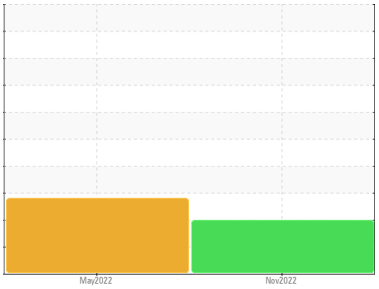
PROBLEM SUMMARY

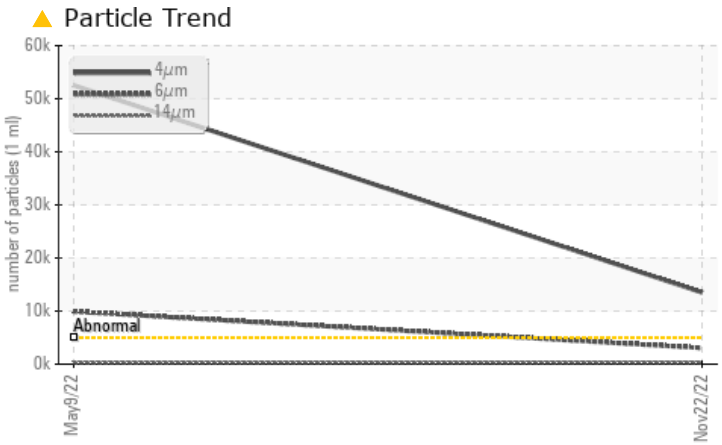
Sample Rating Trend



ISO

Machine Id
10574196
Component
Hydraulic System
Fluid
SHELL TELLUS 68 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	SEVERE	---
Particles >4µm		ASTM D7647	>5000	▲ **13508**	⬢ 52538	---
Particles >6µm		ASTM D7647	>1300	▲ **3044**	▲ 9904	---
Particles >14µm		ASTM D7647	>160	▲ **336**	▲ 288	---
Particles >21µm		ASTM D7647	>40	▲ **106**	46	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/19/16**	⬢ 23/20/15	---

Customer Id: INCOCOLE
Sample No.: WC0698310
Lab Number: 02525519
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:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	MISSED	May 12 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	MISSED	May 12 2023	?	We recommend an early resample to monitor this condition.
Information Required	MISSED	May 12 2023	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Filter Fluid	MISSED	May 12 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

ISO

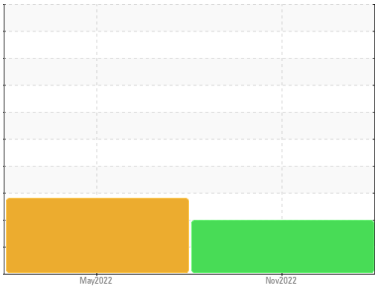
09 May 2022 Diag: Kevin Marson

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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Oil Cleanliness are severely high. Particles >4µm are severely high. Particles >6µm are abnormally high. Particles >14µm are notably 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



ISO

Machine Id
10574196
Component
Hydraulic System
Fluid
SHELL TELLUS 68 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear
All component wear rates are normal.

Contamination
Oil Cleanliness are abnormally high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high.

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		**WC0698310**	WC0638700	---
Sample Date		Client Info		**22 Nov 2022**	09 May 2022	---
Machine Age	mths	Client Info		**0**	0	---
Oil Age	mths	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**ABNORMAL**	SEVERE	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	**2**	1	---
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	---
Nickel	ppm	ASTM D5185(m)	>20	**<1**	<1	---
Titanium	ppm	ASTM D5185(m)		**<1**	0	---
Silver	ppm	ASTM D5185(m)		**0**	0	---
Aluminum	ppm	ASTM D5185(m)	>20	**<1**	<1	---
Lead	ppm	ASTM D5185(m)	>20	**3**	<1	---
Copper	ppm	ASTM D5185(m)	>20	**4**	1	---
Tin	ppm	ASTM D5185(m)	>20	**0**	0	---
Antimony	ppm	ASTM D5185(m)		**<1**	<1	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**2**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	<1	---
Barium	ppm	ASTM D5185(m)		**0**	0	---
Molybdenum	ppm	ASTM D5185(m)		**0**	0	---
Manganese	ppm	ASTM D5185(m)		**0**	0	---
Magnesium	ppm	ASTM D5185(m)	11	**13**	14	---
Calcium	ppm	ASTM D5185(m)	39	**33**	91	---
Phosphorus	ppm	ASTM D5185(m)	260	**289**	271	---
Zinc	ppm	ASTM D5185(m)	279	**325**	284	---
Sulfur	ppm	ASTM D5185(m)	2109	**851**	3511	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

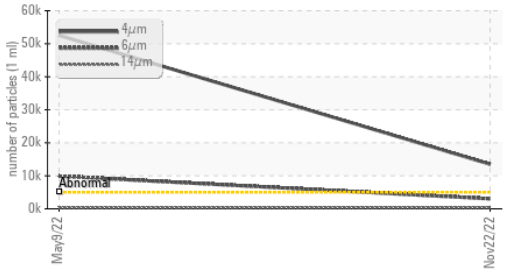
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**2**	3	---
Sodium	ppm	ASTM D5185(m)		**<1**	<1	---
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **13508**	52538	---
Particles >6µm		ASTM D7647	>1300	▲ **3044**	▲ 9904	---
Particles >14µm		ASTM D7647	>160	▲ **336**	▲ 288	---
Particles >21µm		ASTM D7647	>40	▲ **106**	46	---
Particles >38µm		ASTM D7647	>10	**1**	2	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/19/16**	23/20/15	---

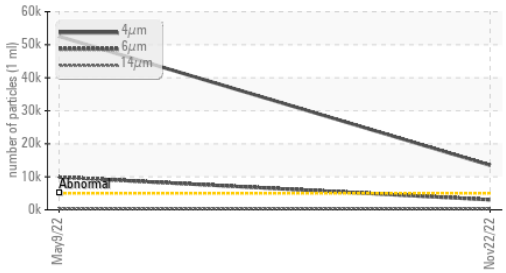
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.37	**0.38**	0.32	---

OIL ANALYSIS REPORT

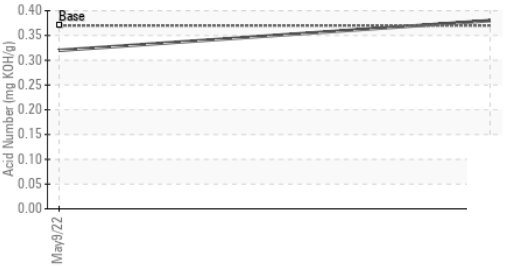
Particle Trend



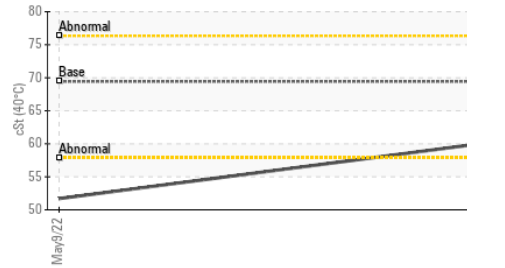
Particle Trend



Acid Number

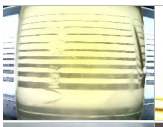
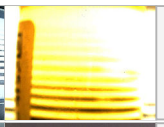


Viscosity @ 40°C



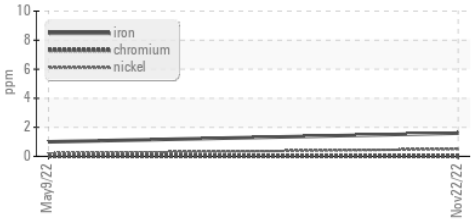
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**NONE**	NONE	---
Debris	scalar	Visual*	NONE	**NONE**	NONE	---
Sand/Dirt	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 D7279(m)	69.43	**60.2**	▲ 51.7	---

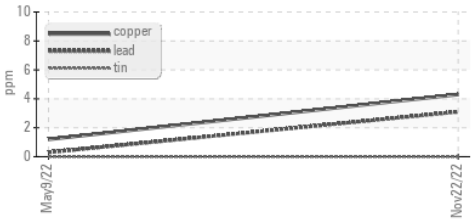
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

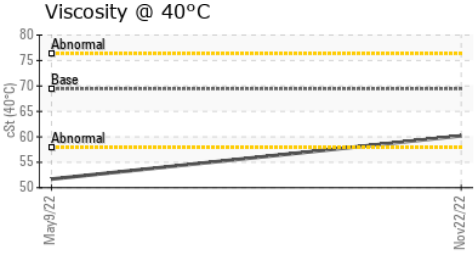
Ferrous Alloys



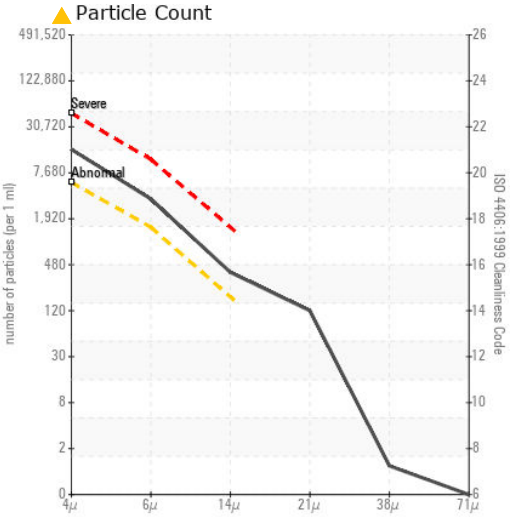
Non-ferrous Metals



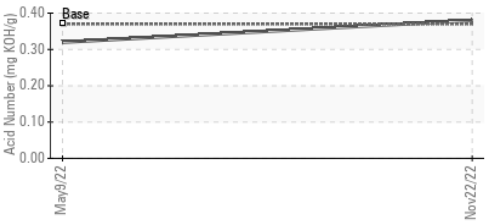
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0698310 **Received** : 29 Nov 2022
Lab Number : 02525519 **Diagnosed** : 30 Nov 2022
Unique Number : 5490500 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: 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.

Vale - Coleman Mine
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