



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
KENWORTH T800 3911 (S/N KCB65452)
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0917141	WC0613616	---
Sample Date		Client Info		10 Jun 2024	14 Jun 2023	---
Machine Age	mls	Client Info		119780	1187702	---
Oil Age	mls	Client Info		0	0	---
Filter Age	mls	Client Info		0	0	---
Oil Changed		Client Info		Changed	N/A	---
Filter Changed		Client Info		Changed	N/A	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	32	19	---
Chromium	ppm	ASTM D5185m	>20	2	<1	---
Nickel	ppm	ASTM D5185m	>4	<1	<1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	<1	0	---
Aluminum	ppm	ASTM D5185m	>20	3	2	---
Lead	ppm	ASTM D5185m	>40	3	5	---
Copper	ppm	ASTM D5185m	>330	▲ 794	6	---
Tin	ppm	ASTM D5185m	>15	3	<1	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

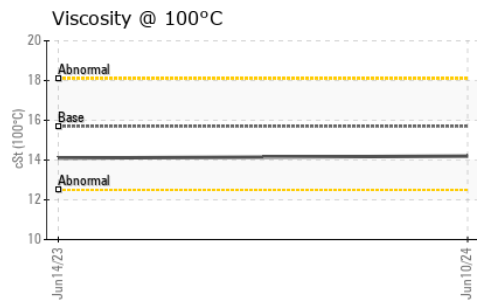
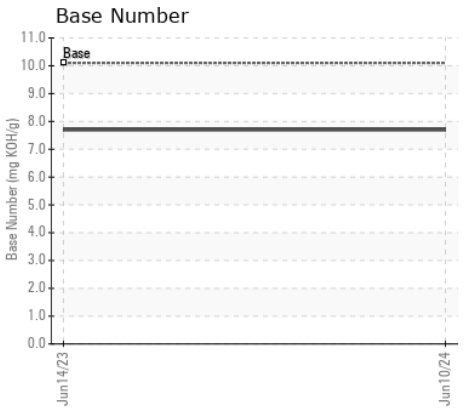
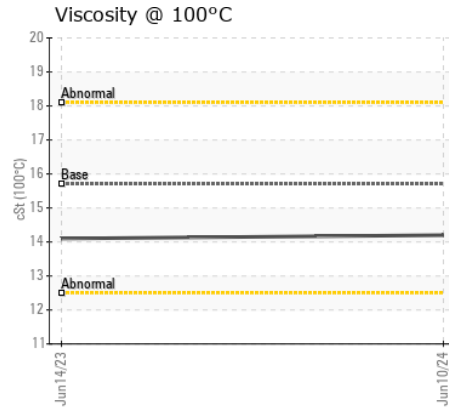
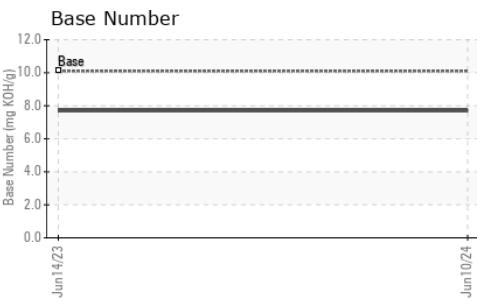
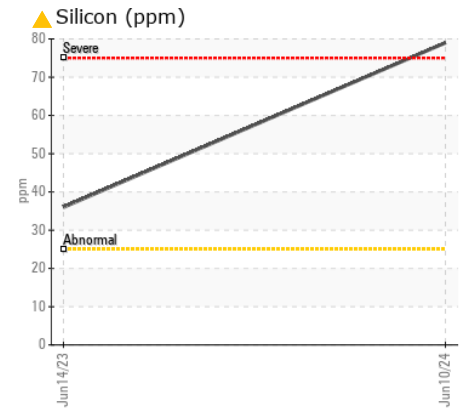
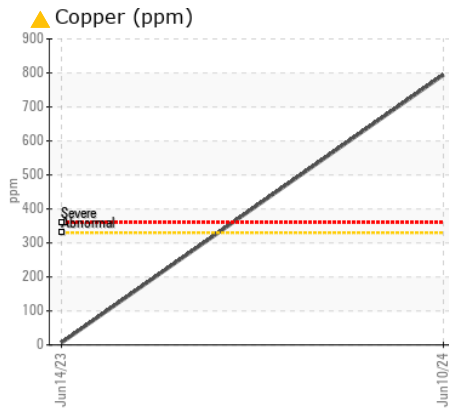
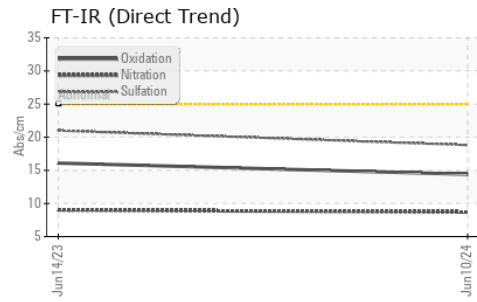
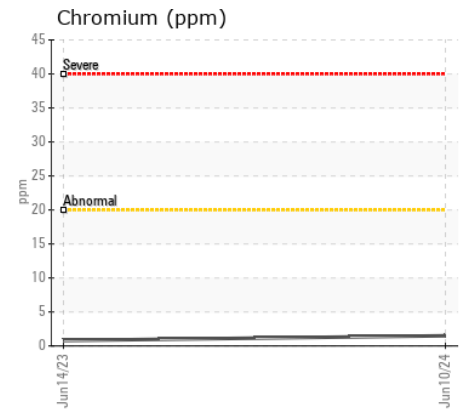
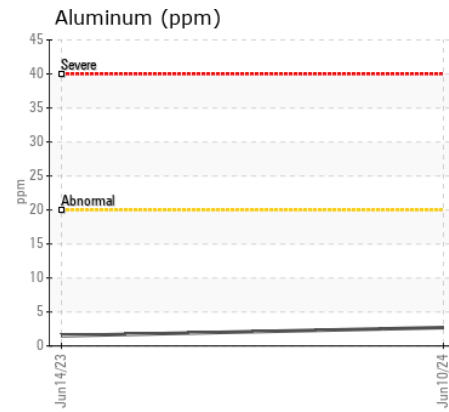
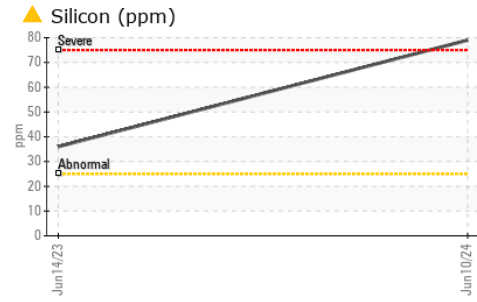
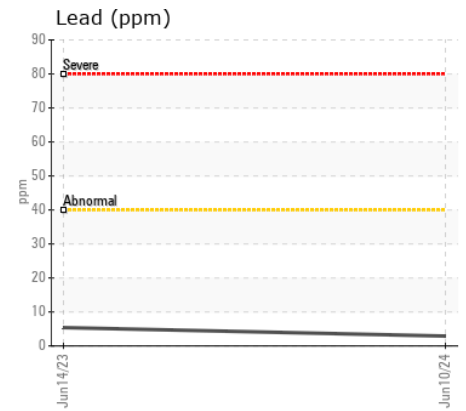
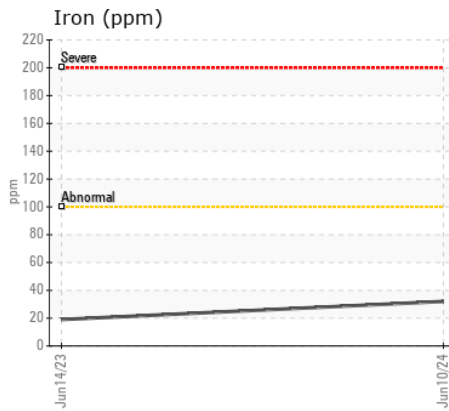
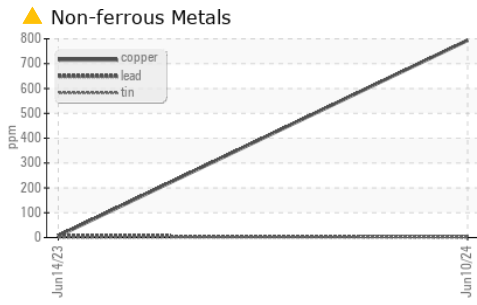
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>25	▲ 79	▲ 36	---
Potassium	ppm	ASTM D5185m	>20	7	4	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.3	0.7	---
Nitration	Abs/cm	*ASTM D7624	>20	8.7	9.0	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.8	21.0	---
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	>0.2	NEG	NEG	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m		9	2	---
Boron	ppm	ASTM D5185m	316	19	21	---
Barium	ppm	ASTM D5185m	0.0	<1	0	---
Molybdenum	ppm	ASTM D5185m	1.2	38	56	---
Manganese	ppm	ASTM D5185m		2	<1	---
Magnesium	ppm	ASTM D5185m	24	378	890	---
Calcium	ppm	ASTM D5185m	2292	1845	1434	---
Phosphorus	ppm	ASTM D5185m	1064	1035	1062	---
Zinc	ppm	ASTM D5185m	1160	1169	1308	---
Sulfur	ppm	ASTM D5185m	4996	3547	3624	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	16.1	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	7.7	7.7	---
Visc @ 100°C	cSt	ASTM D445	15.7	14.2	14.1	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0917141 **Received** : 17 Jun 2024
Lab Number : 06213032 **Tested** : 19 Jun 2024
Unique Number : 11085896 **Diagnosed** : 19 Jun 2024 - Angela Borella
Test Package : MOB 1 (Additional Tests: TBN)

JOHNSON BREEDERS
 3425 HWY 117N
 ROSE HILL, NC
 US 28458

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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)

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