



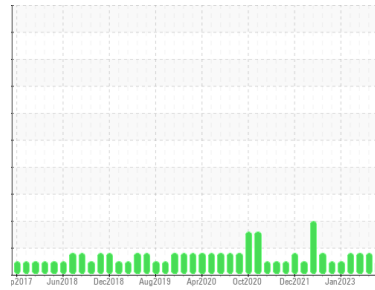
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



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



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All 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		RP0033692	RP0032882	RP0032892
Sample Date	Client Info		12 Jul 2023	19 Jun 2023	01 May 2023
Machine Age	hrs	Client Info	68943	68609	68172
Oil Age	hrs	Client Info	334	2180	1743
Oil Changed	Client Info		Not Changed	Changed	Not Changed
Sample Status			NORMAL	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	38	▲ 189	▲ 182
Chromium	ppm	ASTM D5185m >20	<1	3	3
Nickel	ppm	ASTM D5185m >2	<1	2	2
Titanium	ppm	ASTM D5185m >2	0	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	1	1	0
Lead	ppm	ASTM D5185m >40	<1	6	7
Copper	ppm	ASTM D5185m >330	5	24	19
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	<1	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	3	1	0
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 100	105	100	100
Manganese	ppm	ASTM D5185m	<1	2	2
Magnesium	ppm	ASTM D5185m 60	26	17	18
Calcium	ppm	ASTM D5185m 3050	2493	2907	2922
Phosphorus	ppm	ASTM D5185m 1050	936	1006	957
Zinc	ppm	ASTM D5185m 1200	1131	1263	1226

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	6	6
Sodium	ppm	ASTM D5185m	<1	2	8
Potassium	ppm	ASTM D5185m >20	1	4	7

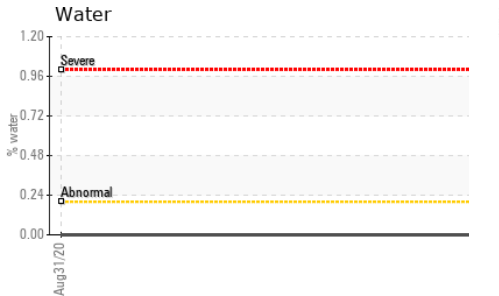
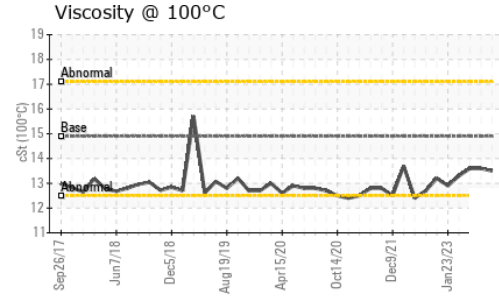
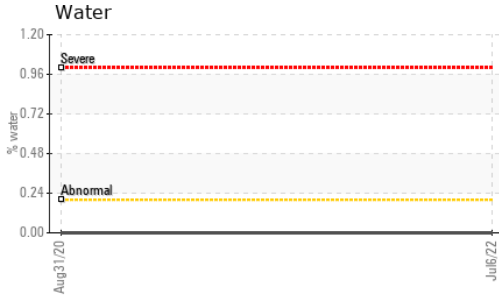
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	1.3	0.1
Nitration	Abs/cm	*ASTM D7624 >20	7.0	10.1	9.8
Sulfation	Abs./1mm	*ASTM D7415 >30	20.5	29.0	19.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414 >25	12.9	20.2	13.0
Base Number (BN)	mg KOH/g	ASTM D2896 10.5	10.61	8.18	8.73

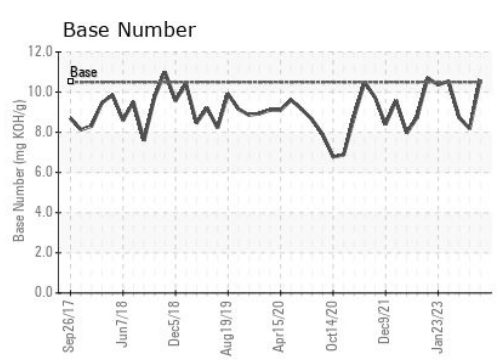
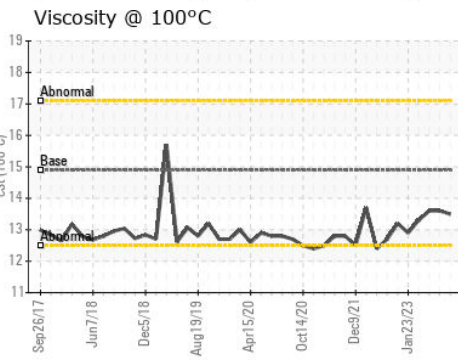
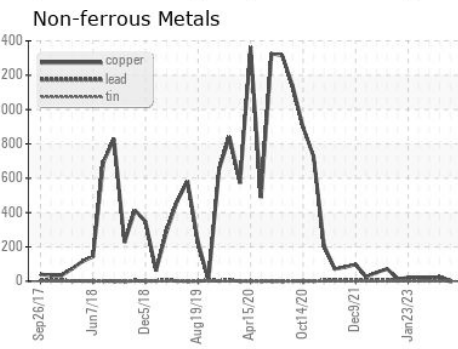
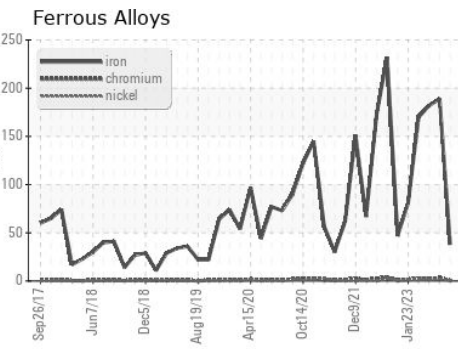
OIL ANALYSIS REPORT



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	13.5	13.6	13.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0033692 **Received** : 24 Jul 2023
Lab Number : **05905664** **Diagnosed** : 25 Jul 2023
Unique Number : 10567020 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN)

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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)