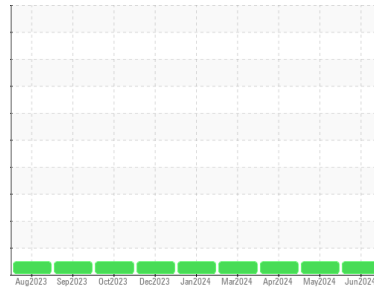




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
ARIZONA
 Machine Id
2015 KENWORTH 5831
 Component
Diesel Engine
 Fluid
NAPA Motor Oil 15W40 (--- 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		WC0935453	WC0935449	WC0899583
Sample Date	Client Info		19 Jun 2024	04 May 2024	02 Apr 2024
Machine Age	hrs	Client Info	0	16751	16627
Oil Age	hrs	Client Info	0	124	0
Oil Changed	Client Info		N/A	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
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 >100	40	18	12
Chromium	ppm	ASTM D5185m >20	<1	<1	0
Nickel	ppm	ASTM D5185m >4	<1	0	<1
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	7	2	2
Lead	ppm	ASTM D5185m >40	7	5	4
Copper	ppm	ASTM D5185m >330	2	6	0
Tin	ppm	ASTM D5185m >15	1	2	2
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	<1	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	46	52	37
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	38	47	42
Manganese	ppm	ASTM D5185m	1	<1	<1
Magnesium	ppm	ASTM D5185m	567	527	522
Calcium	ppm	ASTM D5185m	1609	1633	1660
Phosphorus	ppm	ASTM D5185m	1037	1113	1062
Zinc	ppm	ASTM D5185m	1245	1288	1336
Sulfur	ppm	ASTM D5185m	4062	3352	3762

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	23	5	4
Sodium	ppm	ASTM D5185m	6	5	4
Potassium	ppm	ASTM D5185m >20	6	3	2

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1	0.8	0.6
Nitration	Abs/cm	*ASTM D7624 >20	11.2	10.9	10.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.8	24.9	23.6

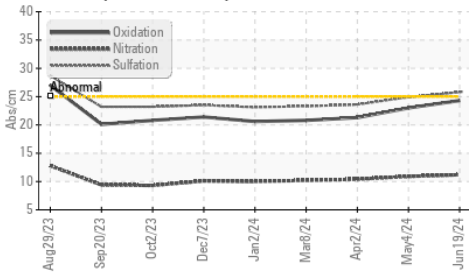
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	24.3	23.0	21.3
Base Number (BN)	mg KOH/g	ASTM D2896	6.5	7.6	8.1

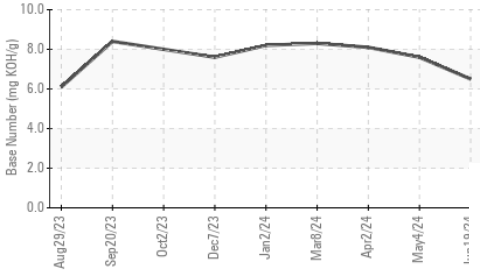


OIL ANALYSIS REPORT

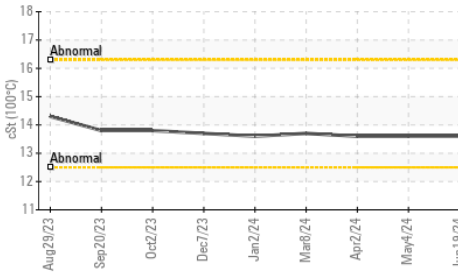
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

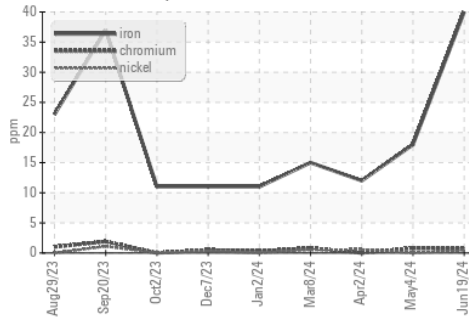


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

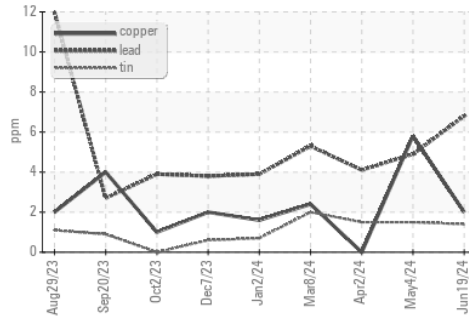
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.6	13.6	13.6

GRAPHS

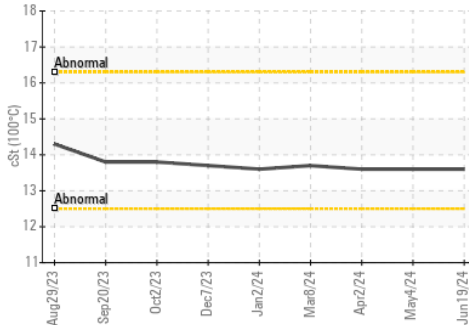
Ferrous Alloys



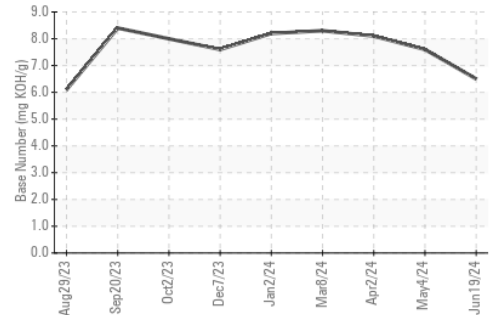
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0935453

Lab Number : 06215382

Unique Number : 11088246

Test Package : FLEET

Received : 20 Jun 2024

Tested : 21 Jun 2024

Diagnosed : 21 Jun 2024 - Wes Davis

LIBERTY DISPOSAL

6401 S EASTERN AVE

OKLAHOMA CITY, OK

US 73149

Contact: M Rutherford

M.Rutherford@ldi89.com

T:

F:

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)