

Area  
**MIXERS**  
Machine Id  
**[MIXERS] M203**  
Component  
**Diesel Engine**  
Fluid  
**KENDALL 15W40 (--- GAL)**

**RECOMMENDATION**

The oil change at the time of sampling has been noted.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PCA0109792</b>	LP0000666	LP0000183
Sample Date		Client Info		<b>08 Apr 2024</b>	30 Oct 2023	07 Jul 2023
Machine Age	hrs	Client Info		<b>40162</b>	39585	38997
Oil Age	hrs	Client Info		<b>600</b>	600	600
Filter Age	hrs	Client Info		<b>600</b>	600	600
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>51</b>	39	39
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	<1	1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>1</b>	1	1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	2	4
Lead	ppm	ASTM D5185m	>40	<b>5</b>	2	1
Copper	ppm	ASTM D5185m	>330	<b>19</b>	26	36
Tin	ppm	ASTM D5185m	>15	<b>3</b>	1	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

Light concentration of carbon/soot present in the oil.

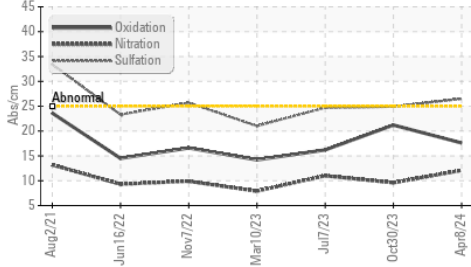
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	5	7
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	<1	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>▲ 3.4</b>	0.2	2.8
Nitration	Abs/cm	*ASTM D7624	>20	<b>12.1</b>	9.6	11.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.5</b>	24.9	24.7
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**

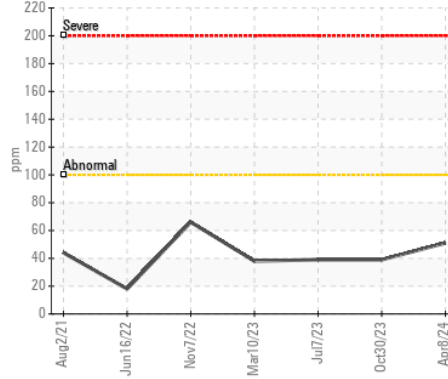
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		<b>5</b>	5	7
Boron	ppm	ASTM D5185m	6.3	<b>34</b>	30	32
Barium	ppm	ASTM D5185m	0.6	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0.4	<b>98</b>	81	83
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	277	<b>153</b>	197	229
Calcium	ppm	ASTM D5185m	1514	<b>2354</b>	1889	2017
Phosphorus	ppm	ASTM D5185m	634	<b>1106</b>	966	1042
Zinc	ppm	ASTM D5185m	743	<b>1302</b>	1193	1254
Sulfur	ppm	ASTM D5185m	2592	<b>3796</b>	3102	4237
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.6</b>	21.2	16.2
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.43</b>	8.18	9.78
Visc @ 100°C	cSt	ASTM D445		<b>13.8</b>	14.0	13.7

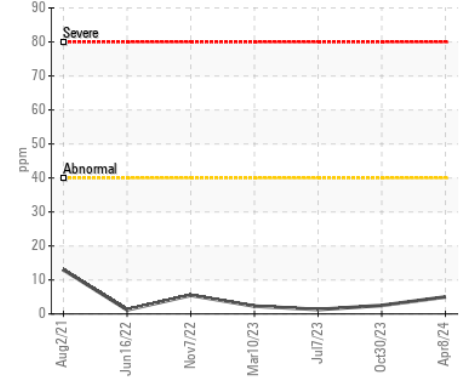
▲ FT-IR (Direct Trend)



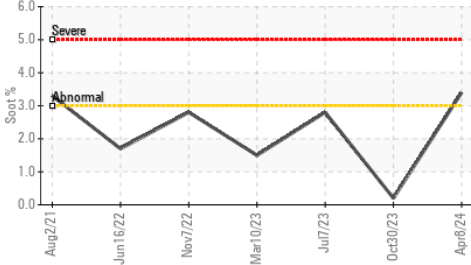
Iron (ppm)



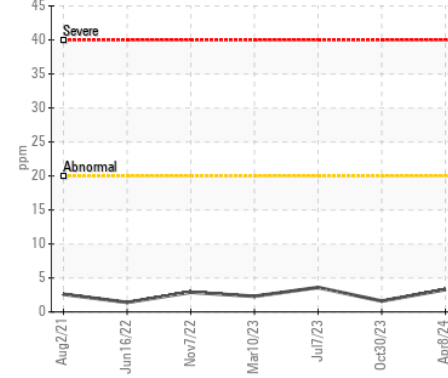
Lead (ppm)



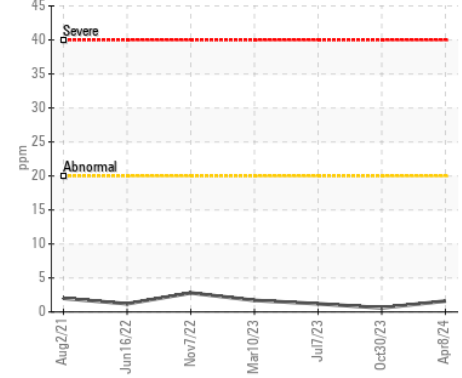
▲ Soot %



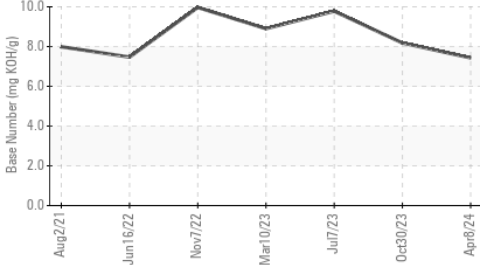
Aluminum (ppm)



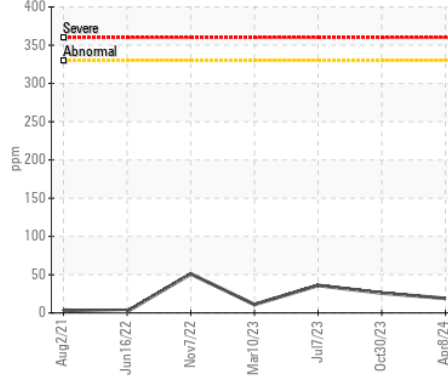
Chromium (ppm)



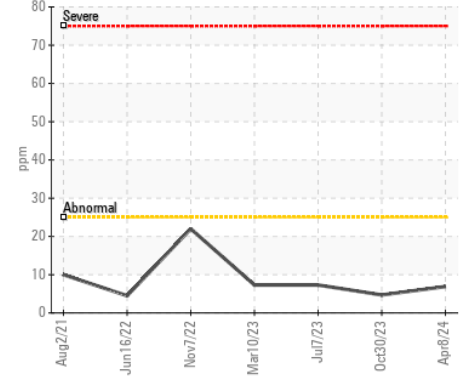
Base Number



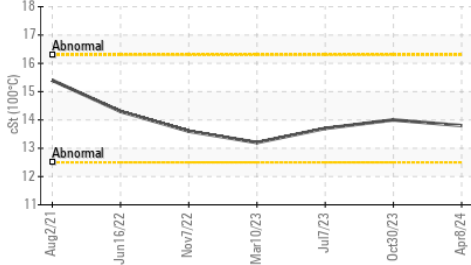
Copper (ppm)



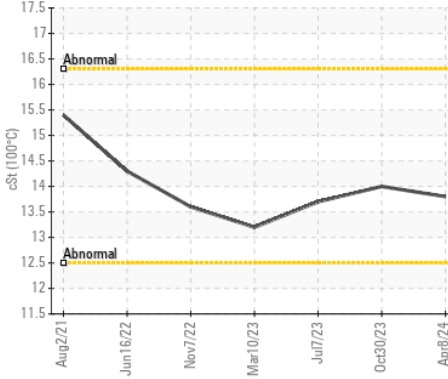
Silicon (ppm)



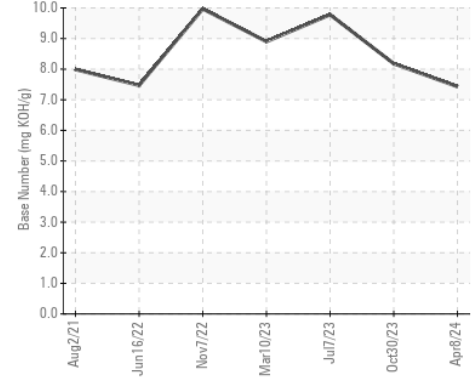
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : PCA0109792

Lab Number : 06148171

Unique Number : 10978249

Test Package : MOB 2

Received : 12 Apr 2024

Tested : 15 Apr 2024

Diagnosed : 15 Apr 2024 - Wes Davis

CONSTRUCTION SERVICES

2420 BOSTON RD

WILBRAHAM, MA

US 01095

Contact: Michael Dupuis

mdupuis@cs-ma.us

T: (413)733-6331

F:

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)