



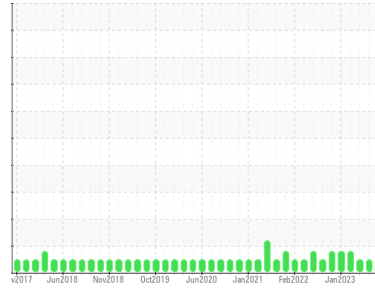
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
CATERPILLAR D10T 15105049 (S/N CATOD10TCRJG01495)
 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		RP0033747	RP0033352	RP0022096
Sample Date	Client Info		13 Sep 2023	02 Aug 2023	20 Mar 2023
Machine Age	hrs	Client Info	24938	24690	24481
Oil Age	hrs	Client Info	736	488	279
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			NORMAL	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	96	94	79
Chromium	ppm	ASTM D5185m >20	2	2	2
Nickel	ppm	ASTM D5185m >2	0	<1	<1
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >25	4	2	2
Lead	ppm	ASTM D5185m >40	3	3	3
Copper	ppm	ASTM D5185m >330	78	79	60
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	3	0	4
Barium	ppm	ASTM D5185m 0	0	2	0
Molybdenum	ppm	ASTM D5185m 100	95	105	98
Manganese	ppm	ASTM D5185m	2	1	2
Magnesium	ppm	ASTM D5185m 60	23	24	24
Calcium	ppm	ASTM D5185m 3050	3169	3396	3523
Phosphorus	ppm	ASTM D5185m 1050	984	1078	1115
Zinc	ppm	ASTM D5185m 1200	1112	1211	1312

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	6	5
Sodium	ppm	ASTM D5185m	5	0	3
Potassium	ppm	ASTM D5185m >20	<1	2	2

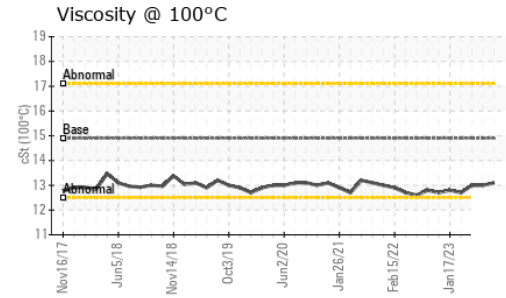
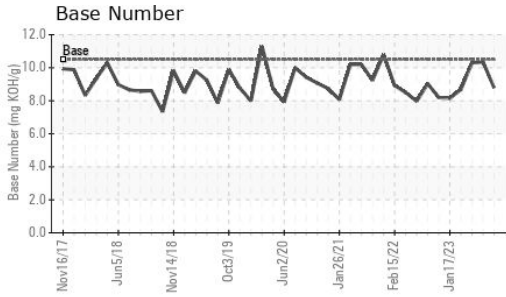
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.9	0.8	0.6
Nitration	Abs/cm	*ASTM D7624 >20	7.7	7.3	7.1
Sulfation	Abs./1mm	*ASTM D7415 >30	26.8	26.9	26.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414 >25	16.9	16.9	17.1
Base Number (BN)	mg KOH/g	ASTM D2896 10.5	8.79	10.35	10.30

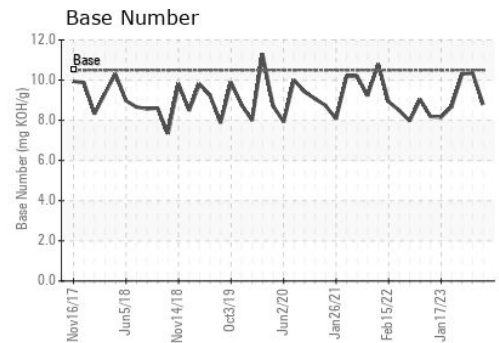
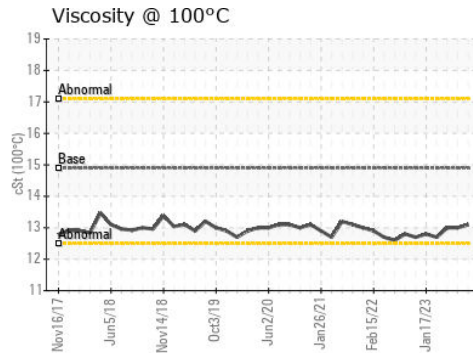
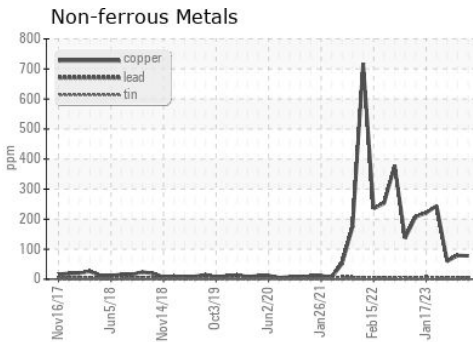
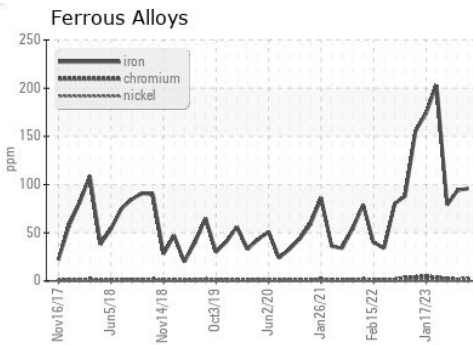
OIL ANALYSIS REPORT



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	13.1	13.0

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0033747 **Received** : 25 Sep 2023
Lab Number : 05959963 **Diagnosed** : 26 Sep 2023
Unique Number : 10661176 **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)

NRG TEXAS LLC
 3784 FM 39 SOUTH
 JEWETT, TX
 US 75846

Contact: JURGEN THOMPSON
 JThompson@ecomaterial.com

T: (903)626-9528
 F: (903)626-9772