

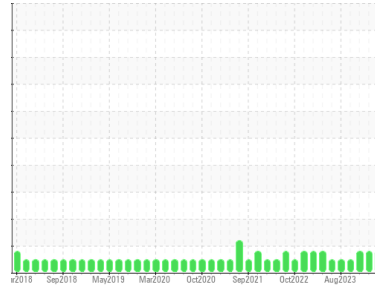
OIL ANALYSIS REPORT

Sample Rating Trend

WEAR



Machine Id
CATERPILLAR D10T 15105049 (S/N CATOD10TCRJG01495)
Component
Diesel Engine
Fluid
ROYAL PURPLE MOTOR OIL 15W40 (--- GAL)



DIAGNOSIS

Recommendation

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

Wear

Cylinder, crank, or cam shaft wear is indicated. 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		RP0037368	RP0036213	RP0036188
Sample Date	Client Info		04 Jan 2024	30 Nov 2023	31 Oct 2023
Machine Age	hrs	Client Info	25689	25419	25193
Oil Age	hrs	Client Info	1487	1217	991
Oil Changed	Client Info		Changed	Not Changd	Not Changd
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

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	▲ 114	▲ 107	▲ 105
Chromium	ppm	ASTM D5185m >20	2	2	2
Nickel	ppm	ASTM D5185m >2	0	<1	0
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	2	3	2
Lead	ppm	ASTM D5185m >40	4	2	4
Copper	ppm	ASTM D5185m >330	160	119	96
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	2	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 100	94	94	90
Manganese	ppm	ASTM D5185m	1	2	1
Magnesium	ppm	ASTM D5185m 60	31	24	18
Calcium	ppm	ASTM D5185m 3050	2983	3001	2882
Phosphorus	ppm	ASTM D5185m 1050	904	1009	929
Zinc	ppm	ASTM D5185m 1200	1151	1187	1147

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	5	6
Sodium	ppm	ASTM D5185m	2	3	2
Potassium	ppm	ASTM D5185m >20	0	2	1
Water	%	ASTM D6304 >0.2	NEG	NEG	NEG

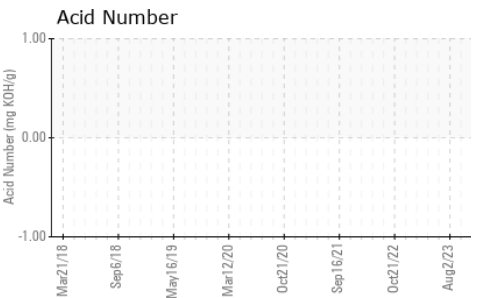
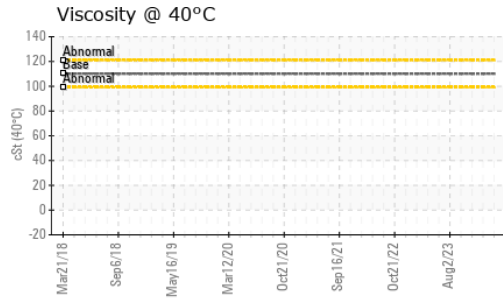
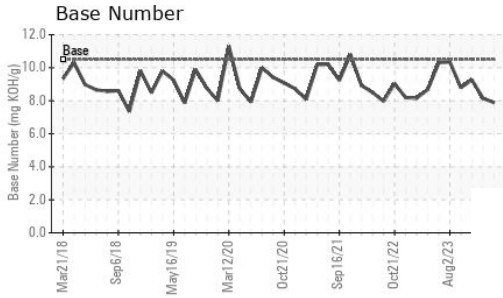
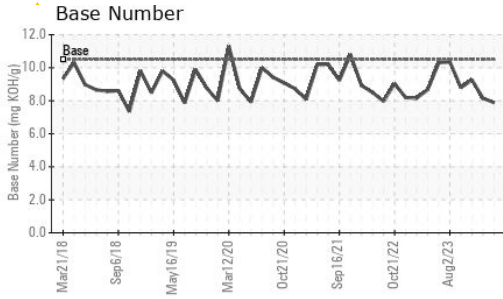
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.1	1.1	1.1
Nitration	Abs/cm	*ASTM D7624 >20	8.6	8.4	8.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	29.2	28.4	28.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.0	17.8	18.1
Base Number (BN)	mg KOH/g	ASTM D2896 10.5	7.89	8.14	9.26

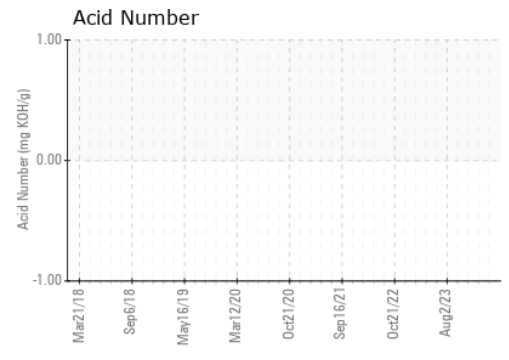
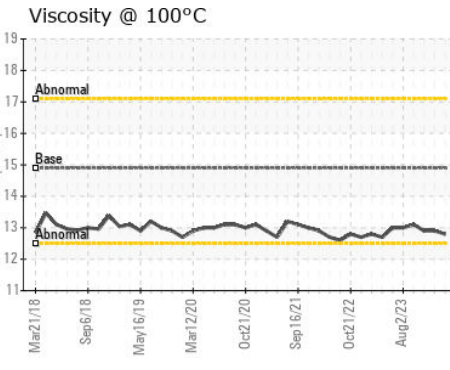
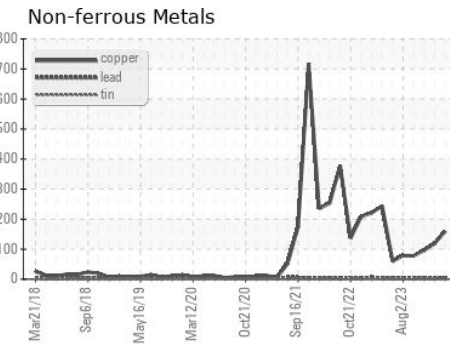
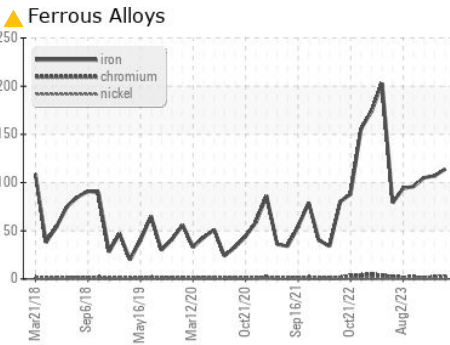
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.9	12.8	12.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0037368 **Received** : 17 Jan 2024
Lab Number : 06062971 **Diagnosed** : 18 Jan 2024
Unique Number : 10834353 **Diagnostician** : Sean Felton
Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN)

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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