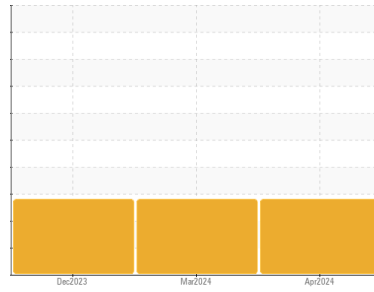


OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
LONGVIEW
Machine Id
FORD E41509

Component
Diesel Engine
Fluid
TULCO LUBSOIL CK-4 15W40 (13 QTS)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter 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 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			TO10003475	TO50002125	TO50000832
Sample Date	Client Info			01 Apr 2024	13 Mar 2024	19 Dec 2023
Machine Age	hrs	Client Info		9520	3116	2717
Oil Age	hrs	Client Info		336	1735	1336
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
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	>100	13	21	58
Chromium	ppm	ASTM D5185m	>20	1	<1	4
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	1	3
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	1
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

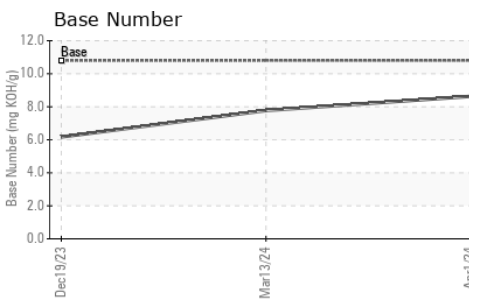
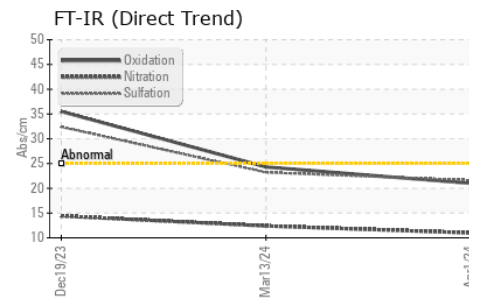
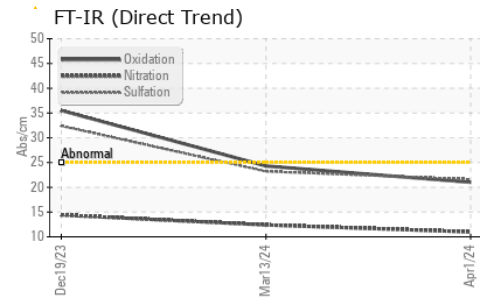
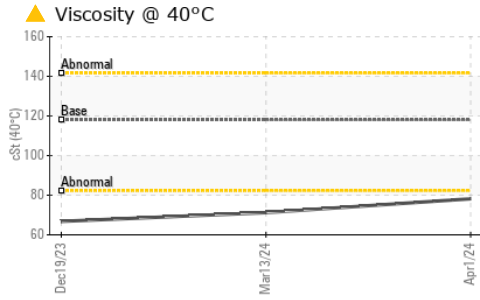
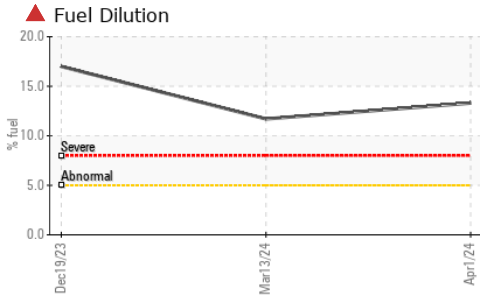
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	7	31
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	65	57	54	63
Manganese	ppm	ASTM D5185m		<1	0	1
Magnesium	ppm	ASTM D5185m	1060	888	801	25
Calcium	ppm	ASTM D5185m	1140	1063	1140	1768
Phosphorus	ppm	ASTM D5185m	1170	982	974	821
Zinc	ppm	ASTM D5185m	1230	1083	1175	1005
Sulfur	ppm	ASTM D5185m	3130	3482	3729	4065

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	3	5	8
Sodium	ppm	ASTM D5185m		<1	0	<1
Potassium	ppm	ASTM D5185m	>20	0	0	1
Fuel	%	ASTM D3524	>5	▲ 13.3	▲ 11.7	▲ 17.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.2	0.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	11.0	12.4	14.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.6	23.2	32.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.0	24.3	35.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.8	8.63	7.77	6.17

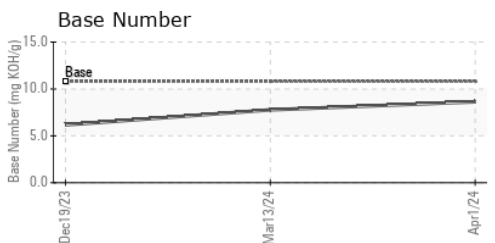
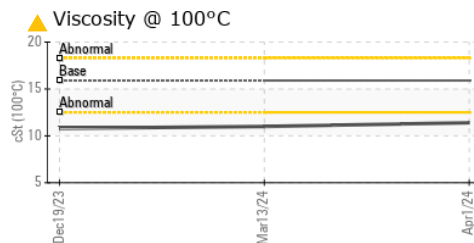
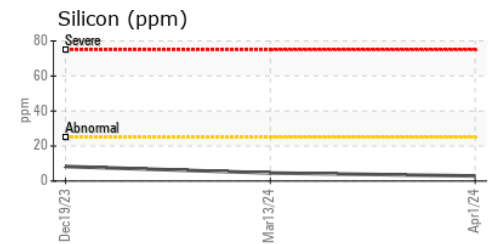
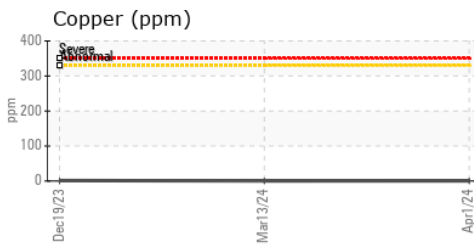
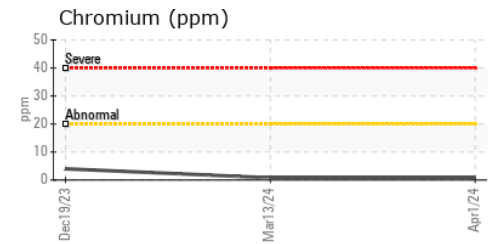
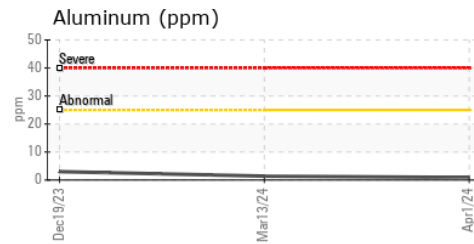
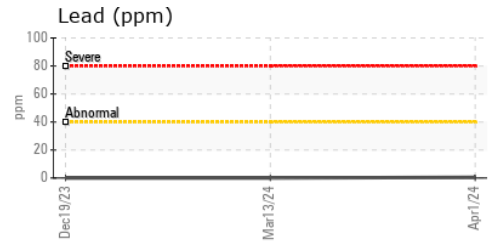
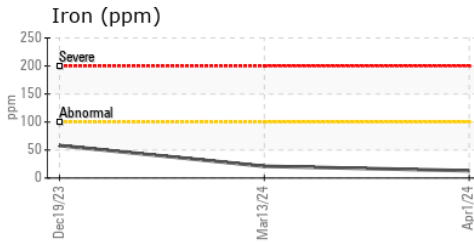
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	118	▲ 78.2	▲ 71.2
Visc @ 100°C	cSt	ASTM D445	15.9	▲ 11.4	▲ 11.0
Viscosity Index (VI)	Scale	ASTM D2270	143	137	144

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10003475 **Received** : 19 Apr 2024
Lab Number : 06154668 **Tested** : 23 Apr 2024
Unique Number : 10990091 **Diagnosed** : 23 Apr 2024 - Don Baldrige
Test Package : MOB 2 (Additional Tests: KV40, PercentFuel, VI)

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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