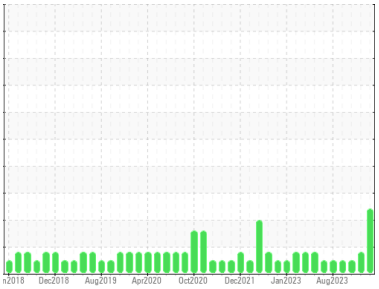
PROBLEM SUMMARY

Sample Rating Trend

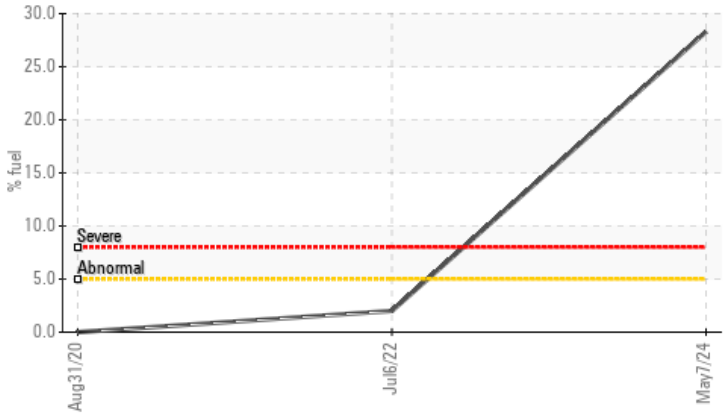


FUEL

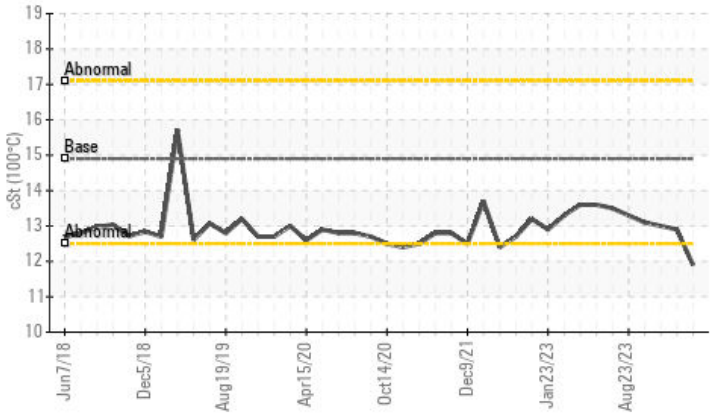
Machine Id
CATERPILLAR D10T 15105048 (S/N CATOD10TCRJG01478)
Component
Diesel Engine
Fluid
ROYAL PURPLE MOTOR OIL 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Fuel Dilution



▲ Viscosity @ 100°C



RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	NORMAL
Fuel	%	ASTM D3524	>5	▲ **28.3**	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **11.9**	12.9	13.0

Customer Id: NRGJEW
Sample No.: RP0036868
Lab Number: 06178994
Test Package: IND 2

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	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

WEAR

19 Dec 2023 Diag: Don Baldridge
No corrective action is recommended at this time. Resample at the next service interval to monitor.Cylinder, crank, or cam shaft wear is indicated. All other 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

NORMAL

08 Nov 2023 Diag: Don Baldridge
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 acceptable for the time in service.

view report

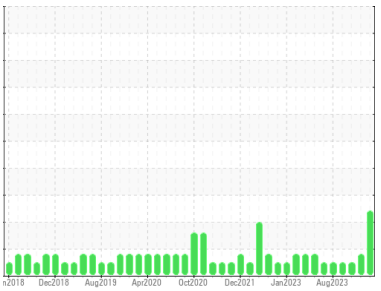
NORMAL

05 Oct 2023 Diag: Jonathan Hester
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



FUEL

Machine Id
CATERPILLAR D10T 15105048 (S/N CATOD10TCRJG01478)
Component
Diesel Engine
Fluid
ROYAL PURPLE MOTOR OIL 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a very high amount of fuel present in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**RP0036868**	RP0036203	RP0036193
Sample Date		Client Info		**07 May 2024**	19 Dec 2023	08 Nov 2023
Machine Age	hrs	Client Info		**70999**	70375	70115
Oil Age	hrs	Client Info		**298**	1766	1506
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**SEVERE**	ABNORMAL	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**36**	▲ 108	95
Chromium	ppm	ASTM D5185m	>20	**<1**	2	2
Nickel	ppm	ASTM D5185m	>2	**0**	2	1
Titanium	ppm	ASTM D5185m	>2	**0**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**<1**	3	1
Lead	ppm	ASTM D5185m	>40	**3**	3	3
Copper	ppm	ASTM D5185m	>330	**17**	14	14
Tin	ppm	ASTM D5185m	>15	**1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	2	3
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**85**	98	107
Manganese	ppm	ASTM D5185m		**1**	1	<1
Magnesium	ppm	ASTM D5185m	60	**67**	18	9
Calcium	ppm	ASTM D5185m	3050	**2420**	2666	2600
Phosphorus	ppm	ASTM D5185m	1050	**910**	977	887
Zinc	ppm	ASTM D5185m	1200	**1070**	1153	1095

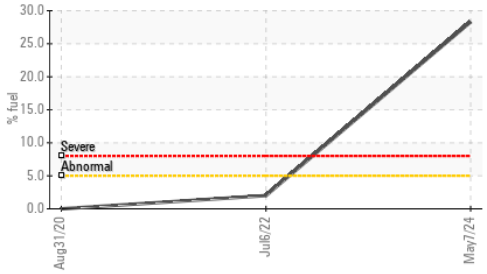
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	5	4
Sodium	ppm	ASTM D5185m		**5**	3	3
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0
Fuel	%	ASTM D3524	>5	▲ **28.3**	<1.0	<1.0
Water	%	ASTM D6304	>0.2	**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	1.1	1
Nitration	Abs/cm	*ASTM D7624	>20	**7.6**	8.6	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.0**	26.9	26.0

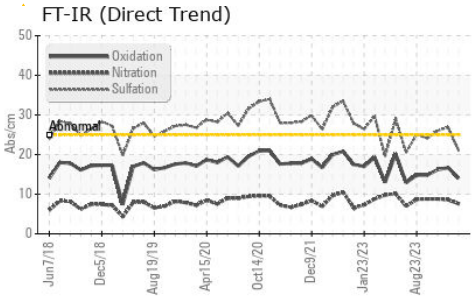
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.0**	16.7	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	**14.86**	7.59	8.34

OIL ANALYSIS REPORT

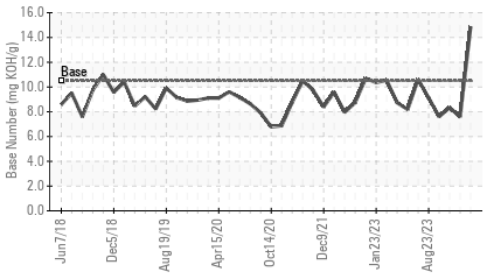
▲ Fuel Dilution



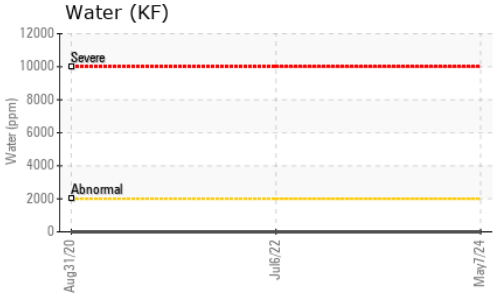
FT-IR (Direct Trend)



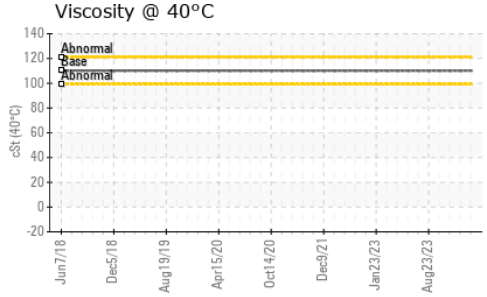
Base Number



Water (KF)



Viscosity @ 40°C

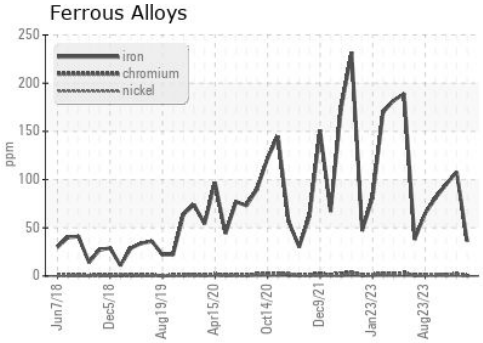


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

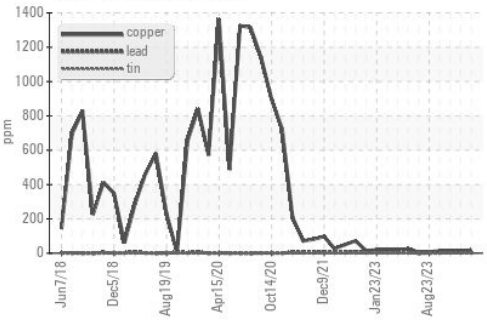
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	▲ **11.9**	12.9	13.0

GRAPHS

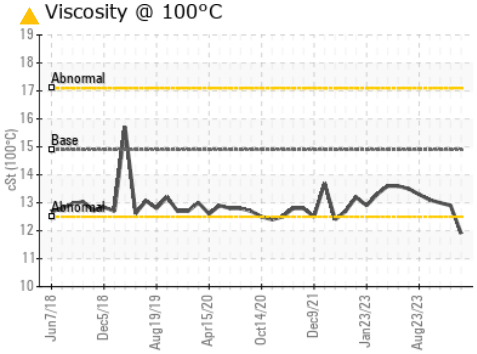
Ferrous Alloys



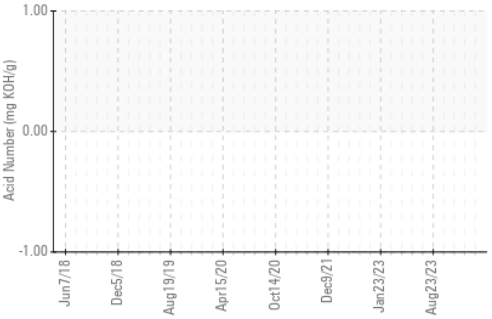
Non-ferrous Metals



▲ Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0036868
Lab Number : 06178994
Unique Number : 11030320
Test Package : IND 2 (Additional Tests: FT-IR, FuelDilution, KV100, PercentFuel, TBN)

Received : 14 May 2024
Tested : 16 May 2024
Diagnosed : 16 May 2024 - 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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