



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area

Contracting

Machine Id

4220 4220

Component

Drive End Gearbox

Fluid

SHELL SPIRAX HD 85W140 (1 QTS)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0808896	WCMCF06710	---
Sample Date		Client Info		03 May 2023	15 May 2015	---
Machine Age	hrs	Client Info		947	1332	---
Oil Age	hrs	Client Info		812	1332	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Changed	---
Filter Changed		Client Info		Not Changd	N/A	---
Sample Status				SEVERE	ABNORMAL	---

WEAR

Gear wear is indicated.

Iron	ppm	ASTM D5185m	>200	▲ 2280	244	---
Chromium	ppm	ASTM D5185m	>10	▲ 12	2	---
Nickel	ppm	ASTM D5185m	>10	3	<1	---
Titanium	ppm	ASTM D5185m		1	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>25	● 21	3	---
Lead	ppm	ASTM D5185m	>50	0	15	---
Copper	ppm	ASTM D5185m	>200	54	8	---
Tin	ppm	ASTM D5185m	>10	0	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	MODER	LIGHT	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

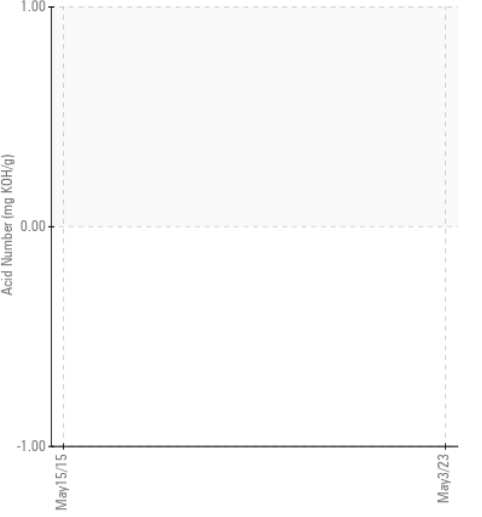
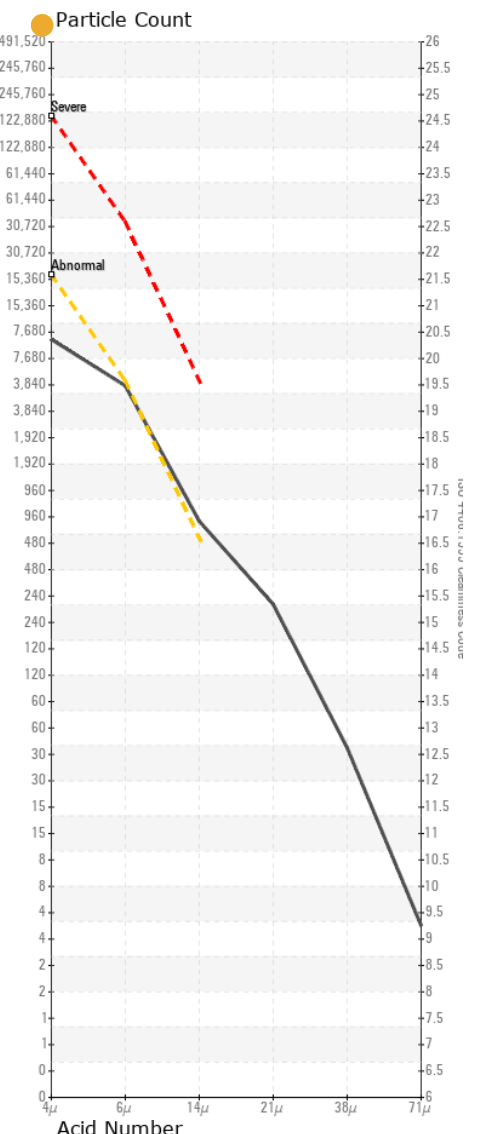
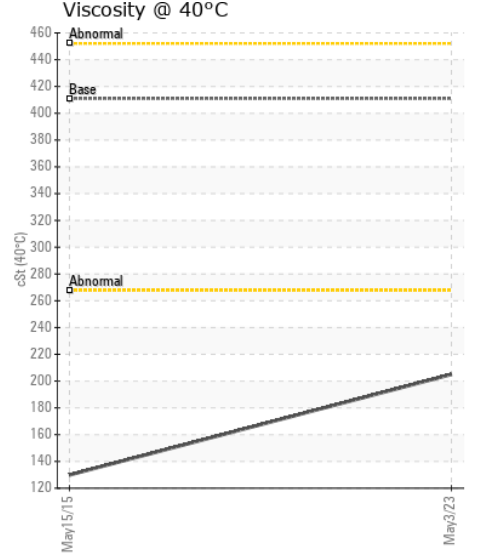
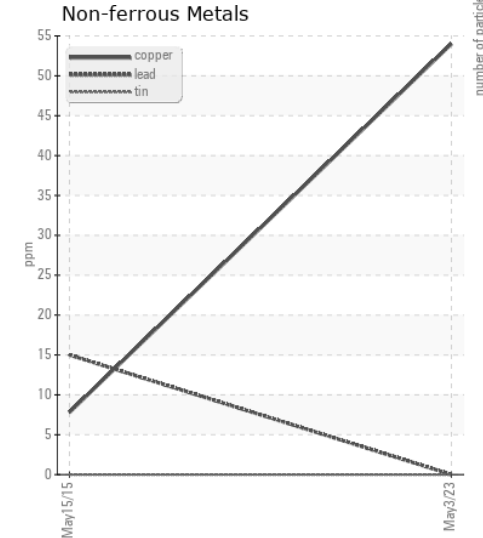
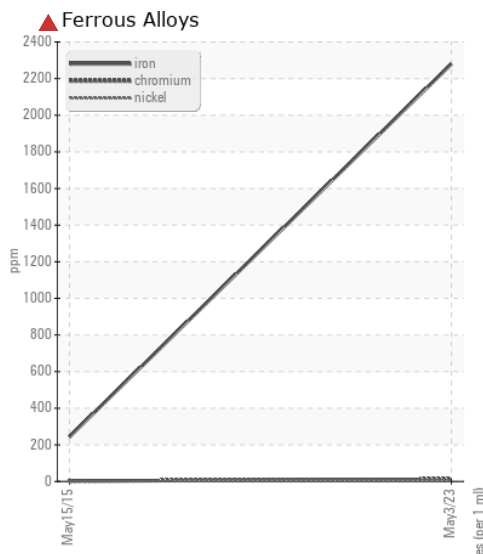
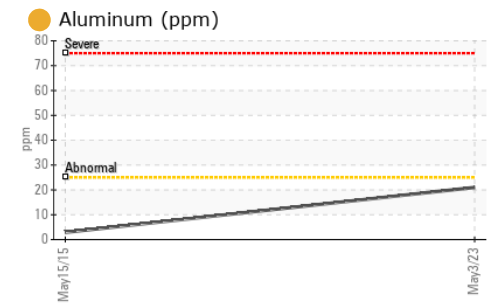
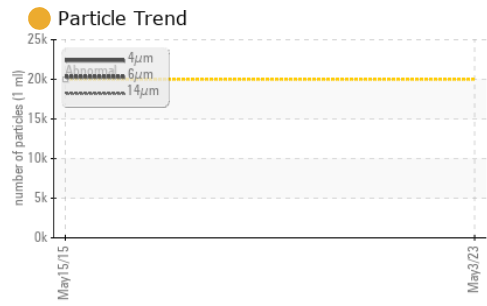
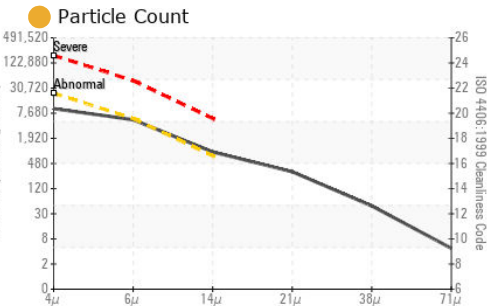
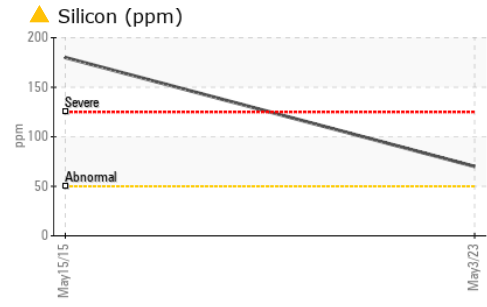
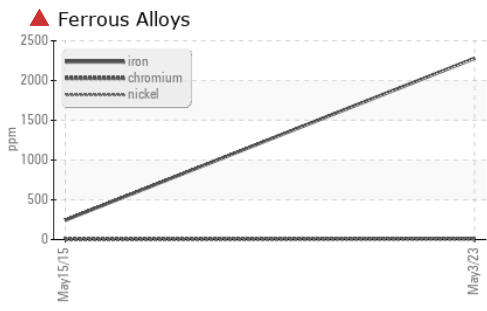
There is a moderate amount of particulates present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>50	▲ 70	▲ 180	---
Potassium	ppm	ASTM D5185m	>20	2	2	---
Water		WC Method	>0.2	NEG	NEG	---
Particles >4µm		ASTM D7647	>20000	8587	---	---
Particles >6µm		ASTM D7647	>5000	4678	---	---
Particles >14µm		ASTM D7647	>640	● 796	---	---
Particles >21µm		ASTM D7647	>160	● 268	---	---
Particles >38µm		ASTM D7647	>40	● 41	---	---
Particles >71µm		ASTM D7647	>10	4	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	● 20/19/17	---	---
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 oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		7	20	---
Boron	ppm	ASTM D5185m		114	2	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		7	1	---
Manganese	ppm	ASTM D5185m		35	10	---
Magnesium	ppm	ASTM D5185m		30	24	---
Calcium	ppm	ASTM D5185m		219	21	---
Phosphorus	ppm	ASTM D5185m		898	619	---
Zinc	ppm	ASTM D5185m		115	73	---
Sulfur	ppm	ASTM D5185m		25056	18133	---
Visc @ 40°C	cSt	ASTM D445	411	205	129.9	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0808896 **Received** : 05 May 2023
Lab Number : 05839089 **Tested** : 09 May 2023
Unique Number : 10457892 **Diagnosed** : 09 May 2023 - Don Baldrige
Test Package : CONST (Additional Tests: PrtCount)

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Certificate L2367
 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)