



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**KENWORTH 98**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>RW0005005</b>	RW0004584	RW0004173
Sample Date		Client Info		<b>05 Feb 2024</b>	28 Oct 2023	09 Aug 2023
Machine Age	hrs	Client Info		<b>5661</b>	5409	5106
Oil Age	hrs	Client Info		<b>252</b>	303	322
Filter Age	hrs	Client Info		<b>252</b>	303	322
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>10</b>	13	22
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	4
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	4
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>0</b>	0	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

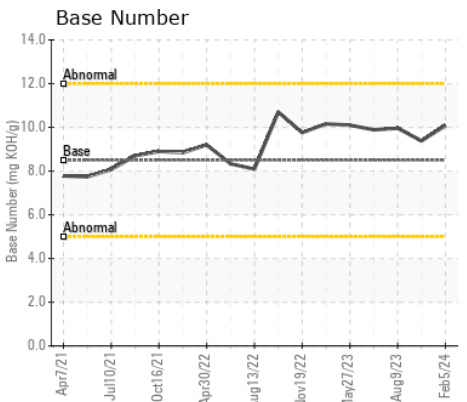
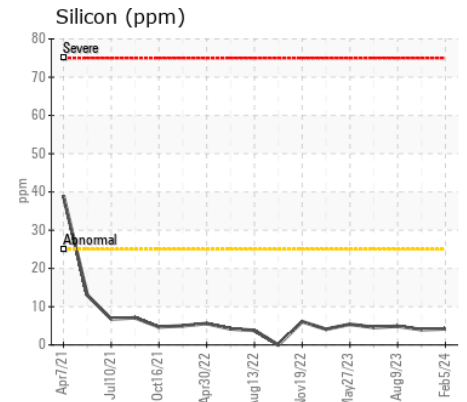
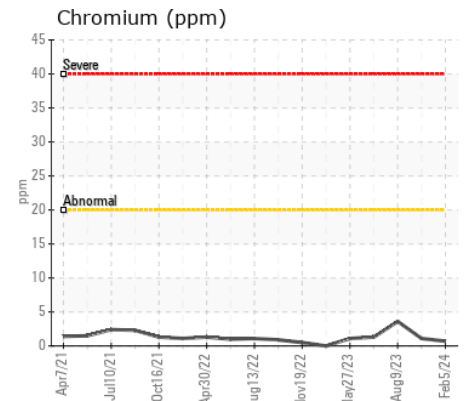
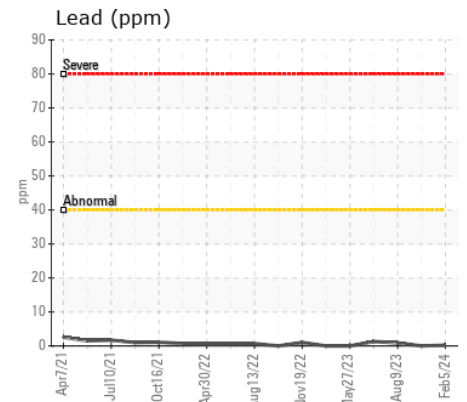
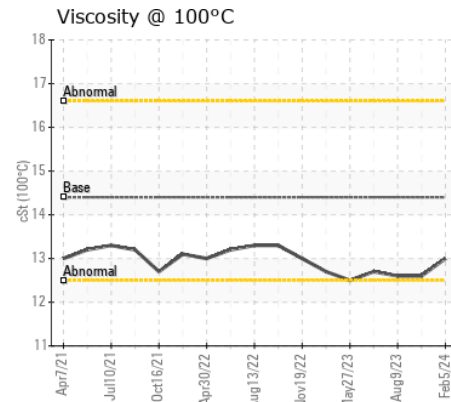
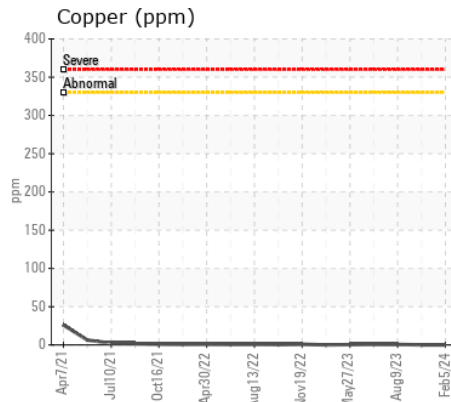
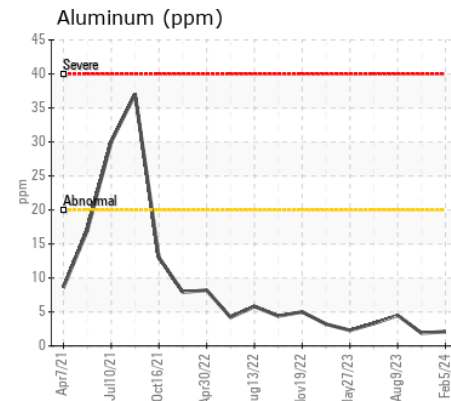
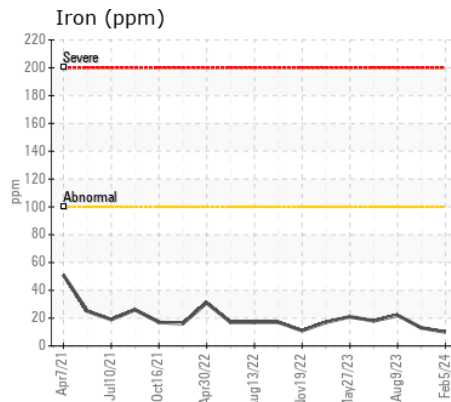
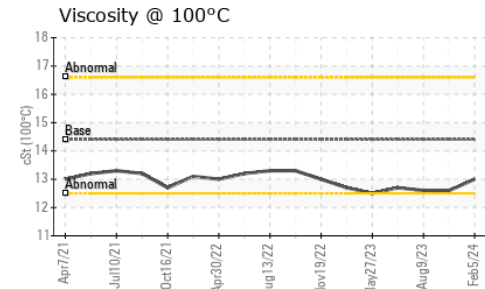
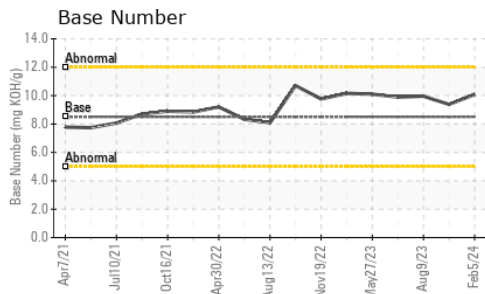
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	10
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.6	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.7</b>	8.2	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.2</b>	19.9	20.1
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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	>158	<b>0</b>	<1	3
Boron	ppm	ASTM D5185m	250	<b>&lt;1</b>	7	6
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>59</b>	59	69
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>922</b>	870	890
Calcium	ppm	ASTM D5185m	3000	<b>1052</b>	1043	1239
Phosphorus	ppm	ASTM D5185m	1150	<b>976</b>	964	1059
Zinc	ppm	ASTM D5185m	1350	<b>1262</b>	1179	1287
Sulfur	ppm	ASTM D5185m	4250	<b>3003</b>	2751	3192
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.6</b>	14.9	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>10.08</b>	9.38	9.96
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.0</b>	12.6	12.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RW0005005  
**Lab Number** : 06101128  
**Unique Number** : 10899358  
**Test Package** : MOB 2

**Received** : 26 Feb 2024  
**Tested** : 28 Feb 2024  
**Diagnosed** : 28 Feb 2024 - Wes Davis

**HALLACK CONTRACTING, INC.**  
 4223 W POLK  
 HART, MI  
 US 49420

Contact: DAN HALLACK KARL BUTCHER  
 shop@hallackcontracting.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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