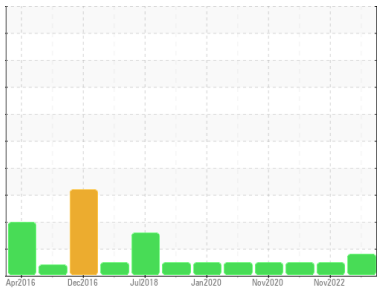
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
2016 FREIGHTLINER 3833
Component
Diesel Engine
Fluid
CHEVRON DELO 400 XLE 10W30 (40 QTS)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
Cylinder, crank, or cam shaft wear is indicated. All other 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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0625659**	WC0625621	WC0462915
Sample Date		Client Info		**29 Feb 2024**	30 Nov 2022	18 Jun 2021
Machine Age	mls	Client Info		**0**	324389	285790
Oil Age	mls	Client Info		**36788**	50000	31944
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	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	>65	▲ **94**	36	28
Chromium	ppm	ASTM D5185m	>5	**3**	2	1
Nickel	ppm	ASTM D5185m	>3	**1**	0	<1
Titanium	ppm	ASTM D5185m	>5	**<1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>35	**21**	11	8
Lead	ppm	ASTM D5185m	>10	**<1**	0	<1
Copper	ppm	ASTM D5185m	>180	**22**	7	6
Tin	ppm	ASTM D5185m	>8	**<1**	<1	<1
Antimony	ppm	ASTM D5185m	>35	**---**	---	0
Vanadium	ppm	ASTM D5185m		**<1**	<1	<1
Cadmium	ppm	ASTM D5185m		**<1**	0	0

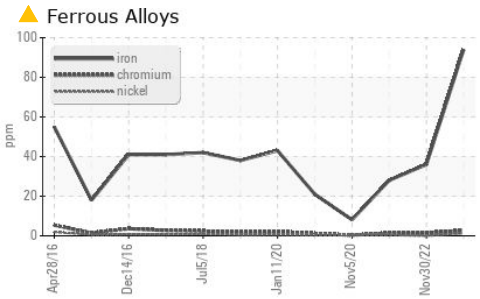
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**20**	21	45
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**8**	20	15
Manganese	ppm	ASTM D5185m		**2**	<1	<1
Magnesium	ppm	ASTM D5185m		**717**	644	632
Calcium	ppm	ASTM D5185m	2900	**1429**	1527	1451
Phosphorus	ppm	ASTM D5185m	1100	**736**	741	702
Zinc	ppm	ASTM D5185m	1200	**882**	891	823
Sulfur	ppm	ASTM D5185m	4000	**3146**	3772	2366

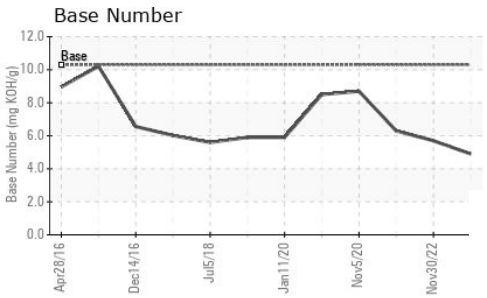
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**8**	4	6
Sodium	ppm	ASTM D5185m		**4**	2	3
Potassium	ppm	ASTM D5185m	>20	**11**	10	8

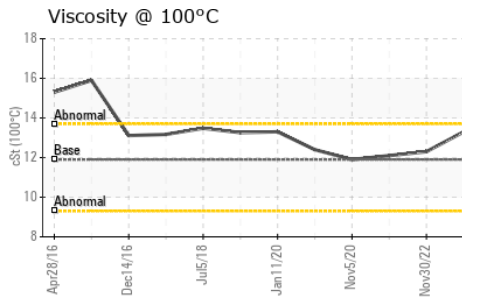
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**2.3**	1.6	1
Nitration	Abs/cm	*ASTM D7624	>20	**12.9**	11.5	10.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**28.5**	27.5	23.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.3**	20.1	18
Base Number (BN)	mg KOH/g	ASTM D2896	10.3	**4.9**	5.7	6.3

OIL ANALYSIS REPORT



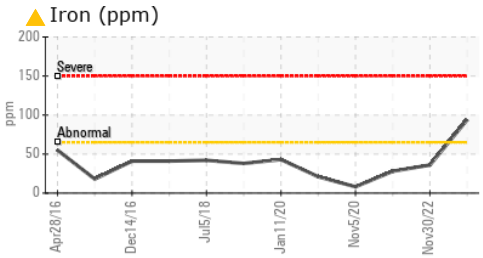


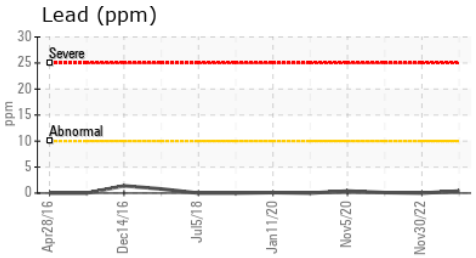


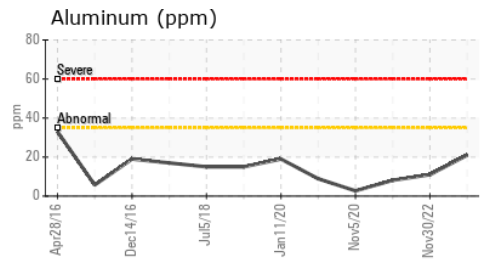
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

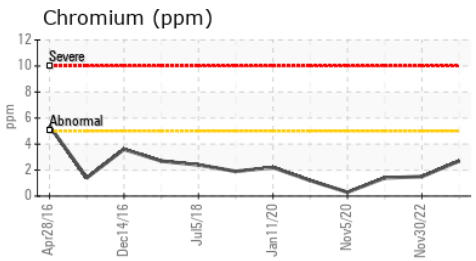
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.9	**13.3**	12.3	12.1

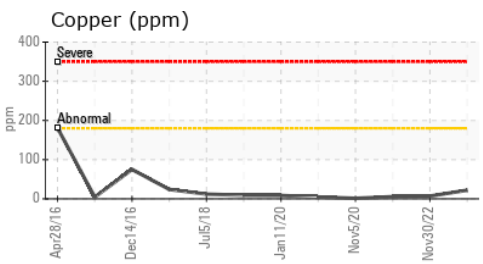
GRAPHS

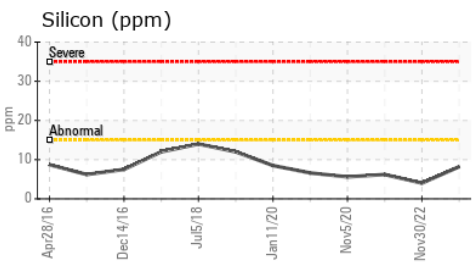


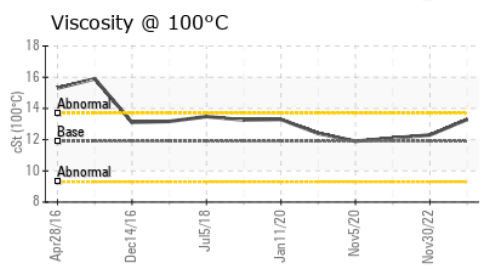


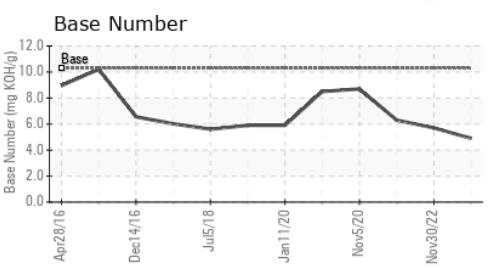












Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0625659
Lab Number : 06123473
Unique Number : 10937624
Test Package : MOB1+

Received : 20 Mar 2024
Tested : 21 Mar 2024
Diagnosed : 22 Mar 2024 - Don Baldridge

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)

LTI/MILKY WAY - MOUNT VERNON
3814 OLD HWY 99 S RD
MOUNT VERNON, WA
US 98273
Contact: JOHN VAN WINGERDEN
jvw@lynden.com
T: (360)354-2101
F: (360)354-3571