



PROBLEM SUMMARY

Sample Rating Trend

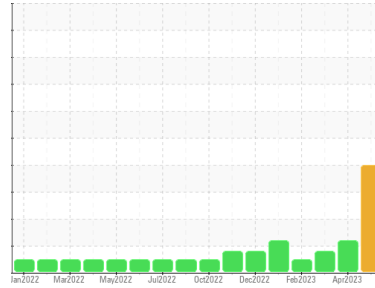
ISO



Machine Id
HSS - HIGH PRESS

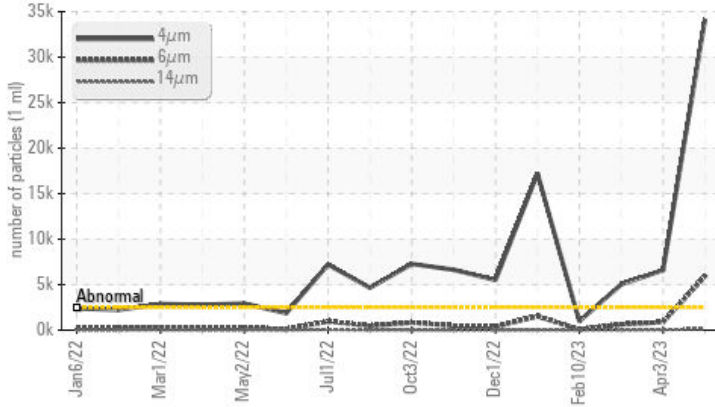
Component
Hydraulic System

Fluid
TOTAL AZOLLA ZS 22 (5 GAL)



COMPONENT CONDITION SUMMARY

Particle Trend



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. 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 you service the filters on this component. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>2500	34147	6590	5037
Particles >6µm	ASTM D7647	>640	5932	882	633
Particles >14µm	ASTM D7647	>80	120	46	10
Oil Cleanliness	ISO 4406 (c)	>18/16/13	22/20/14	20/17/13	20/16/10

Customer Id: HAWCHANC

Sample No.: WC0791100

Lab Number: 05836605

Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:

Wes Davis +1 905-569-8600 x223

wesd@wearcheck.ca

To change component or sample information:

Customer Service +1 1-800-237-1369

customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	MISSED	Jun 12 2023	?	We recommend you service the filters on this component.
Resample	MISSED	Jun 12 2023	?	Resample in 30-45 days to monitor this situation.
Check Breathers	MISSED	Jun 12 2023	?	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 Seals	MISSED	Jun 12 2023	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

03 Apr 2023 Diag: Doug Bogart

ISO



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. There is a high 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



01 Mar 2023 Diag: Jonathan Hester

ISO



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 6 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



10 Feb 2023 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report





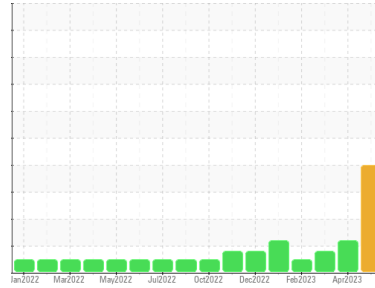
OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Machine Id
HSS - HIGH PRESS
 Component
Hydraulic System
 Fluid
TOTAL AZOLLA ZS 22 (5 GAL)



DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. 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 you service the filters on this component. Resample in 30-45 days to monitor this situation.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

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		WC0791100	WC0700577	WC0700571
Sample Date	Client Info		02 May 2023	03 Apr 2023	01 Mar 2023
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	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	<1	4	2
Chromium	ppm	ASTM D5185m >20	0	0	0
Nickel	ppm	ASTM D5185m >20	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >20	<1	0	0
Lead	ppm	ASTM D5185m >20	0	<1	0
Copper	ppm	ASTM D5185m >20	0	2	1
Tin	ppm	ASTM D5185m >20	0	0	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	3	<1	0
Barium	ppm	ASTM D5185m	0	1	0
Molybdenum	ppm	ASTM D5185m	0	<1	0
Manganese	ppm	ASTM D5185m	<1	0	0
Magnesium	ppm	ASTM D5185m	0	0	0
Calcium	ppm	ASTM D5185m	9	46	44
Phosphorus	ppm	ASTM D5185m	266	324	286
Zinc	ppm	ASTM D5185m	351	416	368
Sulfur	ppm	ASTM D5185m	494	965	871

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<1	3	1
Sodium	ppm	ASTM D5185m	0	0	<1
Potassium	ppm	ASTM D5185m >20	0	<1	0

FLUID CLEANLINESS

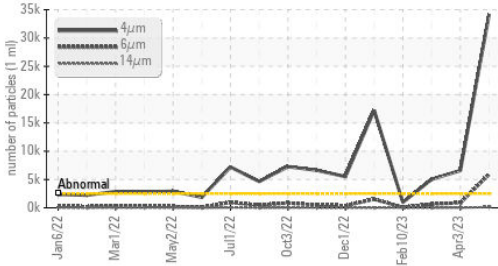
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	34147	6590	5037
Particles >6µm	ASTM D7647	>640	5932	882	633
Particles >14µm	ASTM D7647	>80	120	46	10
Particles >21µm	ASTM D7647	>20	14	10	1
Particles >38µm	ASTM D7647	>4	0	1	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	22/20/14	20/17/13	20/16/10

FLUID DEGRADATION

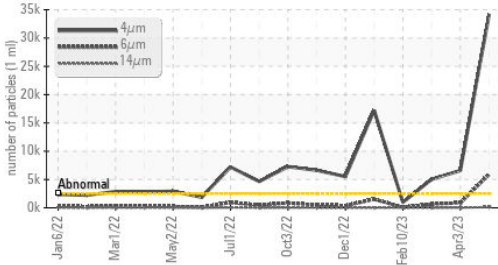
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.43	0.49	0.46

OIL ANALYSIS REPORT

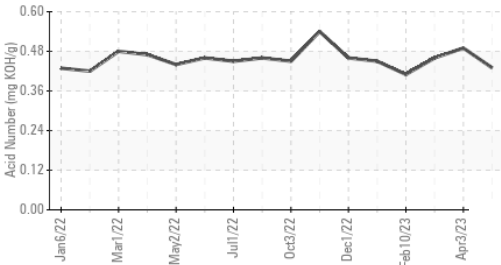
Particle Trend



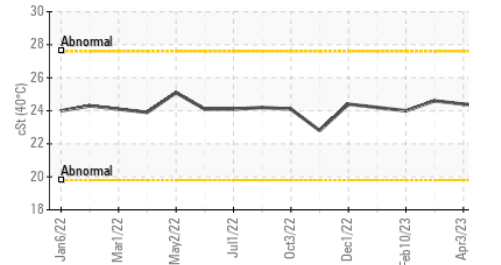
Particle Trend



Acid Number



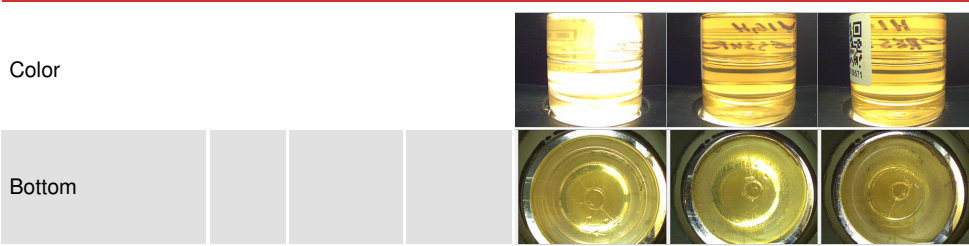
Viscosity @ 40°C



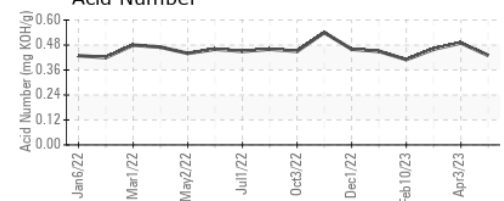
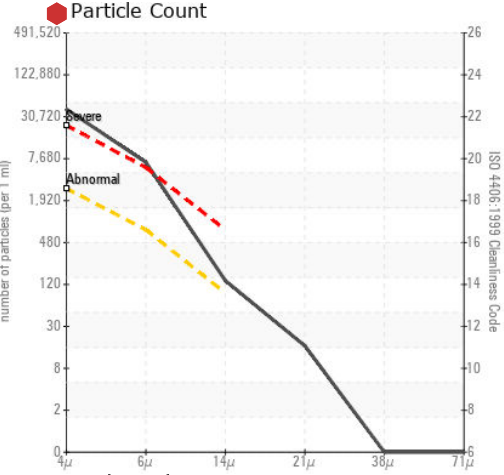
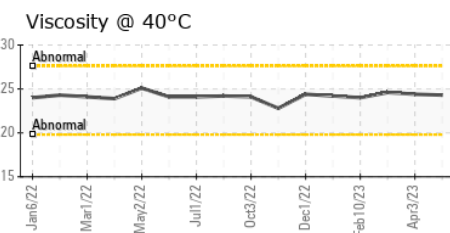
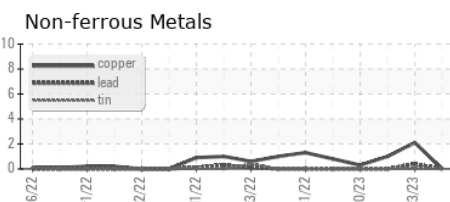
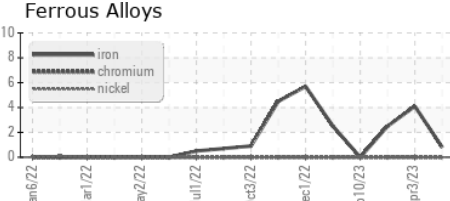
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	24.3	24.4	24.6

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0791100 **Received** : 03 May 2023
Lab Number : 05836605 **Diagnosed** : 04 May 2023
Unique Number : 10455408 **Diagnostician** : Wes Davis
Test Package : IND 2

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To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)