM D5185(m)	5	▲ **35**	▲ 35	0
Calcium	ppm	ASTM D5185(m)	12	▲ **74**	▲ 72	37
Phosphorus	ppm	ASTM D5185(m)	400	▲ **799**	▲ 782	86
Zinc	ppm	ASTM D5185(m)	12	▲ **596**	▲ 573	7
Sulfur	ppm	ASTM D5185(m)	650	▲ **2362**	▲ 2356	266
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	▲ **15**	▲ 15	<1
Sodium	ppm	ASTM D5185(m)		**3**	3	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	0

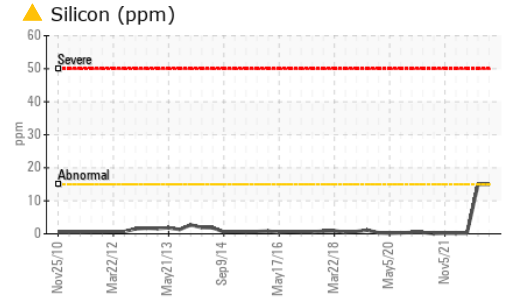
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **11367**	▲ 7256	▲ 6164
Particles >6µm		ASTM D7647	>1300	▲ **1942**	1260	801
Particles >14µm		ASTM D7647	>160	**61**	39	45
Particles >21µm		ASTM D7647	>40	**10**	9	12
Particles >38µm		ASTM D7647	>10	**0**	0	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/18/13**	▲ 20/17/12	▲ 20/17/13

OIL ANALYSIS REPORT

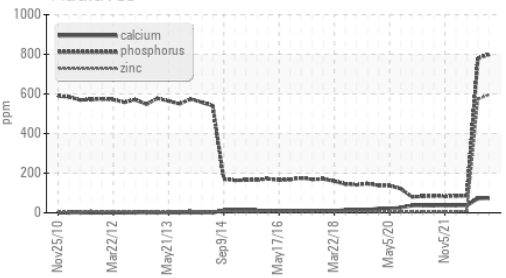
Particle Trend



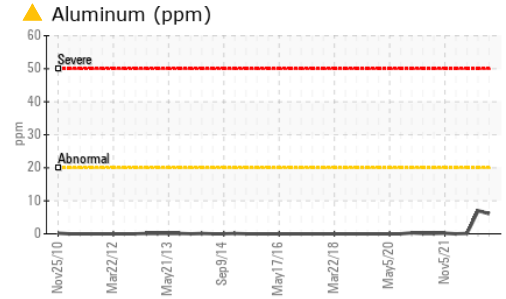
Silicon (ppm)



Additives



Aluminum (ppm)



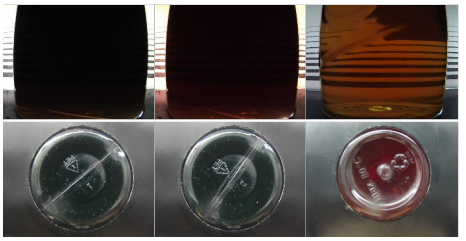
PQ

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.50	**1.02**	0.98	0.13

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*	>0.05	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

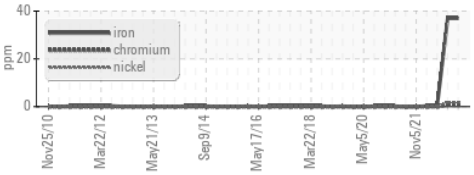
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	32	▲ **64.8**	▲ 65.1	▲ 40.2

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

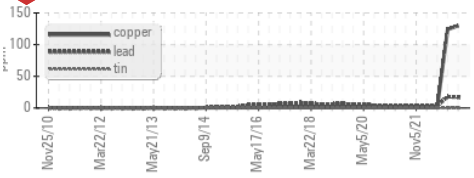


GRAPHS

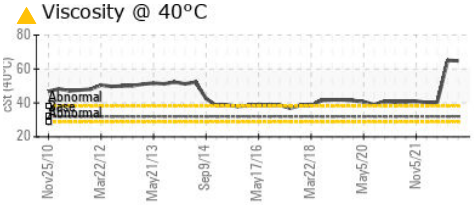
Ferrous Alloys



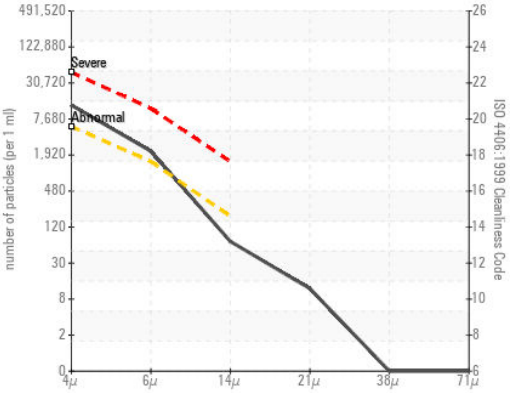
Non-ferrous Metals



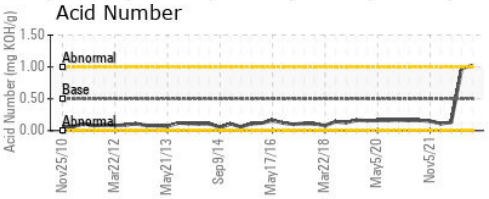
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC22128048 **Received** : 26 Apr 2023
Lab Number : 02553673 **Diagnosed** : 27 Apr 2023
Unique Number : 5566688 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: PQ, TAN Man)

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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