



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 2371
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (19 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RW0004813	RW0004481	RW0002690
Sample Date		Client Info		23 Jan 2024	05 Sep 2023	14 Feb 2022
Machine Age	hrs	Client Info		7137	6698	5105
Oil Age	hrs	Client Info		439	638	373
Filter Age	hrs	Client Info		439	638	373
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	>75	11	14	13
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>15	3	<1	2
Lead	ppm	ASTM D5185m	>25	3	0	<1
Copper	ppm	ASTM D5185m	>100	2	<1	<1
Tin	ppm	ASTM D5185m	>4	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

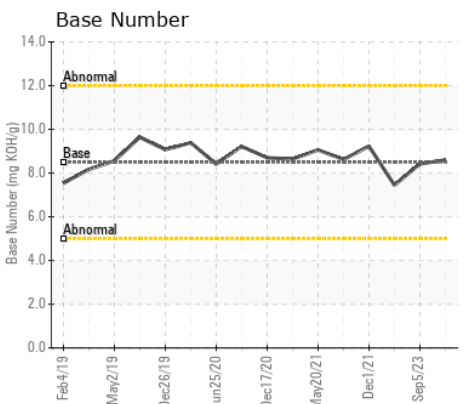
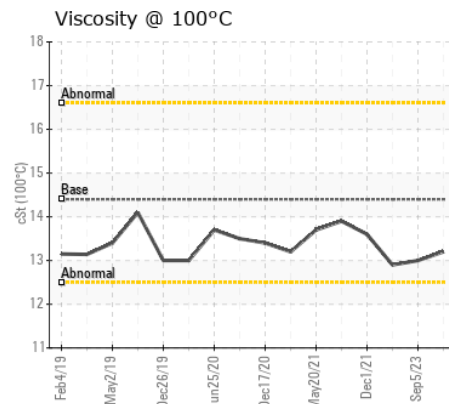
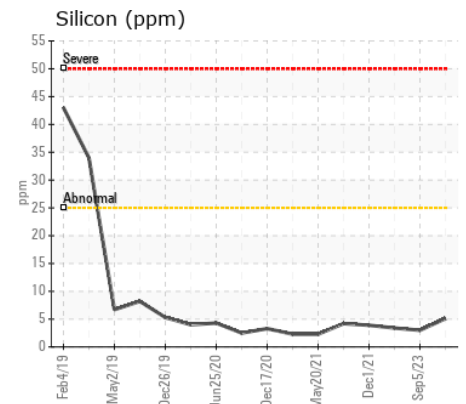
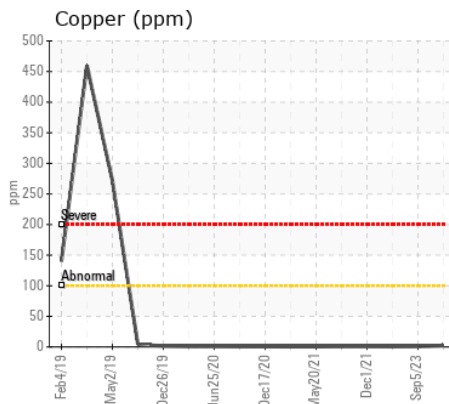
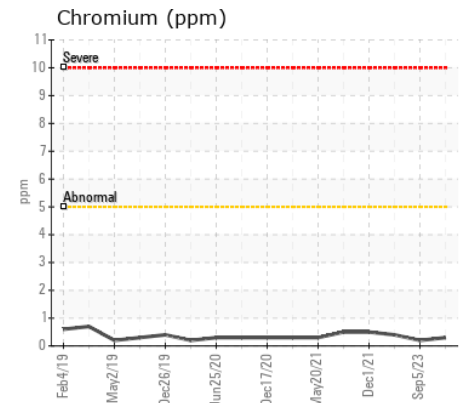
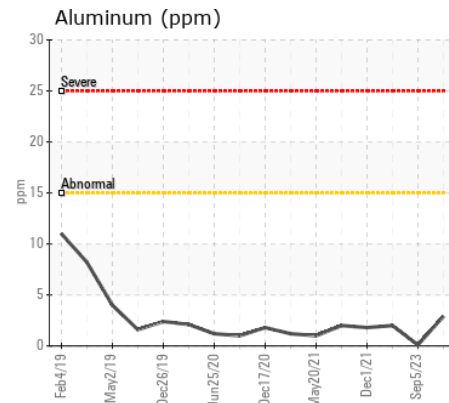
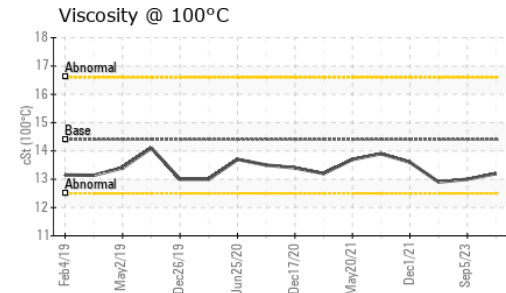
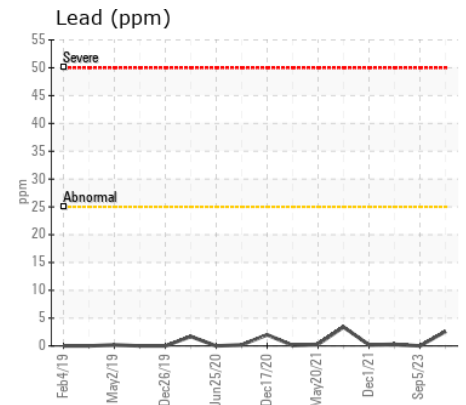
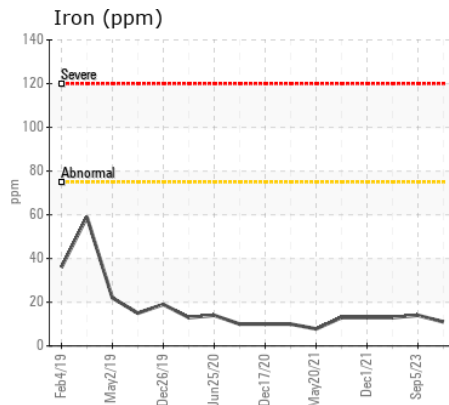
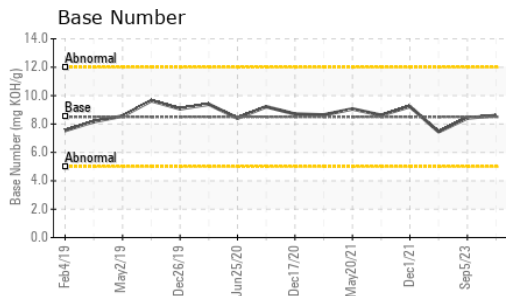
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	3	3
Potassium	ppm	ASTM D5185m	>20	4	1	3
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
Soot %	%	*ASTM D7844	>6	0.3	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	9.0	10.2	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.3	20.8	19.1
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	>158	3	2	2
Boron	ppm	ASTM D5185m	250	5	3	2
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	62	58	54
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m	450	954	936	891
Calcium	ppm	ASTM D5185m	3000	1070	1071	1029
Phosphorus	ppm	ASTM D5185m	1150	1080	961	952
Zinc	ppm	ASTM D5185m	1350	1308	1216	1152
Sulfur	ppm	ASTM D5185m	4250	3136	3369	2290
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.5	19.0	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.60	8.42	7.45
Visc @ 100°C	cSt	ASTM D445	14.4	13.2	13.0	12.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0004813 **Received** : 01 Feb 2024
Lab Number : 06077797 **Diagnosed** : 02 Feb 2024
Unique Number : 10859888 **Diagnostician** : Wes Davis
Test Package : MOB 2

CITY OF FARMINGTON HILLS
 27245 HALSTED RD
 FARMINGTON HILLS, MI
 US 48331
 Contact: JERRY BROCK
 jbrock@fhgov.com
 T: (248)871-2850
 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)