



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER FTL-120
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (11 GAL)

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0007309	KL0007224	KL0008841
Sample Date		Client Info		22 Jun 2023	13 Oct 2022	09 Aug 2022
Machine Age	mls	Client Info		321189	310155	302641
Oil Age	mls	Client Info		11034	28870	21356
Filter Age	mls	Client Info		11034	28870	21356
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	34	85	90
Chromium	ppm	ASTM D5185m	>5	<1	2	2
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	3
Aluminum	ppm	ASTM D5185m	>30	5	5	3
Lead	ppm	ASTM D5185m	>30	12	20	16
Copper	ppm	ASTM D5185m	>150	3	8	6
Tin	ppm	ASTM D5185m	>5	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

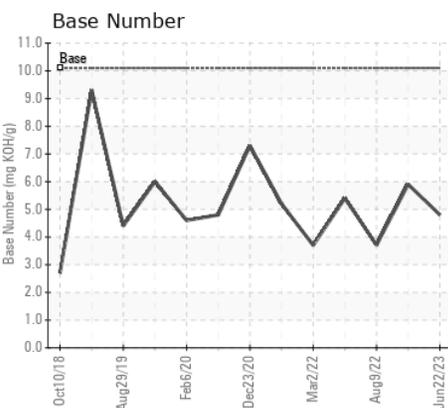
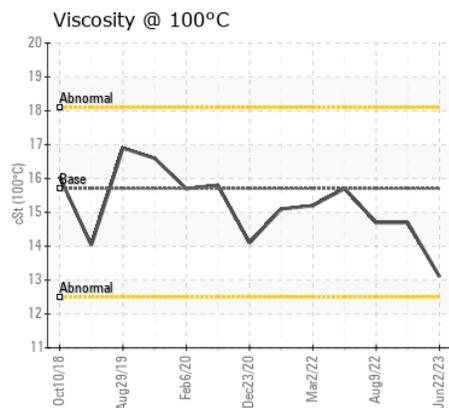
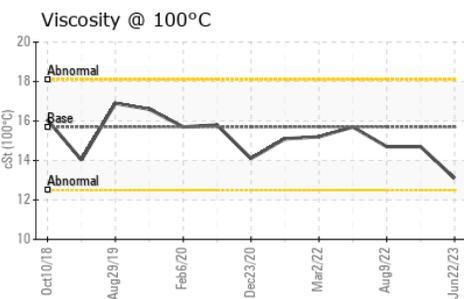
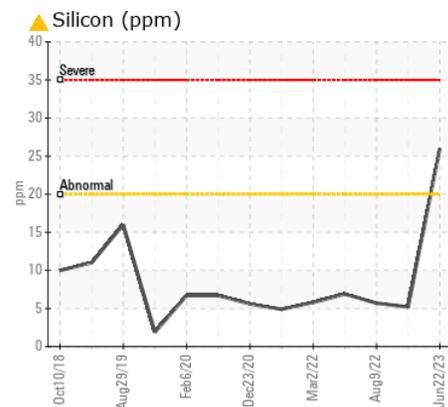
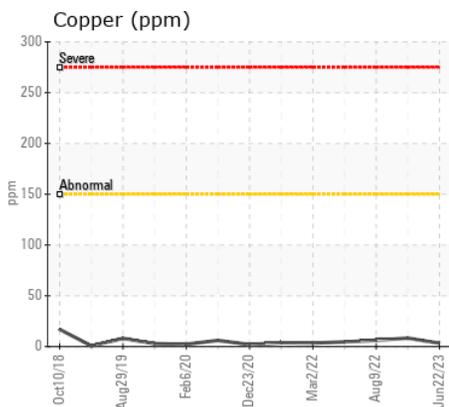
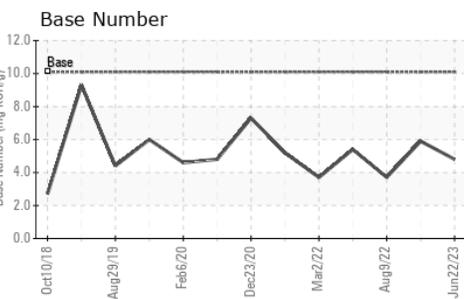
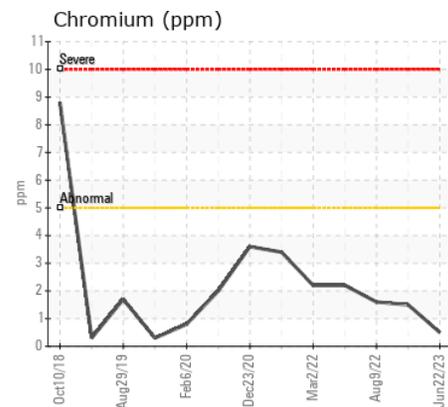
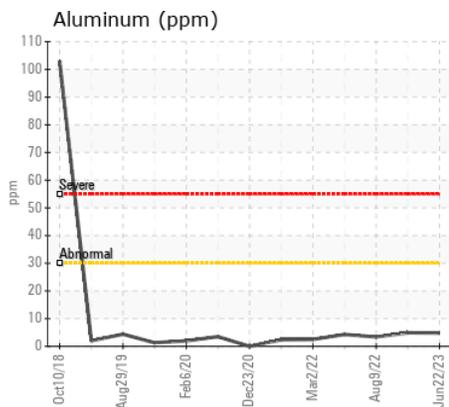
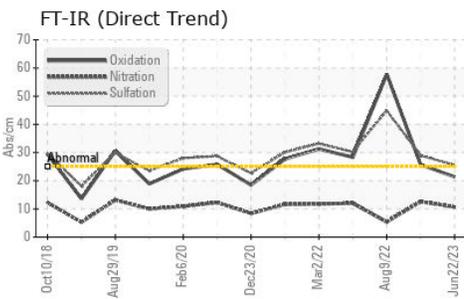
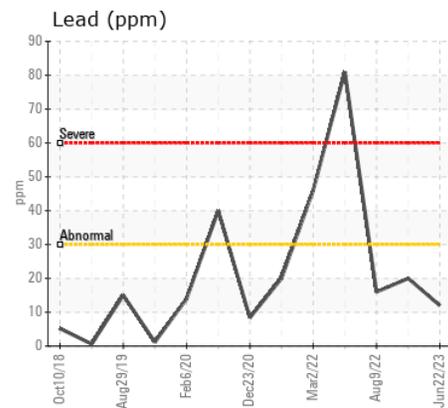
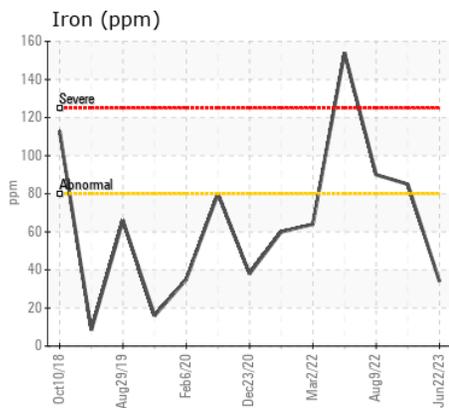
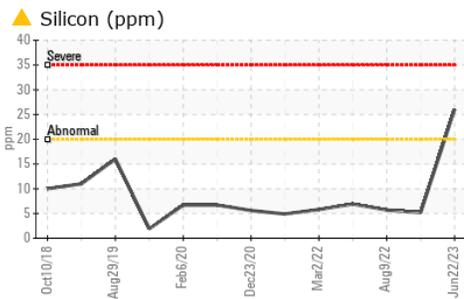
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>20	26	5	6
Potassium	ppm	ASTM D5185m	>20	11	11	8
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	0.3	0.1
Nitration	Abs/cm	*ASTM D7624	>20	10.7	12.6	5.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.5	29.0	44.9
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		0	5	4
Boron	ppm	ASTM D5185m	316	63	51	35
Barium	ppm	ASTM D5185m	0.0	2	2	0
Molybdenum	ppm	ASTM D5185m	1.2	56	32	21
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m	24	88	92	67
Calcium	ppm	ASTM D5185m	2292	2153	2422	2156
Phosphorus	ppm	ASTM D5185m	1064	941	1030	837
Zinc	ppm	ASTM D5185m	1160	1101	1187	1046
Sulfur	ppm	ASTM D5185m	4996	3376	4086	3208
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.4	25.7	57.8
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	4.8	5.9	3.71
Visc @ 100°C	cSt	ASTM D445	15.7	13.1	14.7	14.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0007309
Lab Number : 05888755
Unique Number : 10539238
Test Package : MOB1+

FTL LTD
 2302 E DUPONT AVE
 BELLE, WV
 US 25015
 Contact: JOHN SMITH
 johnhotrodsmith@gmail.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)