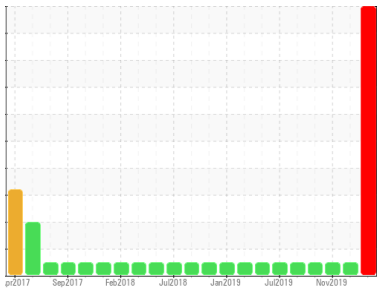
PROBLEM SUMMARY

Sample Rating Trend

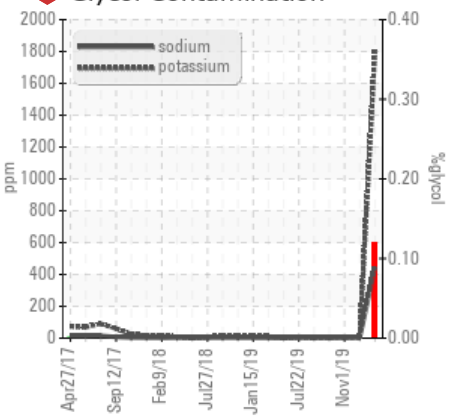


GLYCOL

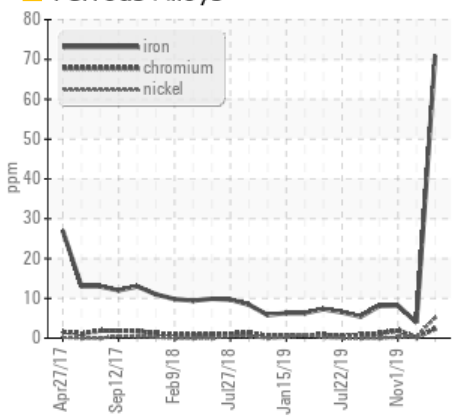
Machine Id
PETERBILT 4017
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

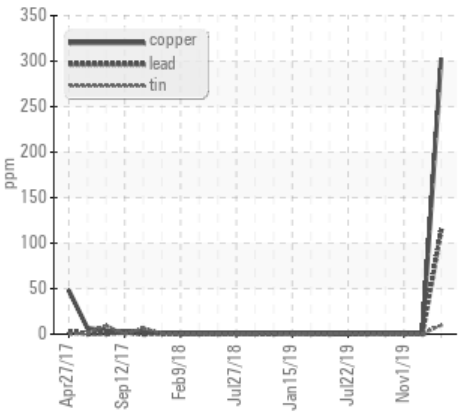
Glycol Contamination



Ferrous Alloys



Non-ferrous Metals



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Nickel	ppm	ASTM D5185m	>2	▲ **5**	<1	<1
Lead	ppm	ASTM D5185m	>40	▲ **114**	<1	<1
Copper	ppm	ASTM D5185m	>330	▲ **303**	<1	<1
Tin	ppm	ASTM D5185m	>15	▲ **10**	<1	<1
Sodium	ppm	ASTM D5185m	>158	▲ **445**	4	1
Potassium	ppm	ASTM D5185m	>20	▲ **1807**	2	2
Glycol	%	*ASTM D2982		⬢ **0.12**	NEG	NEG

Customer Id: INTCHE
Sample No.: WC0831020
Lab Number: 05930239
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

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	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

08 Feb 2022 Diag: Wes Davis

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

01 Nov 2019 Diag: Wes Davis

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 condition of the oil is acceptable for the time in service.

view report

26 Oct 2019 Diag: Don Baldridge

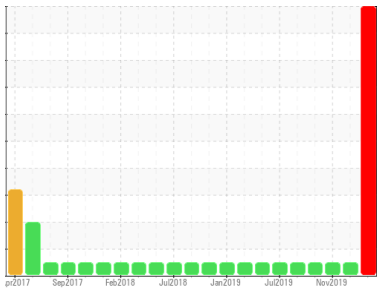
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the component. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
PETERBILT 4017
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Wear
Bearing and/or bushing wear is indicated. Valve wear is indicated.

Contamination
Sodium and/or potassium levels are high. Test for glycol is positive.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0831020**	WC0650897	WC0391818
Sample Date		Client Info		**16 Aug 2023**	08 Feb 2022	01 Nov 2019
Machine Age	hrs	Client Info		**15208**	12230	226291
Oil Age	hrs	Client Info		**0**	450	10000
Oil Changed		Client Info		**N/A**	Changed	N/A
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	**71**	4	8
Chromium	ppm	ASTM D5185m	>20	**2**	<1	2
Nickel	ppm	ASTM D5185m	>2	▲ **5**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**9**	2	1
Lead	ppm	ASTM D5185m	>40	▲ **114**	<1	<1
Copper	ppm	ASTM D5185m	>330	▲ **303**	<1	<1
Tin	ppm	ASTM D5185m	>15	▲ **10**	<1	<1
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**34**	12	4
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**270**	56	15
Manganese	ppm	ASTM D5185m		**3**	<1	<1
Magnesium	ppm	ASTM D5185m	450	**713**	980	226
Calcium	ppm	ASTM D5185m	3000	**1404**	1207	1985
Phosphorus	ppm	ASTM D5185m	1150	**898**	1124	856
Zinc	ppm	ASTM D5185m	1350	**1205**	1174	923
Sulfur	ppm	ASTM D5185m	4250	**3449**	2717	3885

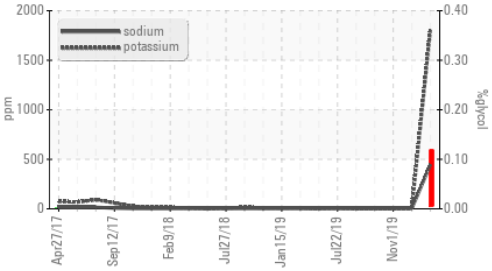
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**16**	3	4
Sodium	ppm	ASTM D5185m	>158	▲ **445**	4	1
Potassium	ppm	ASTM D5185m	>20	▲ **1807**	2	2
Glycol	%	*ASTM D2982		● **0.12**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.2**	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**13.2**	8.9	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.1**	20.1	17.3

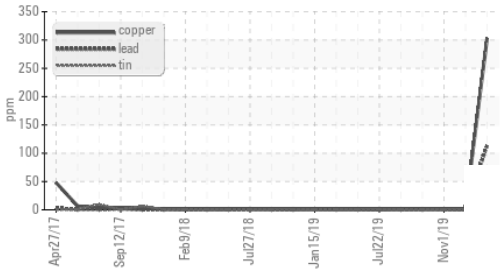
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.0**	16.3	10.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**23.1**	8.2	---

OIL ANALYSIS REPORT

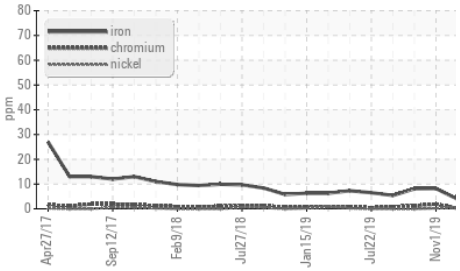
Glycol Contamination



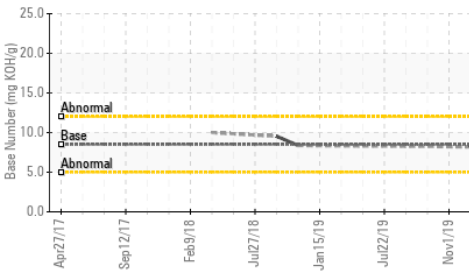
Non-ferrous Metals



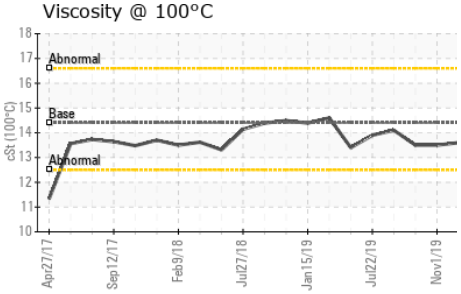
Ferrous Alloys



Base Number



Viscosity @ 100°C

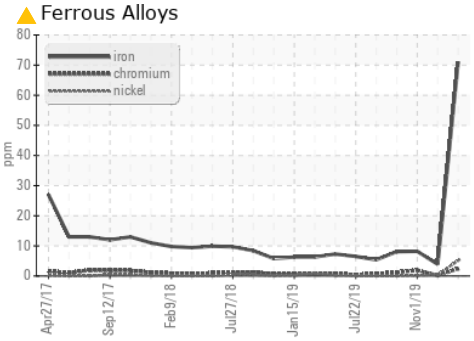


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

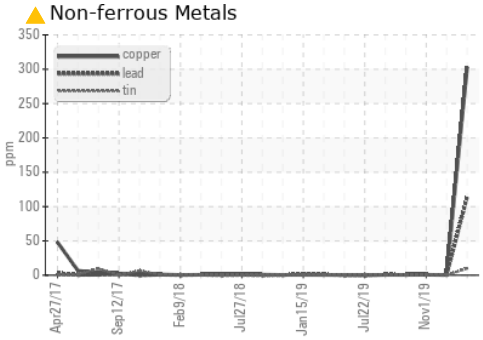
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**15.3**	13.6	13.5

GRAPHS

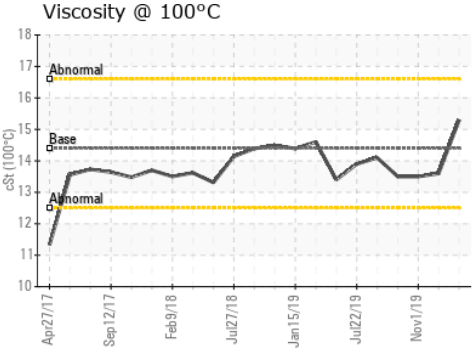
Ferrous Alloys



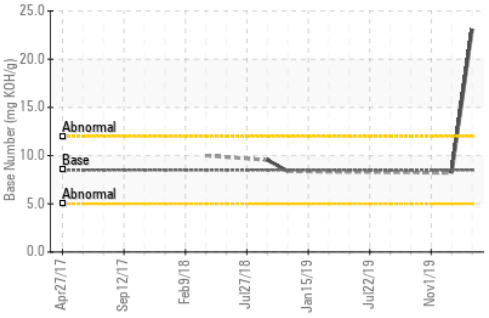
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0831020 **Received** : 21 Aug 2023
Lab Number : 05930239 **Diagnosed** : 23 Aug 2023
Unique Number : 10615510 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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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