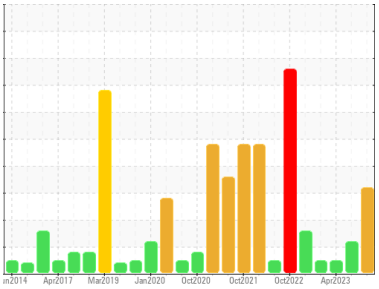
PROBLEM SUMMARY

Sample Rating Trend

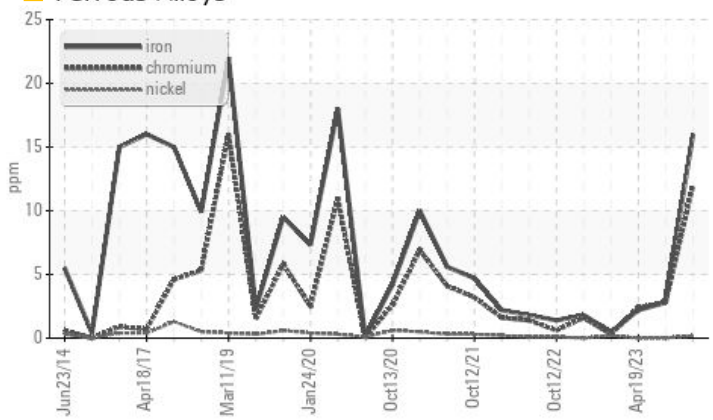


WEAR

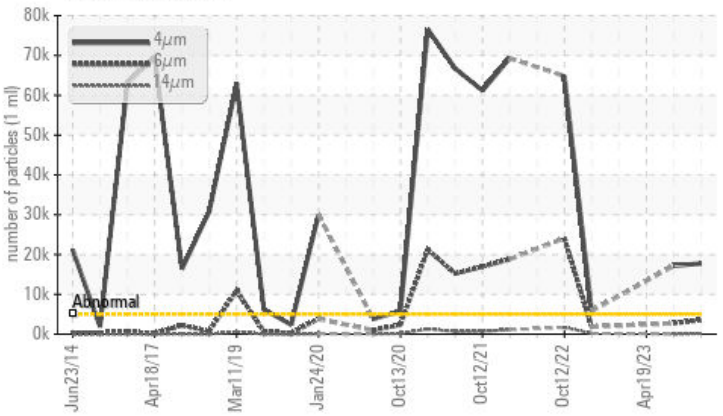
Machine Id
10586691 36-HU-1
Component
Hydraulic System
Fluid
SHELL TELLUS S2 M 46 (250 LTR)

COMPONENT CONDITION SUMMARY

Ferrous Alloys



Particle Trend



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>20	▲ **16**	3	<1
Chromium	ppm	ASTM D5185(m)	>20	▲ **12**	3	<1
Particles >4µm		ASTM D7647	>5000	▲ **17750**	▲ 17172	---
Particles >6µm		ASTM D7647	>1300	▲ **3533**	▲ 2729	---
Particles >14µm		ASTM D7647	>160	▲ **161**	24	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/19/15**	▲ 21/19/12	---

Customer Id: INCOCLARA
Sample No.: WC0820704
Lab Number: 02590264
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	MISSED	Oct 20 2023	?	We recommend you service the filters on this component.
Resample	MISSED	Oct 20 2023	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

10 Jul 2023 Diag: Wes Davis

ISO

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. 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

19 Apr 2023 Diag: Kevin Marson

NORMAL

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 2 test kits, this testkit includes Particle Count to determine the ISO cleanliness of the fluid.All component wear rates are normal. There is no indication of any contamination in the component(unconfirmed). Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

view report

19 Apr 2023 Diag: Kevin Marson

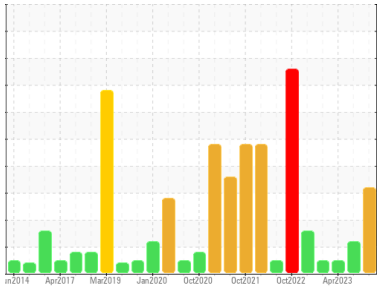
NORMAL

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 2 test kits, this testkit includes Particle Count to determine the ISO cleanliness of the fluid.All component wear rates are normal. There is no indication of any contamination in the component(unconfirmed). Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
10586691 36-HU-1
Component
Hydraulic System
Fluid
SHELL TELLUS S2 M 46 (250 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

Chromium and iron ppm levels are abnormal. A sharp increase in the iron level is noted. A sharp increase in the chromium level is noted. Cylinder liner, rod or spool 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.

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		**WC0820704**	WC0820679	WC0532580
Sample Date		Client Info		**27 Sep 2023**	10 Jul 2023	19 Apr 2023
Machine Age	days	Client Info		**60**	0	0
Oil Age	days	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	N/A	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	---	---
Iron	ppm	ASTM D5185(m)	>20	▲ **16**	3	<1
Chromium	ppm	ASTM D5185(m)	>20	▲ **12**	3	<1
Nickel	ppm	ASTM D5185(m)	>20	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**0**	0	0
Lead	ppm	ASTM D5185(m)	>20	**<1**	0	0
Copper	ppm	ASTM D5185(m)	>20	**4**	2	<1
Tin	ppm	ASTM D5185(m)	>20	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

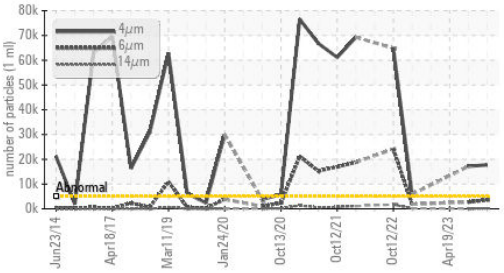
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	<1	0
Barium	ppm	ASTM D5185(m)		**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**59**	67	69
Calcium	ppm	ASTM D5185(m)		**8**	11	8
Phosphorus	ppm	ASTM D5185(m)		**277**	318	317
Zinc	ppm	ASTM D5185(m)		**330**	346	336
Sulfur	ppm	ASTM D5185(m)		**633**	703	683
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

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

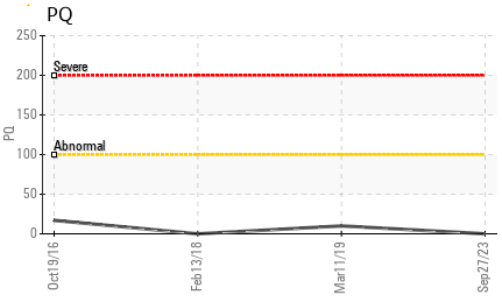
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **17750**	▲ 17172	---
Particles >6µm		ASTM D7647	>1300	▲ **3533**	▲ 2729	---
Particles >14µm		ASTM D7647	>160	▲ **161**	24	---
Particles >21µm		ASTM D7647	>40	**24**	3	---
Particles >38µm		ASTM D7647	>10	**1**	0	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **21/19/15**	▲ 21/19/12	---

OIL ANALYSIS REPORT

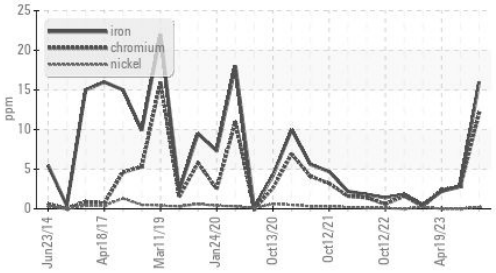
Particle Trend



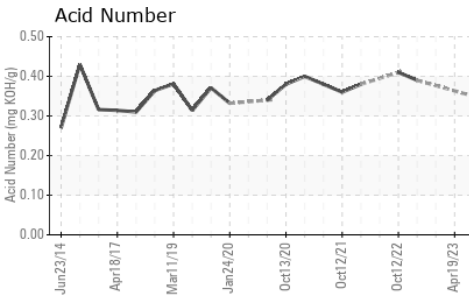
PQ



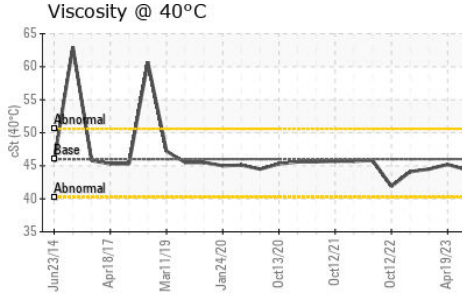
Ferrous Alloys



Acid Number



Viscosity @ 40°C

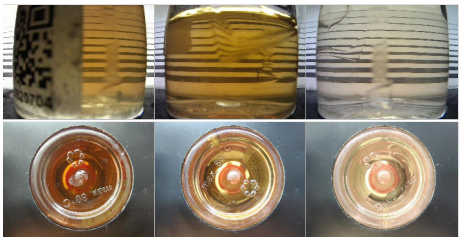


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.48**	0.35	---

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

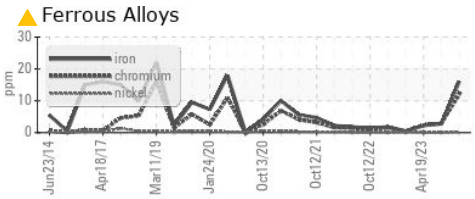
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46.0	**45.3**	44.4	45.2

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

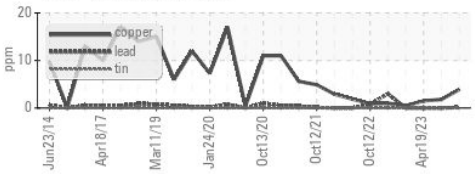


GRAPHS

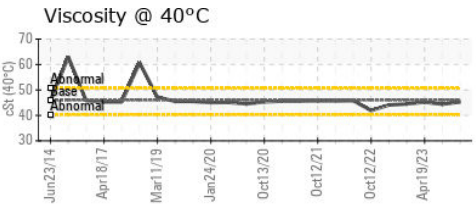
Ferrous Alloys



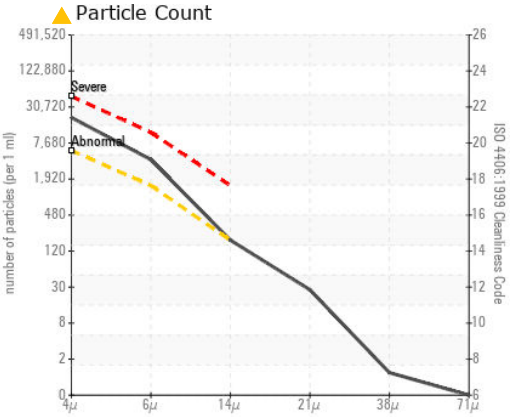
Non-ferrous Metals



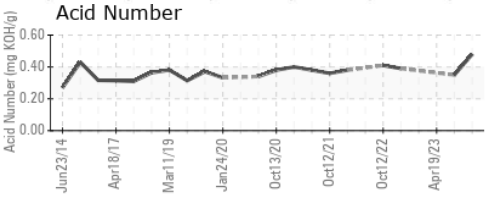
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0820704 **Received** : 19 Oct 2023
Lab Number : 02590264 **Diagnosed** : 20 Oct 2023
Unique Number : 5659330 **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.

Vale - Clarabelle Mill
MTW (Mill,Tailings&Water)
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