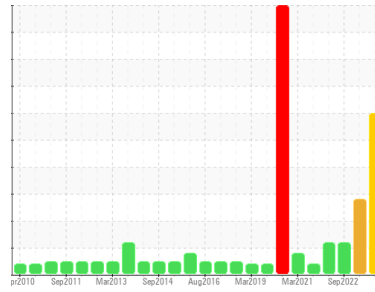




PROBLEM SUMMARY

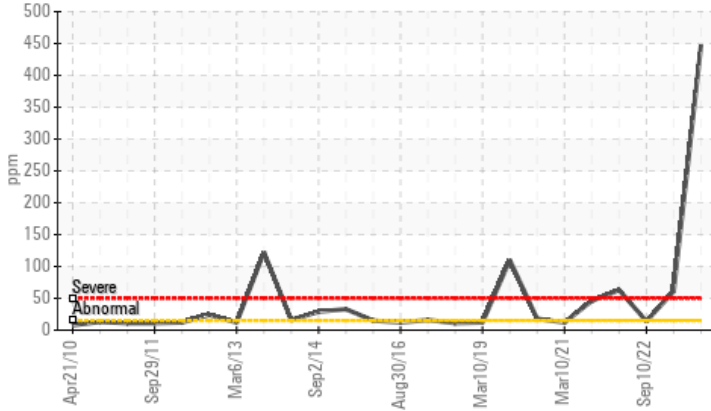
Area
Curing Department
 Machine Id
PHB02
 Component
Hydraulic System
 Fluid
ISO 68 (200 GAL)

Sample Rating Trend

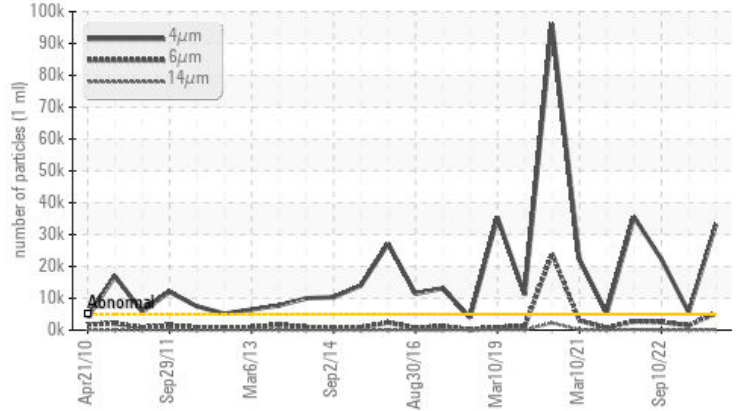


COMPONENT CONDITION SUMMARY

● Silicon (ppm)



▲ Particle Trend



RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. Check seals and/or filters for points of contaminant entry. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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 an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	ABNORMAL	ABNORMAL
Silicon	ppm	ASTM D5185(m) >15	● 447	61	14
Particles >4µm		ASTM D7647 >5000	▲ 33209	▲ 5678	▲ 22301
Particles >6µm		ASTM D7647 >1300	▲ 5302	▲ 1459	▲ 2589
Oil Cleanliness		ISO 4406 (c) >19/17/14	▲ 22/20/14	▲ 20/18/13	▲ 22/19/12

Customer Id: GOONAP
 Sample No.: WC0851356
 Lab Number: 02591021
 Test Package: IND 2



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	---	---	?	We recommend an early resample to monitor this condition.
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample.
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

WEAR



10 Mar 2023 Diag: Kevin Marson

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using IND 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid. Iron and aluminum ppm levels are abnormal. 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. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



ISO



10 Sep 2022 Diag: Wes Davis

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. 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 >4µm are abnormally high. Particles >6µm are abnormally high. 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



ISO



10 Mar 2022 Diag: Wes Davis

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. Particles >4µm are abnormally high. Particles >6µm are abnormally high. Particles >14µm are notably high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

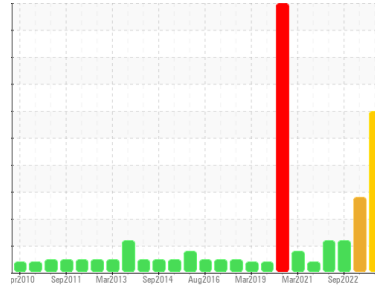
view report





OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Area
Curing Department
 Machine Id
PHB02
 Component
Hydraulic System
 Fluid
ISO 68 (200 GAL)

DIAGNOSIS

Recommendation

We advise that you check all areas where contaminants can enter the system. Check seals and/or filters for points of contaminant entry. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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 an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material and/or dirt.

Fluid Condition

The AN level is acceptable for this fluid. 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	WC0851356	WC0794145	WC0736509
Sample Date	Client Info	09 Oct 2023	10 Mar 2023	10 Sep 2022
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		SEVERE	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184*	0	0	---	
Iron	ppm	ASTM D5185(m) >20	38	▲ 40	33
Chromium	ppm	ASTM D5185(m) >20	<1	<1	<1
Nickel	ppm	ASTM D5185(m) >20	2	2	2
Titanium	ppm	ASTM D5185(m)	0	<1	0
Silver	ppm	ASTM D5185(m)	<1	0	0
Aluminum	ppm	ASTM D5185(m) >20	8	▲ 10	2
Lead	ppm	ASTM D5185(m) >20	16	19	17
Copper	ppm	ASTM D5185(m) >20	125	131	125
Tin	ppm	ASTM D5185(m) >20	<1	<1	<1
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	<1	<1
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	<1	<1

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	<1	<1	<1
Barium	ppm	ASTM D5185(m)	<1	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	26	18	32
Calcium	ppm	ASTM D5185(m)	56	62	59
Phosphorus	ppm	ASTM D5185(m)	665	763	716
Zinc	ppm	ASTM D5185(m)	548	576	542
Sulfur	ppm	ASTM D5185(m)	2051	2425	2186
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

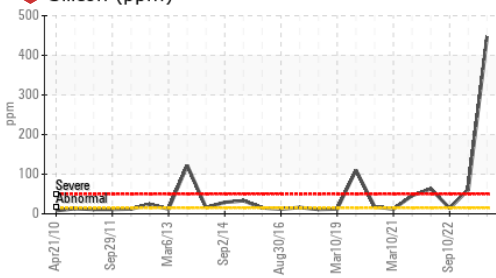
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >15	447	61	14
Sodium	ppm	ASTM D5185(m)	2	2	2
Potassium	ppm	ASTM D5185(m) >20	<1	1	0

FLUID CLEANLINESS

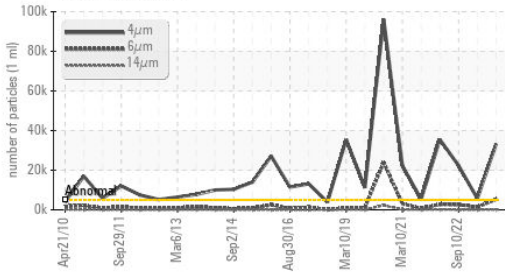
method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>5000	▲ 33209	▲ 5678	▲ 22301
Particles >6µm	ASTM D7647	>1300	▲ 5302	▲ 1459	▲ 2589
Particles >14µm	ASTM D7647	>160	125	48	38
Particles >21µm	ASTM D7647	>40	22	11	6
Particles >38µm	ASTM D7647	>10	3	2	1
Particles >71µm	ASTM D7647	>3	1	1	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 22/20/14	▲ 20/18/13	▲ 22/19/12

OIL ANALYSIS REPORT

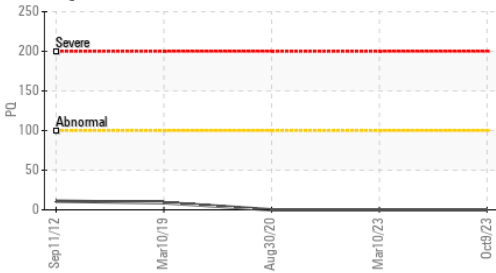
Silicon (ppm)



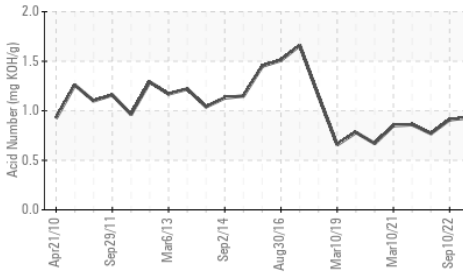
Particle Trend



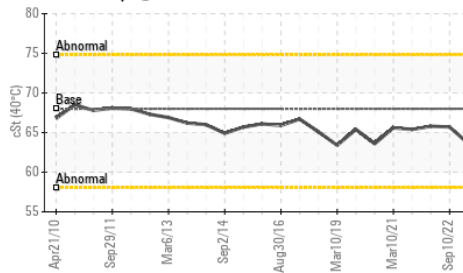
PQ



Acid Number



Viscosity @ 40°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.97	0.93	0.91

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	VLITE	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)	68.0	65.2	63.6	65.7

SAMPLE IMAGES		method	limit/base	current	history1	history2
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Color

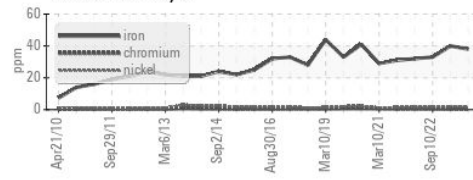


Bottom

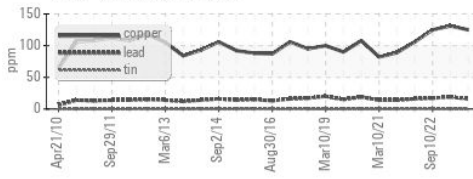


GRAPHS

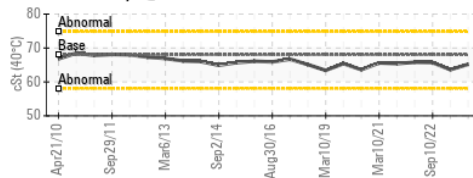
Ferrous Alloys



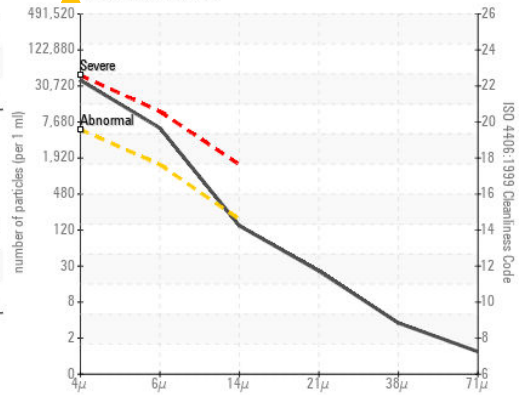
Non-ferrous Metals



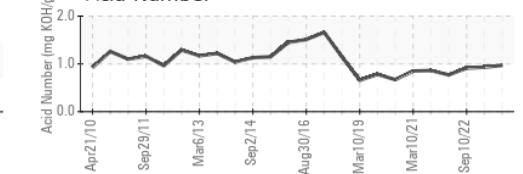
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0851356
Lab Number : 02591021
Unique Number : 5668100
Test Package : IND 2 (Additional Tests: PQ, TAN Man)

Received : 23 Oct 2023
Diagnosed : 24 Oct 2023
Diagnostician : Kevin Marson

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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