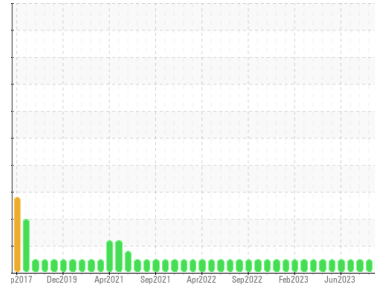




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
GEORGIA
 Machine Id
2015 MACK 2543

Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (40 QTS)

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		WC0810693	WC0754712	WC0646041
Sample Date	Client Info		01 Nov 2023	02 Oct 2023	21 Sep 2023
Machine Age	mls	Client Info	171617	169684	169168
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info		Not Changed	Not Changed	Not Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	28	25	14
Chromium	ppm	ASTM D5185m >20	<1	0	<1
Nickel	ppm	ASTM D5185m >5	<1	0	0
Titanium	ppm	ASTM D5185m >2	2	1	3
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	3	3	4
Lead	ppm	ASTM D5185m >40	0	0	<1
Copper	ppm	ASTM D5185m >330	5	4	5
Tin	ppm	ASTM D5185m >15	<1	0	1
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	23	22	17
Barium	ppm	ASTM D5185m 10	5	0	0
Molybdenum	ppm	ASTM D5185m 100	34	31	49
Manganese	ppm	ASTM D5185m	<1	0	2
Magnesium	ppm	ASTM D5185m 450	286	285	593
Calcium	ppm	ASTM D5185m 3000	1763	1728	1620
Phosphorus	ppm	ASTM D5185m 1150	928	885	1053
Zinc	ppm	ASTM D5185m 1350	1117	1156	1297
Sulfur	ppm	ASTM D5185m 4250	3287	2993	3016

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	17	16	9
Sodium	ppm	ASTM D5185m >158	33	31	6
Potassium	ppm	ASTM D5185m >20	21	20	7
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

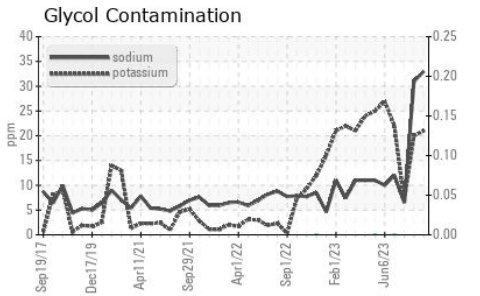
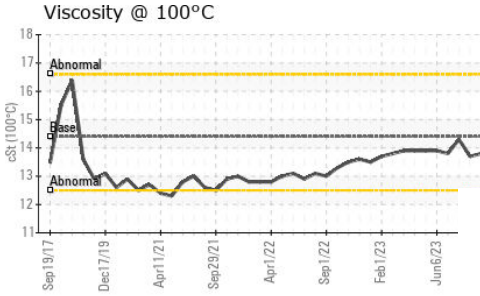
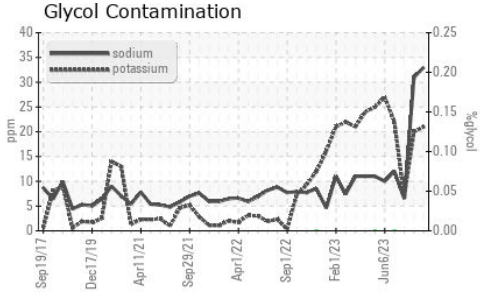
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.4	0.4	0.4
Nitration	Abs/cm	*ASTM D7624 >20	10.7	10.4	10.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	24.4	23.9	24.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.5	18.8	19.5
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	5.6	5.2	5.7



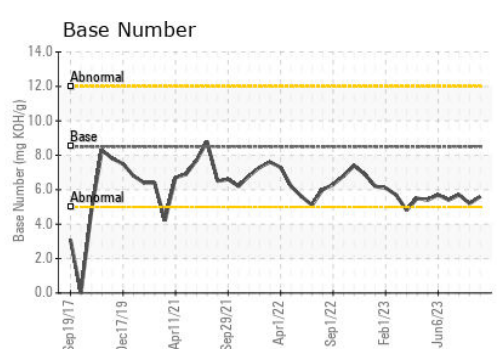
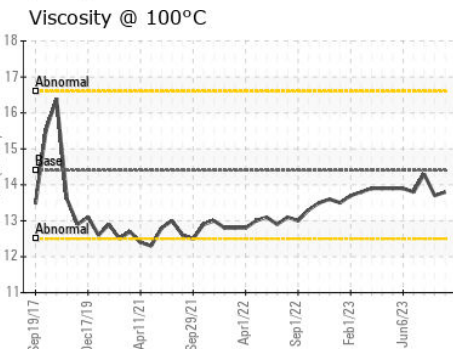
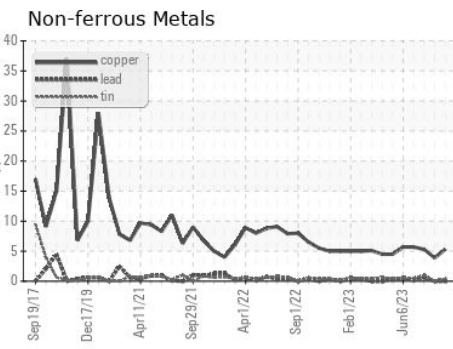
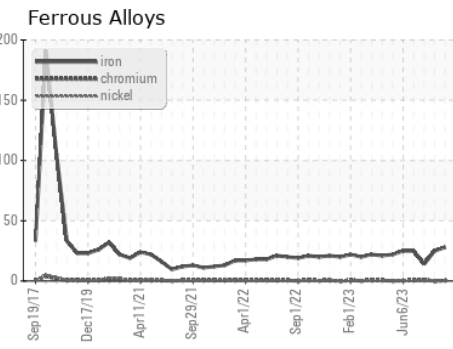
OIL ANALYSIS REPORT



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	14.4	13.8	13.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0810693 **Received** : 07 Dec 2023
Lab Number : 06028322 **Diagnosed** : 10 Dec 2023
Unique Number : 10778113 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: Glycol)

LIBERTY DISPOSAL
 6401 S EASTERN AVE
 OKLAHOMA CITY, OK
 US 73149
 Contact: Loran Cottle
 l.cottle@ldi89.com
 T: (910)970-0291
 F: x:

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)