MOB I WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE

Machine Id
FREIGHTLINER 593
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (24 QTS)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

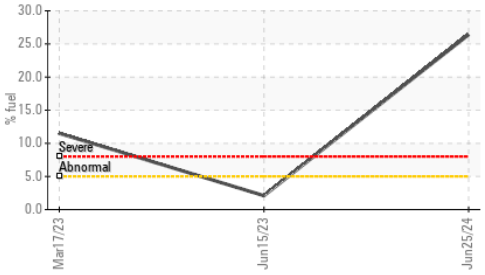
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

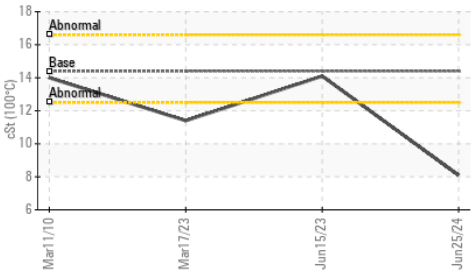
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0948994	WC0821410	WC0792925
Sample Date		Client Info		25 Jun 2024	15 Jun 2023	17 Mar 2023
Machine Age	mls	Client Info		213767	204010	199297
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				SEVERE	ABNORMAL	SEVERE
Iron	ppm	ASTM D5185m	>100	66	25	39
Chromium	ppm	ASTM D5185m	>20	6	<1	1
Nickel	ppm	ASTM D5185m	>50	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>50	4	6	4
Lead	ppm	ASTM D5185m	>40	1	2	0
Copper	ppm	ASTM D5185m	>330	53	<1	<1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	14	4	11
Potassium	ppm	ASTM D5185m	>20	3	▲ 120	1
Fuel	%	ASTM D3524	>5	▲ 26.4	▲ 2.1	▲ 11.5
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	1.1	0.7
Nitration	Abs/cm	*ASTM D7624	>20	11.3	9.7	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	20.8	22.1
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
Sodium	ppm	ASTM D5185m	>158	2	▲ 89	6
Boron	ppm	ASTM D5185m	250	34	19	29
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	64	71	70
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	162	118	54
Calcium	ppm	ASTM D5185m	3000	1377	2382	1949
Phosphorus	ppm	ASTM D5185m	1150	650	1054	870
Zinc	ppm	ASTM D5185m	1350	879	1306	1110
Sulfur	ppm	ASTM D5185m	4250	2336	4546	3534
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.5	14.0	19.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.4	8.3	5.9
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 8.1	14.1	▲ 11.4

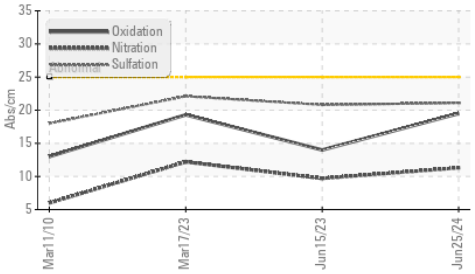
Fuel Dilution



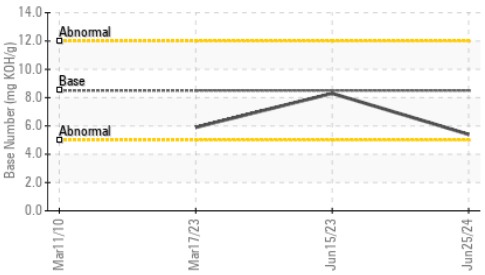
Viscosity @ 100°C



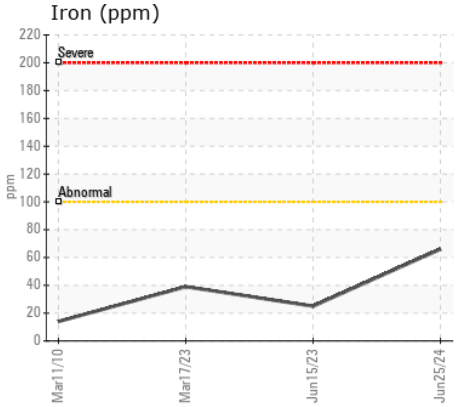
FT-IR (Direct Trend)



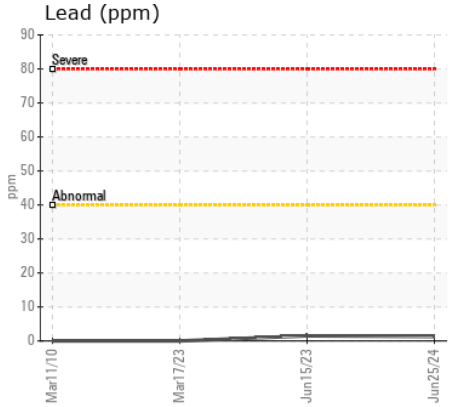
Base Number



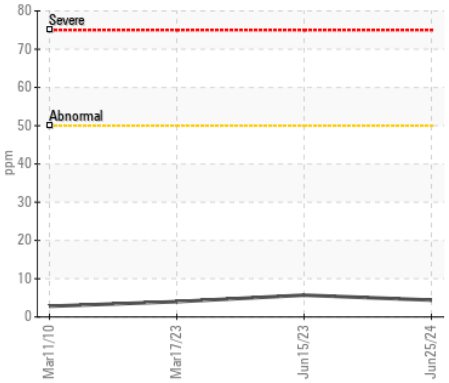
Iron (ppm)



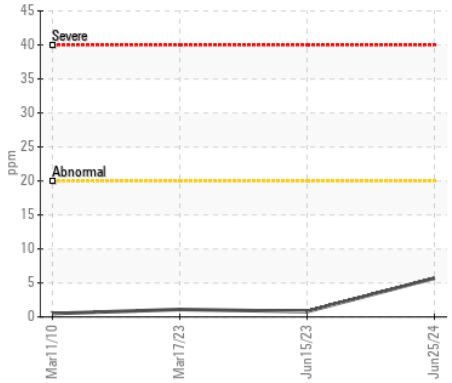
Lead (ppm)



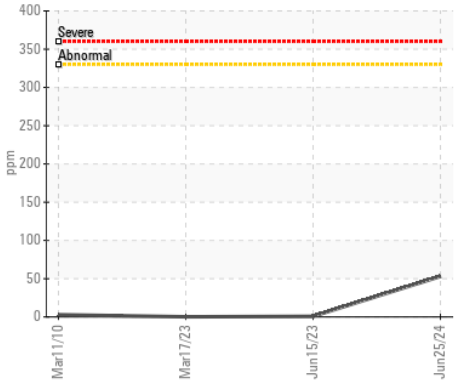
Aluminum (ppm)



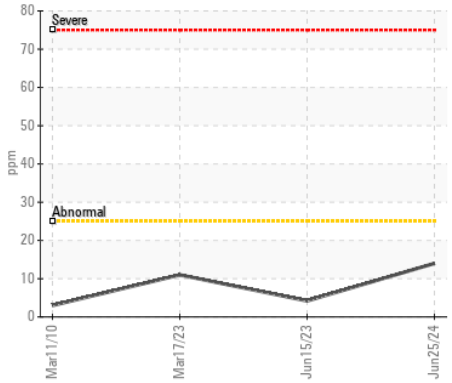
Chromium (ppm)



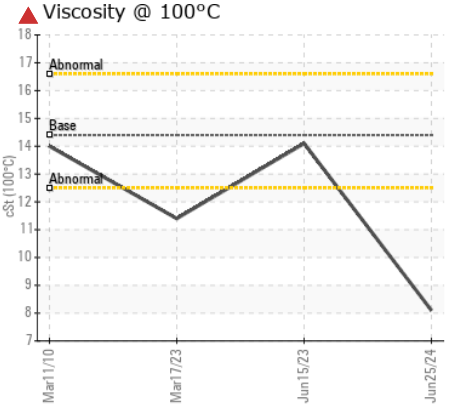
Copper (ppm)



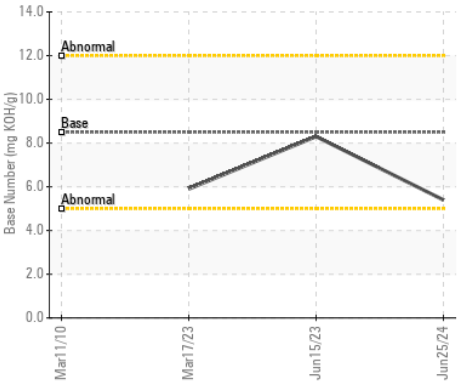
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0948994 **Received** : 26 Jun 2024
Lab Number : 06220955 **Tested** : 01 Jul 2024
Unique Number : 11099152 **Diagnosed** : 01 Jul 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

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)

WAKE COUNTY PUBLIC SCHOOL SYSTEM
1551 ROCK QUARRY ROAD
RALEIGH, NC
US 27610
Contact: DEVIN WEBER
dweber@wcpss.net
T: (919)856-8076
F: x: