



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
Store 9 - Marietta [ro#151357]
 Machine Id
FREIGHTLINER CASCADIA 1FUJHHDR8LLLY1418
 Component
Diesel Engine
 Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: unit 658)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0051791	LEC0048857	LEC0047472
Sample Date		Client Info		24 May 2024	12 Apr 2024	19 Feb 2024
Machine Age	mls	Client Info		432562	416619	397110
Oil Age	mls	Client Info		15943	19509	19637
Filter Age	mls	Client Info		15943	19509	19637
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	12	15	17
Chromium	ppm	ASTM D5185m	>5	2	1	2
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	1	0	0
Aluminum	ppm	ASTM D5185m	>30	8	10	12
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>150	2	1	2
Tin	ppm	ASTM D5185m	>5	<1	1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

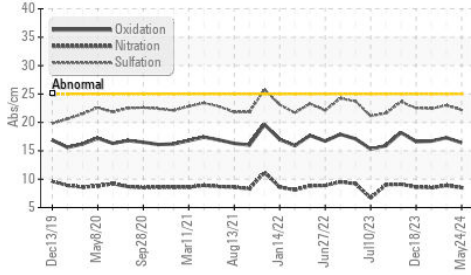
Silicon	ppm	ASTM D5185m	>120	9	6	1
Potassium	ppm	ASTM D5185m	>20	4	1	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	8.5	8.9	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.2	23.0	22.4
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

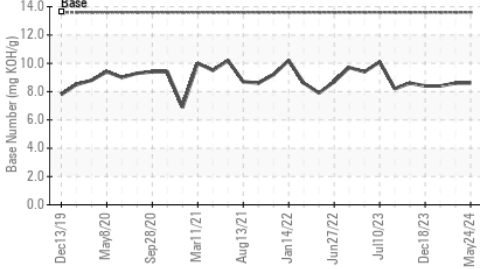
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	2	1
Boron	ppm	ASTM D5185m		231	203	206
Barium	ppm	ASTM D5185m		2	<1	0
Molybdenum	ppm	ASTM D5185m		256	222	244
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		829	792	775
Calcium	ppm	ASTM D5185m		1453	1498	1398
Phosphorus	ppm	ASTM D5185m		946	841	861
Zinc	ppm	ASTM D5185m		1123	1030	1018
Sulfur	ppm	ASTM D5185m		3299	3429	2828
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.4	17.3	16.7
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.6	8.6	8.4
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.2	14.4

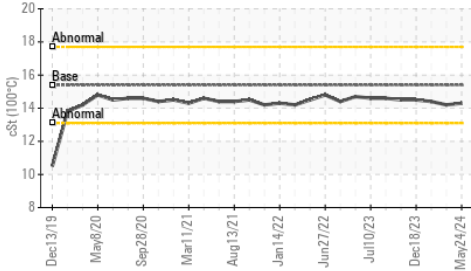
FT-IR (Direct Trend)



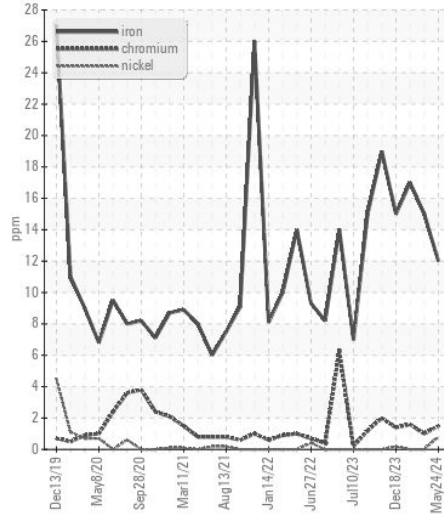
Base Number



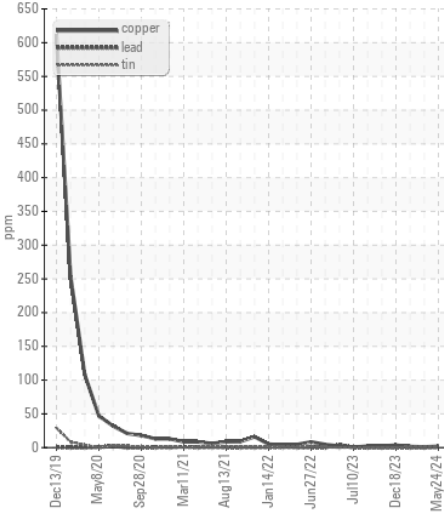
Viscosity @ 100°C



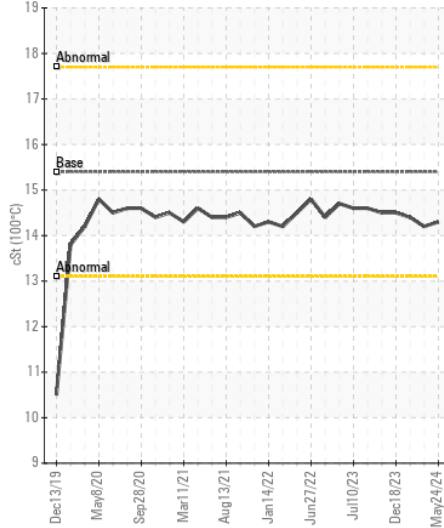
Ferrous Alloys



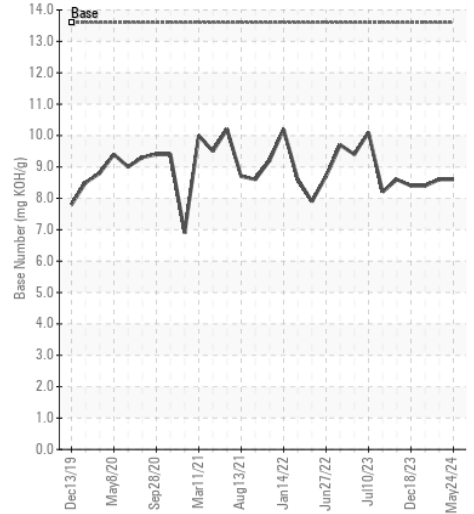
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0051791 **Received** : 28 May 2024
Lab Number : 06191960 **Tested** : 29 May 2024
Unique Number : 11048712 **Diagnosed** : 30 May 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

LESLIE EQUIPMENT COMPANY
 105 TENNIS CENTER DR.
 MARIETTA, OH
 US 45750-9765
 Contact: LEANNE KENDALL
 KendalLeanne@lec1.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)

T: (740)373-5570