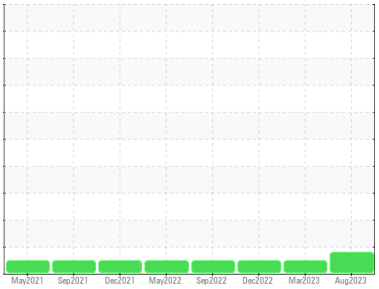
OIL DIAGNOSTICS

PROBLEM SUMMARY

Sample Rating Trend

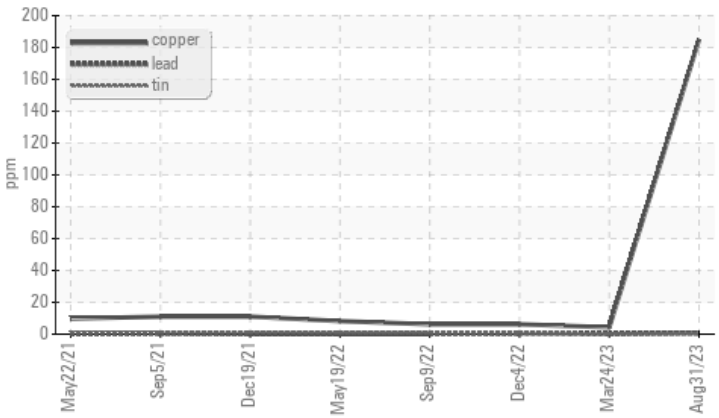


WEAR

Machine Id
217385 []
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (--- QTS)

COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	NORMAL	NORMAL
Copper	ppm	ASTM D5185m	>330	▲ **185**	4	6

Customer Id: MCLLUB
Sample No.: PCA0101239
Lab Number: 05946315
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

24 Mar 2023 Diag: Angela Borella

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

04 Dec 2022 Diag: Wes Davis

NORMAL

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

09 Sep 2022 Diag: Don Baldridge

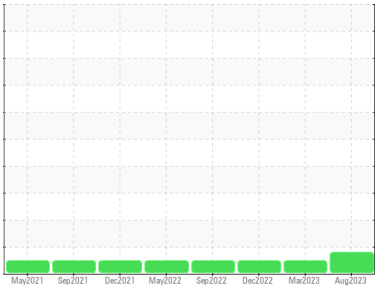
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
217385 []
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The copper level is abnormal. 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.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0101239**	PCA0073098	PCA0067734
Sample Date		Client Info		**31 Aug 2023**	24 Mar 2023	04 Dec 2022
Machine Age	mls	Client Info		**536338**	487546	454986
Oil Age	mls	Client Info		**30000**	33000	30000
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**25**	15	17
Chromium	ppm	ASTM D5185m	>20	**2**	1	2
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**7**	7	7
Lead	ppm	ASTM D5185m	>40	**<1**	0	<1
Copper	ppm	ASTM D5185m	>330	▲ **185**	4	6
Tin	ppm	ASTM D5185m	>15	**0**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**6**	80	<1
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**60**	28	64
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**980**	255	995
Calcium	ppm	ASTM D5185m	3000	**1694**	1990	1185
Phosphorus	ppm	ASTM D5185m	1150	**1144**	996	1029
Zinc	ppm	ASTM D5185m	1350	**1489**	1300	1353
Sulfur	ppm	ASTM D5185m	4250	**2989**	3919	3047

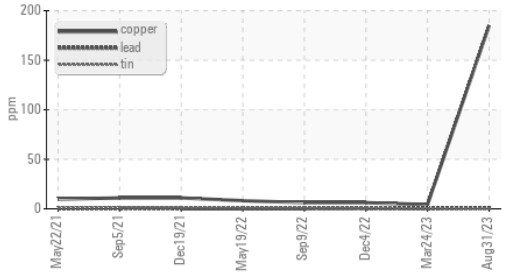
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	8	4
Sodium	ppm	ASTM D5185m		**2**	2	2
Potassium	ppm	ASTM D5185m	>20	**5**	5	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.9**	0.5	0.8
Nitration	Abs/cm	*ASTM D7624	>20	**9.8**	8.1	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.6**	21.4	21.3

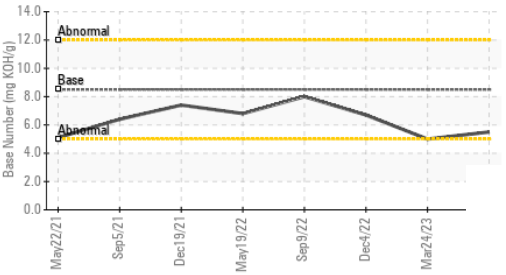
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.7**	17.9	17.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**5.5**	5.0	6.7

OIL ANALYSIS REPORT

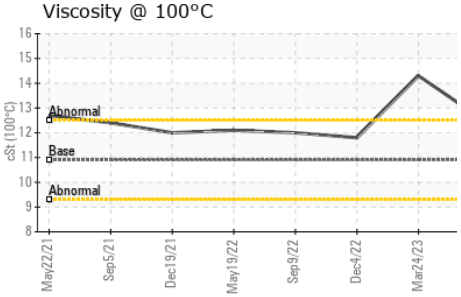
Non-ferrous Metals



Base Number



Viscosity @ 100°C

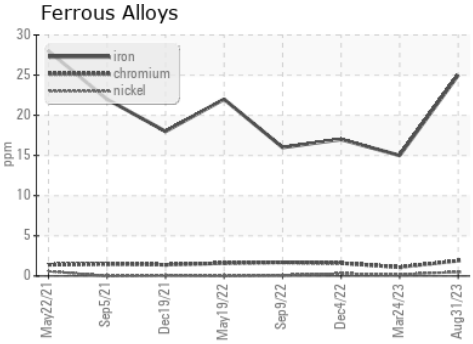


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

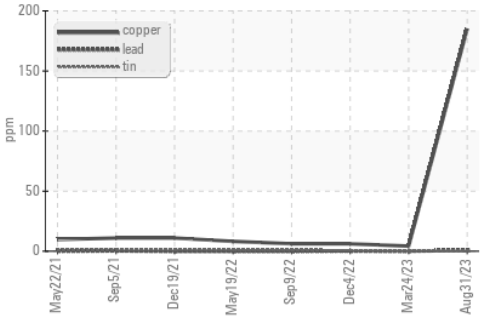
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	**12.6**	14.3	11.8

GRAPHS

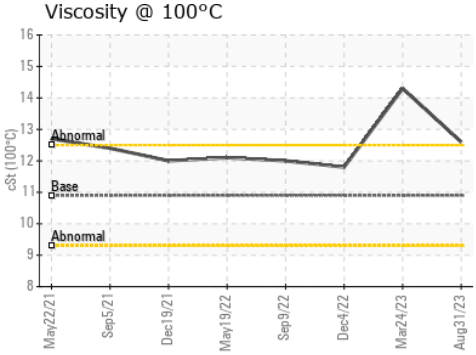
Ferrous Alloys



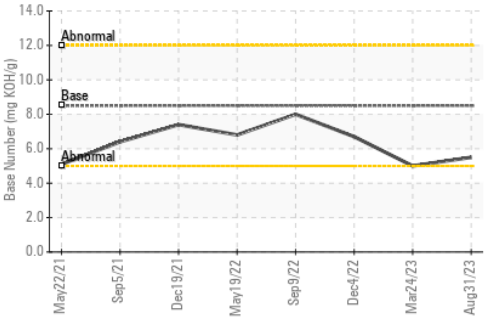
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0101239
Lab Number : 05946315
Unique Number : 10642274
Test Package : FLEET

Received : 08 Sep 2023
Diagnosed : 12 Sep 2023
Diagnostician : Don Baldridge

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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