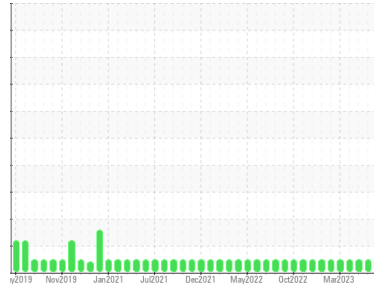




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
ARIZONA GROUPING
 Machine Id
MACK 7137
 Component
Diesel Engine
 Fluid
NAPA 15W40 (9 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	WC0820343	WC0820338	WC0820336
Sample Date	Client Info	11 Jul 2023	12 Jun 2023	19 May 2023
Machine Age	hrs	108901	87893	10724
Oil Age	hrs	384	277	218
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 >3.0	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	12	7	11
Chromium	ppm ASTM D5185m >20	<1	0	<1
Nickel	ppm ASTM D5185m >5	0	0	<1
Titanium	ppm ASTM D5185m >2	0	<1	<1
Silver	ppm ASTM D5185m >2	0	0	<1
Aluminum	ppm ASTM D5185m >20	2	<1	1
Lead	ppm ASTM D5185m >40	0	0	<1
Copper	ppm ASTM D5185m >330	2	1	1
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	93	119	132
Barium	ppm ASTM D5185m	0	0	0
Molybdenum	ppm ASTM D5185m	24	23	24
Manganese	ppm ASTM D5185m	<1	<1	<1
Magnesium	ppm ASTM D5185m	51	49	101
Calcium	ppm ASTM D5185m	2208	2146	2041
Phosphorus	ppm ASTM D5185m	936	887	931
Zinc	ppm ASTM D5185m	1215	1151	1220
Sulfur	ppm ASTM D5185m	3845	3844	3838

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	8	7	7
Sodium	ppm ASTM D5185m	6	5	5
Potassium	ppm ASTM D5185m >20	4	4	6

INFRA-RED

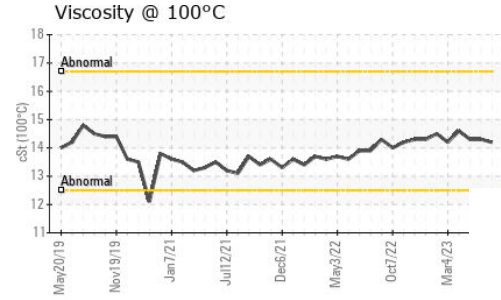
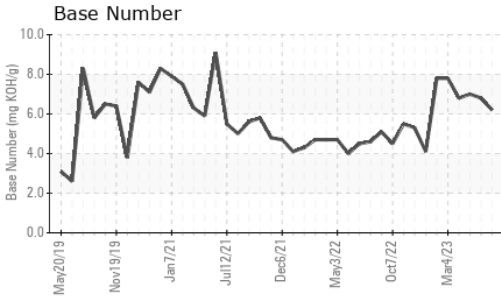
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.5	0.4	0.3
Nitration	Abs/cm *ASTM D7624 >20	8.6	8.0	7.5
Sulfation	Abs/.1mm *ASTM D7415 >30	21.5	21.1	20.4

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.9	17.0	16.5
Base Number (BN)	mg KOH/g ASTM D2896	6.2	6.8	7.0



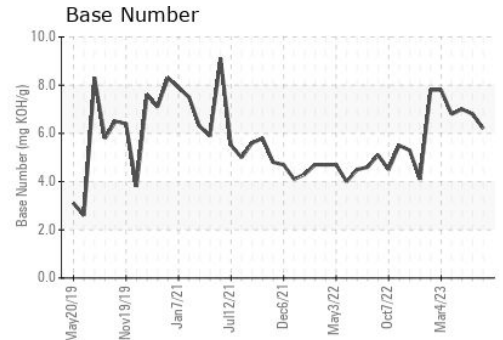
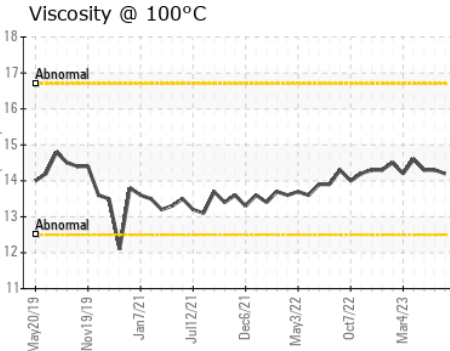
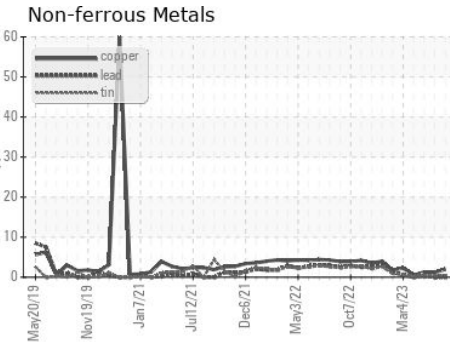
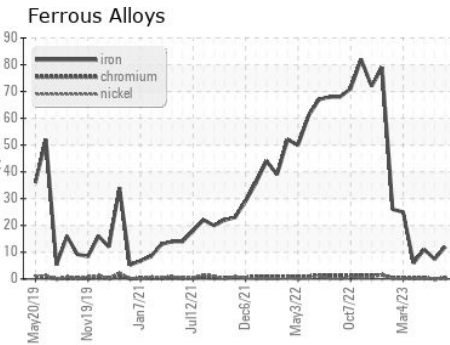
OIL ANALYSIS REPORT



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	14.2	14.3	14.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0820343
 Lab Number : 05904794
 Unique Number : 10566150
 Test Package : FLEET
 Received : 21 Jul 2023
 Diagnosed : 24 Jul 2023
 Diagnostician : Wes Davis

LIBERTY DISPOSAL
 6401 S EASTERN AVE
 OKLAHOMA CITY, OK
 US 73149
 Contact: CATHY ROSA
 c.rosa@ldi89.com

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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F: