MOB I

Dura-Check Fluid Analysis

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
FORD M31739
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W40 (--- QTS)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

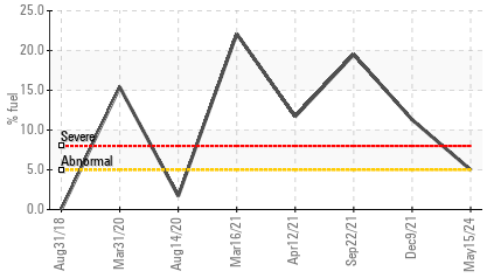
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

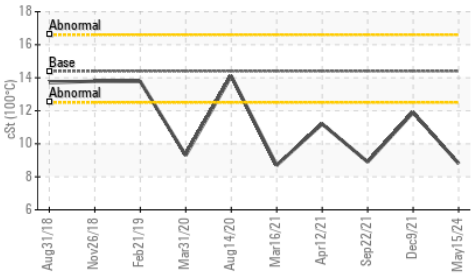
Zinc ppm levels are abnormally low. Visc @ 100°C is abnormally low. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0034055	DC0016764	DC0010838
Sample Date		Client Info		15 May 2024	09 Dec 2021	22 Sep 2021
Machine Age	mls	Client Info		113869	96046	92855
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	SEVERE	SEVERE
Iron	ppm	ASTM D5185m	>100	44	12	22
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	7	3	4
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	2	2	1
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	10	6	8
Potassium	ppm	ASTM D5185m	>20	1	<1	2
Fuel	%	ASTM D3524	>5	▲ 5.0	▲ 11.3	▲ 19.5
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.4	10.8	11.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.9	21.4	25.6
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	>44	2	3	3
Boron	ppm	ASTM D5185m	250	78	35	21
Barium	ppm	ASTM D5185m	10	0	1	12
Molybdenum	ppm	ASTM D5185m	100	35	52	12
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	450	516	993	573
Calcium	ppm	ASTM D5185m	3000	1038	840	1003
Phosphorus	ppm	ASTM D5185m	1150	661	982	792
Zinc	ppm	ASTM D5185m	1350	▲ 720	1193	908
Sulfur	ppm	ASTM D5185m	4250	2790	2818	2401
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.0	20.7	21.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.4	7.7	---
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 8.8	▲ 11.9	▲ 8.9

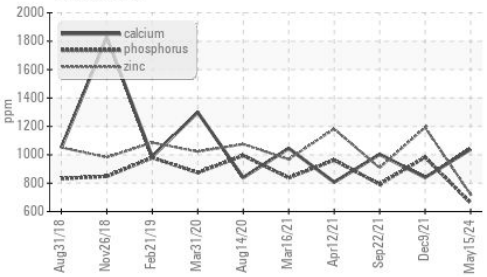
Fuel Dilution



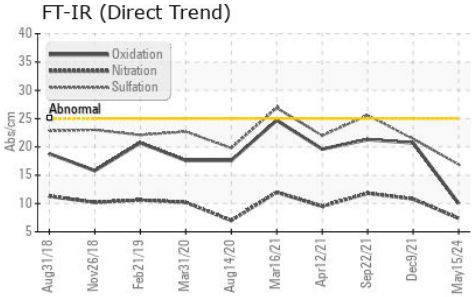
Viscosity @ 100°C



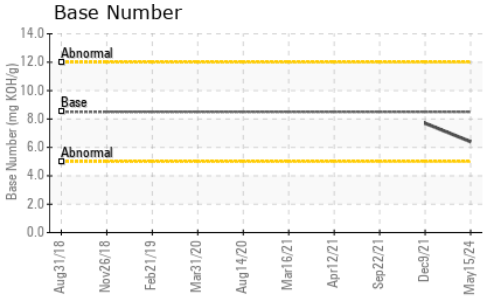
Additives



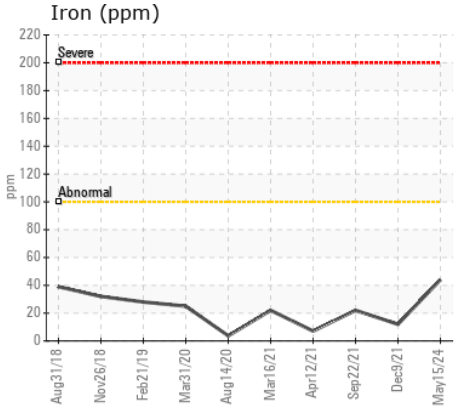
FT-IR (Direct Trend)



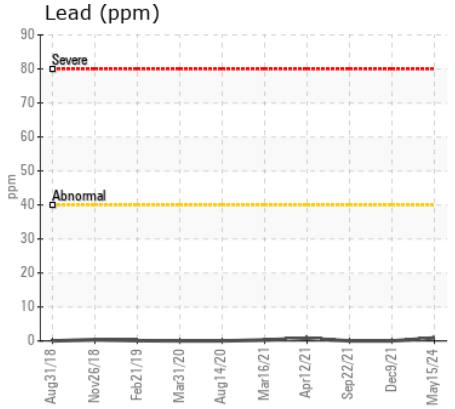
Base Number



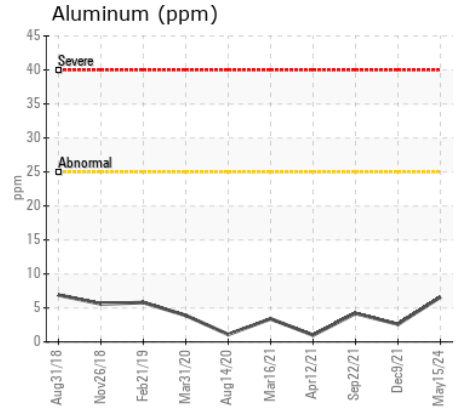
Iron (ppm)



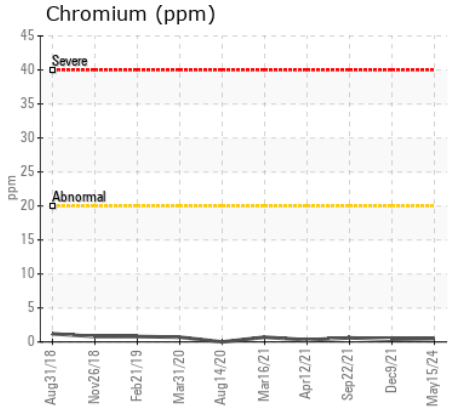
Lead (ppm)



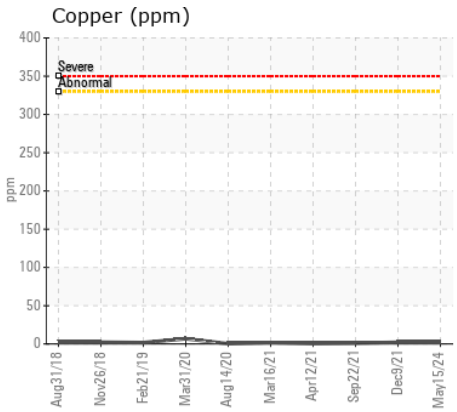
Aluminum (ppm)



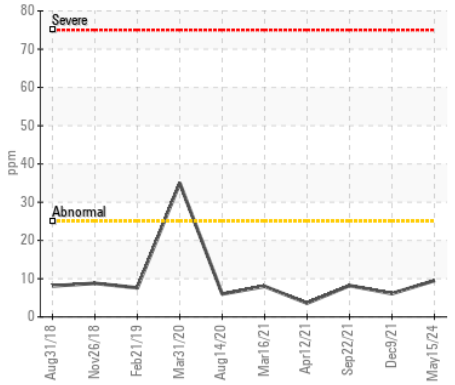
Chromium (ppm)



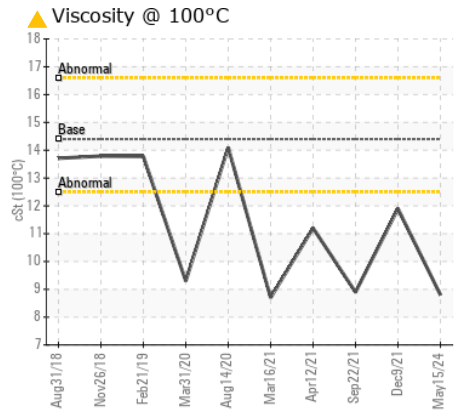
Copper (ppm)



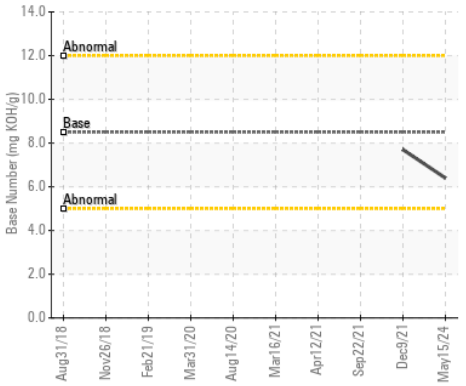
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0034055 **Received** : 29 May 2024
Lab Number : 06194824 **Tested** : 03 Jun 2024
Unique Number : 11056947 **Diagnosed** : 03 Jun 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: 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)

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