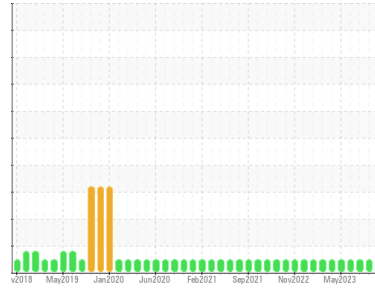




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
CATERPILLAR D10T 15105050 (S/N CATOD10TCRJG01497)
 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		RP0033737	RP0033742	RP0033697
Sample Date	Client Info		21 Sep 2023	25 Aug 2023	13 Jul 2023
Machine Age	hrs	Client Info	75411	75191	74726
Oil Age	hrs	Client Info	1903	1678	1218
Oil Changed	Client Info		Changed	Not Changd	Not Changd
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	59	51	39
Chromium	ppm	ASTM D5185m >20	2	2	1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m >2	<1	<1	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	3	1	2
Lead	ppm	ASTM D5185m >40	9	10	6
Copper	ppm	ASTM D5185m >330	55	26	11
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	0	2
Barium	ppm	ASTM D5185m 0	2	0	<1
Molybdenum	ppm	ASTM D5185m 100	131	112	110
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 60	17	29	20
Calcium	ppm	ASTM D5185m 3050	2902	2767	2969
Phosphorus	ppm	ASTM D5185m 1050	1079	1014	1037
Zinc	ppm	ASTM D5185m 1200	1277	1276	1253

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	5	4
Sodium	ppm	ASTM D5185m	2	2	2
Potassium	ppm	ASTM D5185m >20	2	4	1

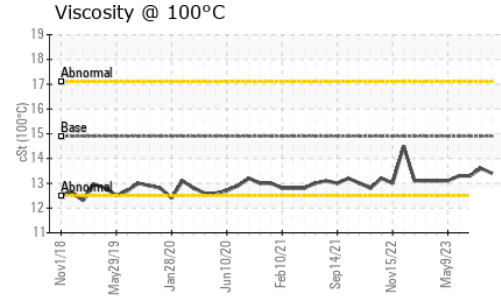
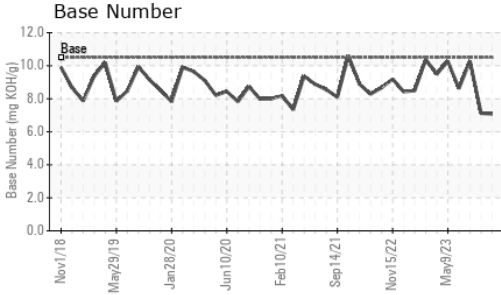
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.9	1.9	1.6
Nitration	Abs/cm	*ASTM D7624 >20	9.8	9.9	9.4
Sulfation	Abs./1mm	*ASTM D7415 >30	28.7	29.2	27.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414 >25	16.7	16.8	16.6
Base Number (BN)	mg KOH/g	ASTM D2896 10.5	7.08	7.12	10.28

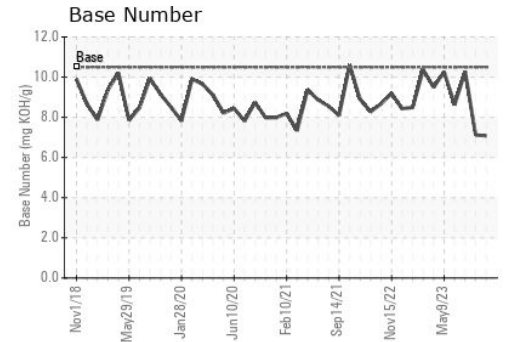
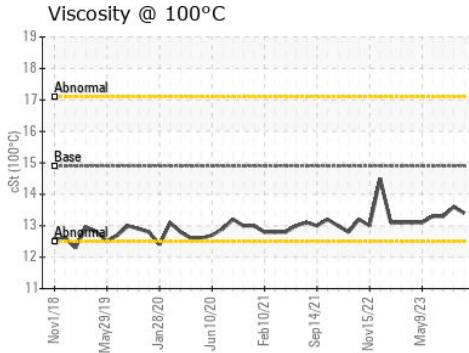
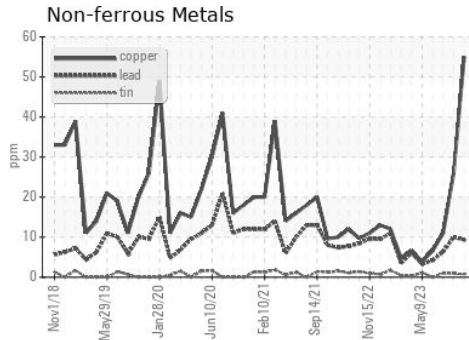
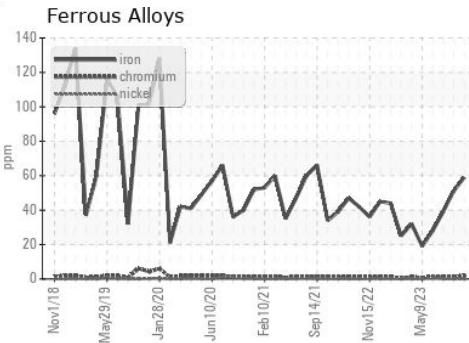
OIL ANALYSIS REPORT



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	13.4	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0033737 **Received** : 28 Sep 2023
Lab Number : 05963686 **Diagnosed** : 29 Sep 2023
Unique Number : 10670237 **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