



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
TRANSPORTATION
Machine Id
KENWORTH DOT68
Component
Diesel Engine
Fluid
SHELL 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0803495	WC0751761	---
Sample Date		Client Info		12 Apr 2023	04 Jan 2023	---
Machine Age	mls	Client Info		67534	57208	---
Oil Age	mls	Client Info		3982	10000	---
Filter Age	mls	Client Info		3982	10000	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	13	40	---
Chromium	ppm	ASTM D5185m	>20	0	<1	---
Nickel	ppm	ASTM D5185m	>4	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	<1	<1	---
Lead	ppm	ASTM D5185m	>40	0	<1	---
Copper	ppm	ASTM D5185m	>330	1	4	---
Tin	ppm	ASTM D5185m	>15	0	<1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

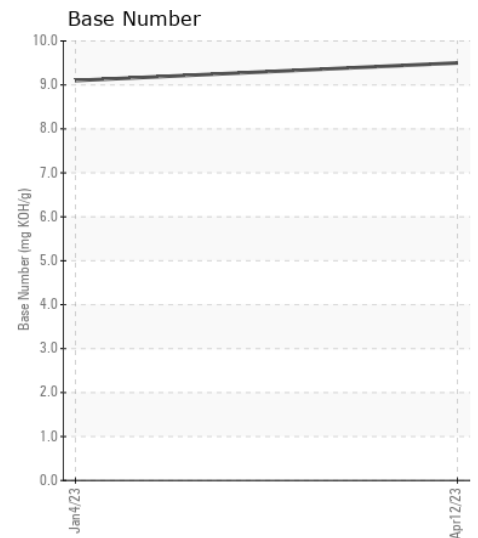
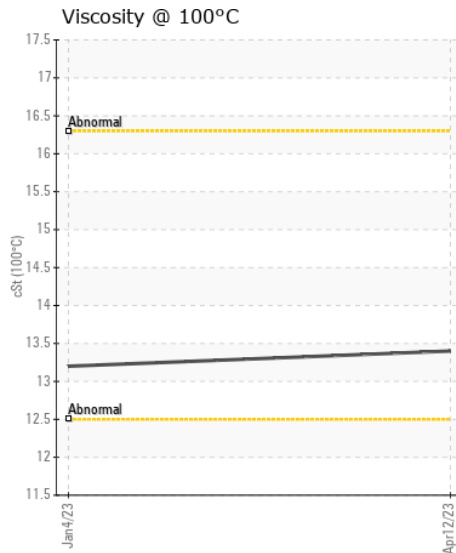
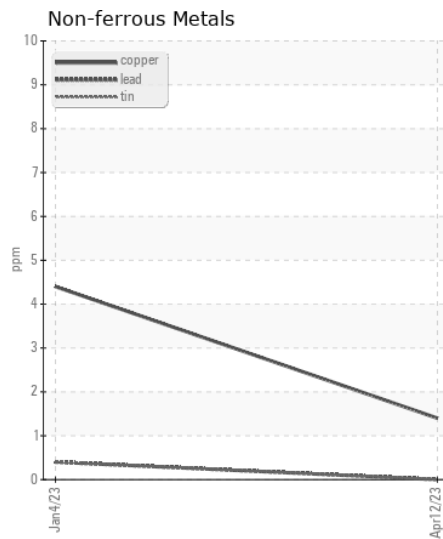
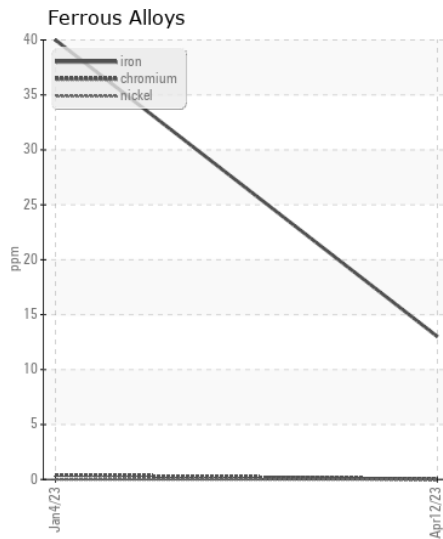
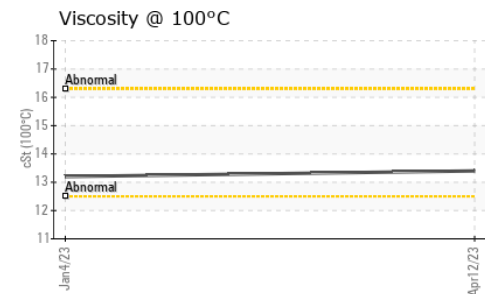
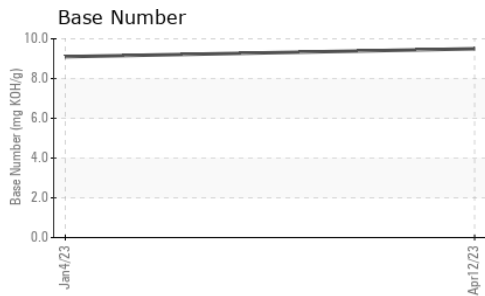
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	2	3	---
Potassium	ppm	ASTM D5185m	>20	0	0	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.2	0.5	---
Nitration	Abs/cm	*ASTM D7624	>20	5.5	7.0	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	18.9	---
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 condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>150	1	1	---
Boron	ppm	ASTM D5185m		7	18	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		61	61	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		999	848	---
Calcium	ppm	ASTM D5185m		1125	1201	---
Phosphorus	ppm	ASTM D5185m		1059	981	---
Zinc	ppm	ASTM D5185m		1333	1156	---
Sulfur	ppm	ASTM D5185m		3642	3577	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	13.8	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.5	9.1	---
Visc @ 100°C	cSt	ASTM D445		13.4	13.2	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0803495 **Received** : 27 Apr 2023
Lab Number : 05830843 **Tested** : 27 Apr 2023
Unique Number : 10444336 **Diagnosed** : 27 Apr 2023 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

METRO METALS NORTHWEST INC
 2202 EAST RIVER ST
 TACOMA, WA
 US 98421

Contact: MICHELE MARTINEZ
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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)

T: (800)562-8464

F: