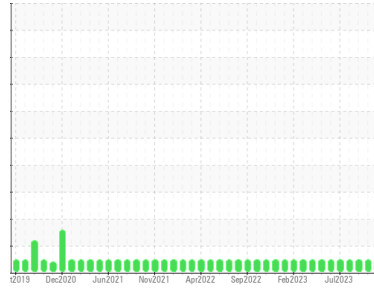




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
ARIZONA GROUPING
 Machine Id
MACK 7137
 Component
Diesel Engine
 Fluid
NAPA Motor Oil 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		WC0857164	WC0857168	WC0838562
Sample Date	Client Info		13 Nov 2023	10 Oct 2023	05 Sep 2023
Machine Age	hrs	Client Info	11404	11285	11132
Oil Age	hrs	Client Info	898	779	626
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
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	30	20	18
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	<1	<1	0
Titanium	ppm	ASTM D5185m >2	<1	<1	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	4	2	3
Lead	ppm	ASTM D5185m >40	2	<1	0
Copper	ppm	ASTM D5185m >330	4	3	3
Tin	ppm	ASTM D5185m >15	1	1	<1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	24	28	44
Barium	ppm	ASTM D5185m	0	3	0
Molybdenum	ppm	ASTM D5185m	32	31	36
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	286	259	310
Calcium	ppm	ASTM D5185m	1937	1704	2271
Phosphorus	ppm	ASTM D5185m	972	817	1061
Zinc	ppm	ASTM D5185m	1267	1032	1392
Sulfur	ppm	ASTM D5185m	3080	2500	4155

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	10	8	9
Sodium	ppm	ASTM D5185m	11	10	9
Potassium	ppm	ASTM D5185m >20	5	4	3

INFRA-RED

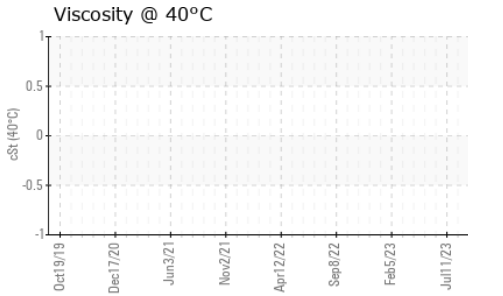
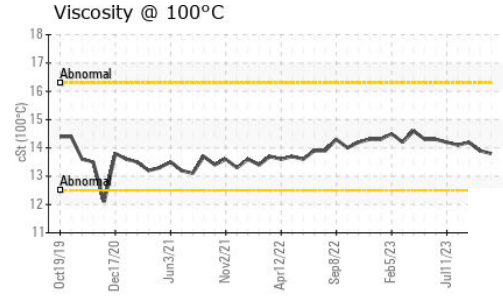
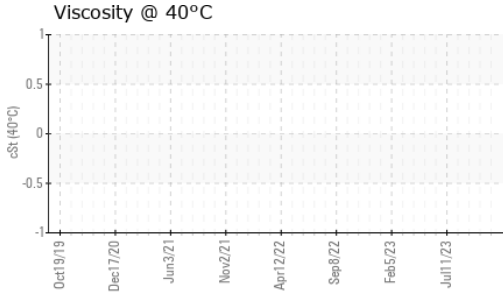
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.9	0.7	0.6
Nitration	Abs/cm	*ASTM D7624 >20	9.6	8.8	8.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.2	22.9	22.1

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	22.1	19.5	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	4.7	5.0	6.0



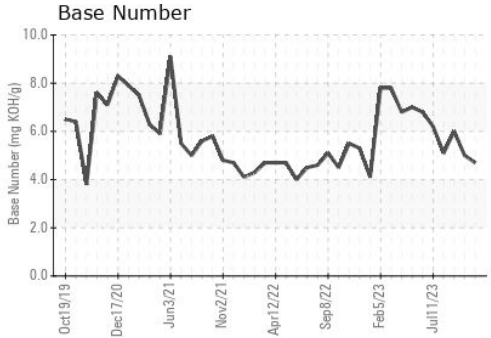
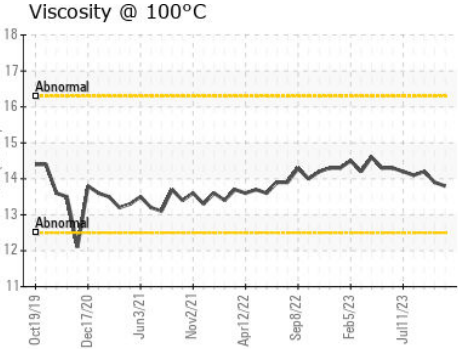
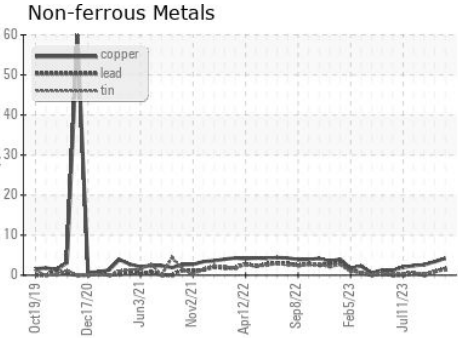
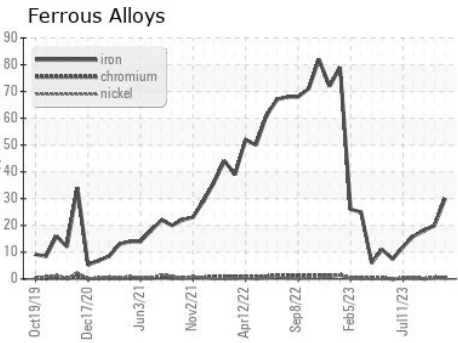
OIL ANALYSIS REPORT



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	13.8	13.9	14.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0857164 **Received** : 20 Nov 2023
Lab Number : **06013099** **Diagnosed** : 28 Nov 2023
Unique Number : 10752243 **Diagnostician** : Angela Borella
Test Package : FLEET (Additional Tests: KV40)

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)