



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
015-0062 - TROLLEY
Component
Gearbox
Fluid
SHELL OMALA S4 GX 220 (--- GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0750693	WC0548365	---
Sample Date		Client Info		14 Apr 2023	01 Apr 2022	---
Machine Age	hrs	Client Info		0	4638	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changed	Not Changed	---
Filter Changed		Client Info		Not Changed	Not Changed	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

Gear wear is indicated.

Iron	ppm	ASTM D5185m	>200	▲ 217	176	---
Chromium	ppm	ASTM D5185m	>10	3	2	---
Nickel	ppm	ASTM D5185m	>10	<1	0	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>25	2	1	---
Lead	ppm	ASTM D5185m	>50	0	<1	---
Copper	ppm	ASTM D5185m	>200	2	2	---
Tin	ppm	ASTM D5185m	>10	0	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	MODER	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

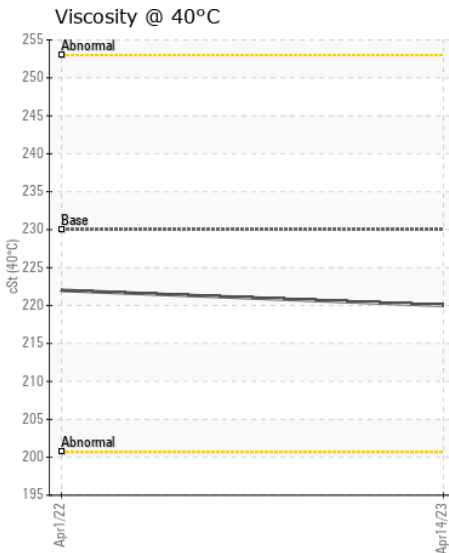
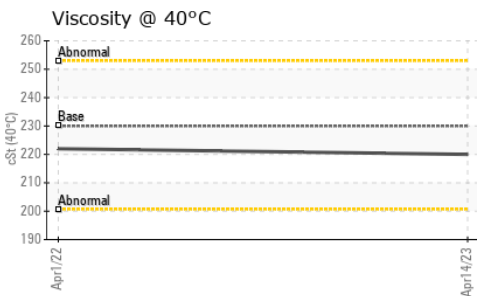
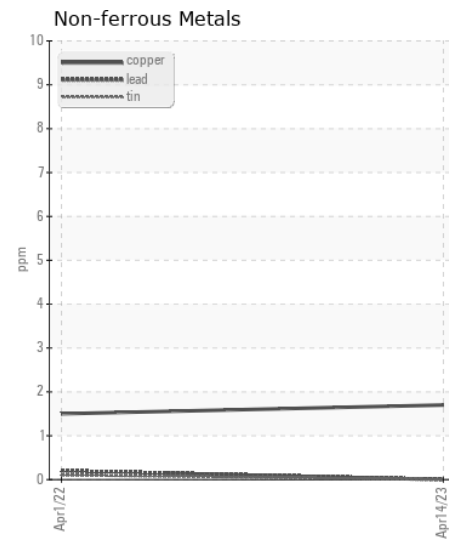
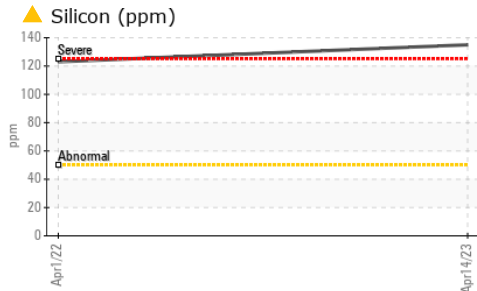
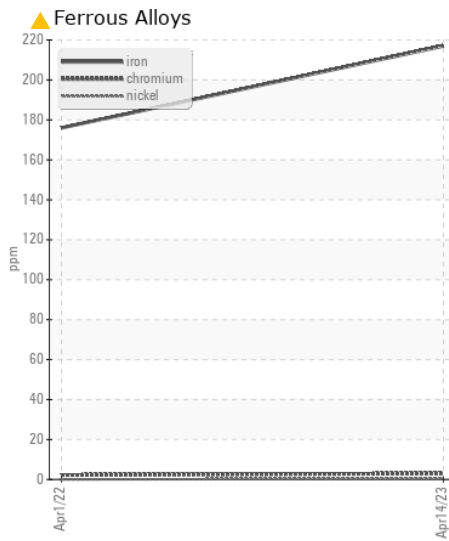
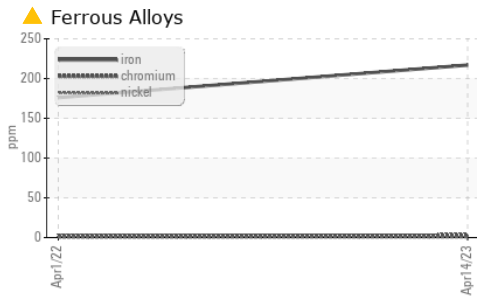
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>50	▲ 135	▲ 123	---
Potassium	ppm	ASTM D5185m	>20	1	0	---
Water		WC Method	>0.2	NEG	NEG	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	LIGHT	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		4	4	---
Boron	ppm	ASTM D5185m		5	8	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		3	2	---
Manganese	ppm	ASTM D5185m		4	4	---
Magnesium	ppm	ASTM D5185m		2	0	---
Calcium	ppm	ASTM D5185m		26	26	---
Phosphorus	ppm	ASTM D5185m		238	247	---
Zinc	ppm	ASTM D5185m		57	45	---
Sulfur	ppm	ASTM D5185m		25549	18763	---
Visc @ 40°C	cSt	ASTM D445	230	220	222	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0750693
Lab Number : 05829716
Unique Number : 10443209
Test Package : CONST

Received : 25 Apr 2023
Tested : 26 Apr 2023
Diagnosed : 27 Apr 2023 - Sean Felton

SHIMMICK CONSTRUCTION
 5535 TRAILHEAD DRIVE
 CHATTANOOGA, TN
 US 37415
 Contact: DANIEL LISELLA
 daniel.lisella@shimmick.com

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)

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