



PROBLEM SUMMARY



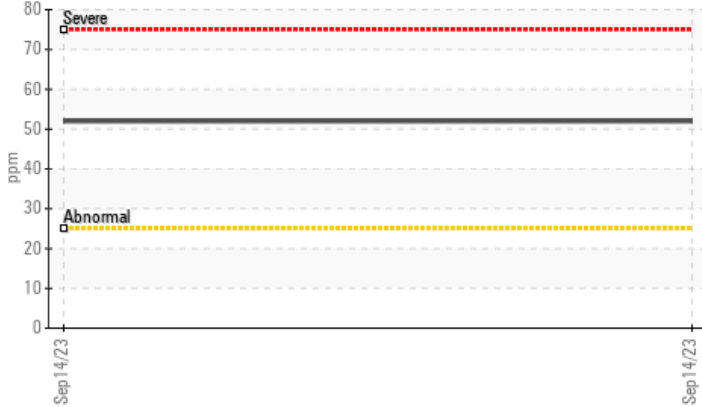
Area
{UNASSIGNED}
 Machine Id
MACK 2401
 Component
Diesel Engine
 Fluid
NOT GIVEN (--- GAL)

Sample Rating Trend

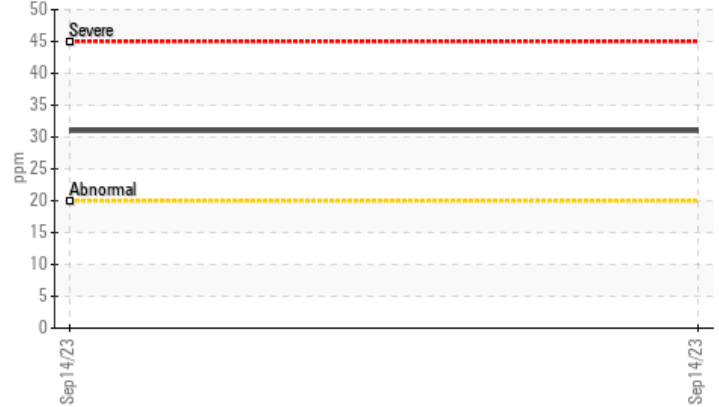


COMPONENT CONDITION SUMMARY

▲ Silicon (ppm)



▲ Aluminum (ppm)



RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	---	---
Aluminum	ppm	ASTM D5185m	>20	▲ 31	---	---
Silicon	ppm	ASTM D5185m	>25	▲ 52	---	---

Customer Id: ZFOCHI
 Sample No.: PCA0096092
 Lab Number: 06017741
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Information Required	---	---	?	Please specify the brand, type, and viscosity of the oil on your next sample.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT



Area
{UNASSIGNED}
Machine Id
MACK 2401
Component
Diesel Engine
Fluid
NOT GIVEN (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear
All component wear rates are normal.

Contamination
Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PCA0096092	---	---
Sample Date	Client Info	14 Sep 2023	---	---
Machine Age	hrs Client Info	22451	---	---
Oil Age	hrs Client Info	22451	---	---
Oil Changed	Client Info	Changed	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	NEG	---	---
Glycol	WC Method	NEG	---	---

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	27	---	---
Chromium	ppm ASTM D5185m >20	1	---	---
Nickel	ppm ASTM D5185m >5	2	---	---
Titanium	ppm ASTM D5185m >2	<1	---	---
Silver	ppm ASTM D5185m >2	<1	---	---
Aluminum	ppm ASTM D5185m >20	▲ 31	---	---
Lead	ppm ASTM D5185m >40	<1	---	---
Copper	ppm ASTM D5185m >330	69	---	---
Tin	ppm ASTM D5185m >15	3	---	---
Vanadium	ppm ASTM D5185m	<1	---	---
Cadmium	ppm ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	86	---	---
Barium	ppm ASTM D5185m	0	---	---
Molybdenum	ppm ASTM D5185m	106	---	---
Manganese	ppm ASTM D5185m	4	---	---
Magnesium	ppm ASTM D5185m	722	---	---
Calcium	ppm ASTM D5185m	1337	---	---
Phosphorus	ppm ASTM D5185m	750	---	---
Zinc	ppm ASTM D5185m	832	---	---
Sulfur	ppm ASTM D5185m	2325	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 52	---	---
Sodium	ppm ASTM D5185m	6	---	---
Potassium	ppm ASTM D5185m >20	73	---	---
Fuel	% ASTM D3524 >3.0	0.4	---	---

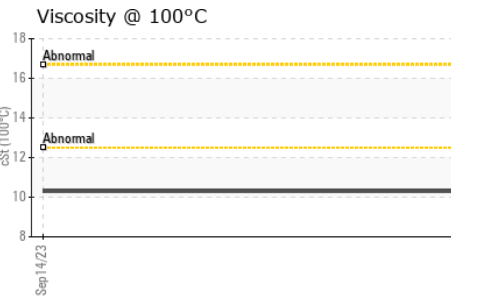
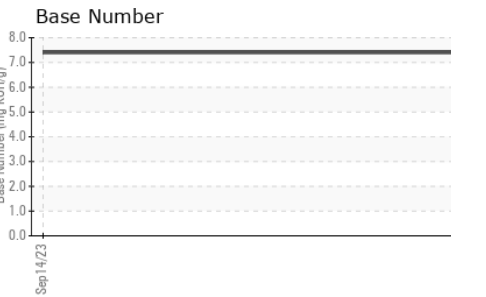
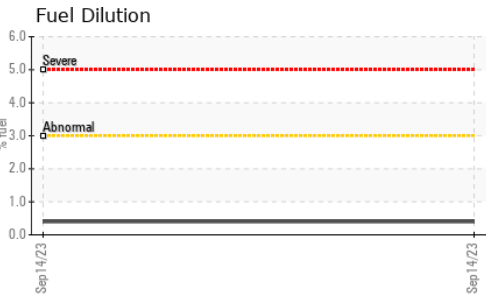
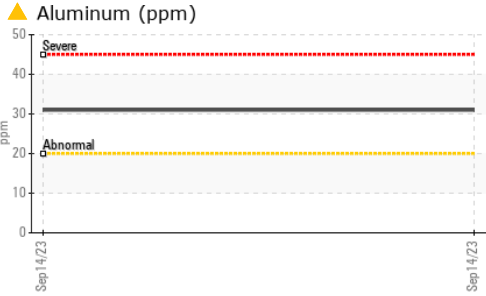
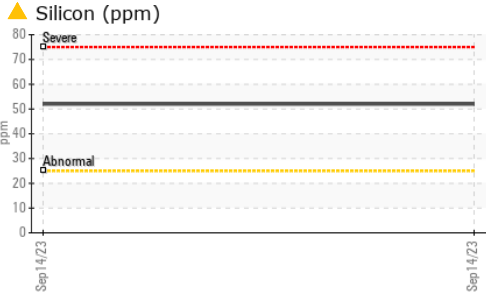
INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.5	---	---
Nitration	Abs/cm *ASTM D7624 >20	9.9	---	---
Sulfation	Abs/.1mm *ASTM D7415 >30	24.4	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	22.1	---	---
Base Number (BN)	mg KOH/g ASTM D2896	7.4	---	---

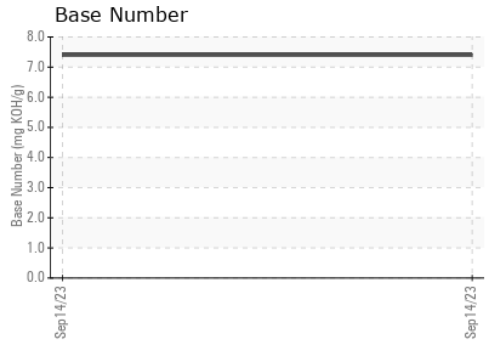
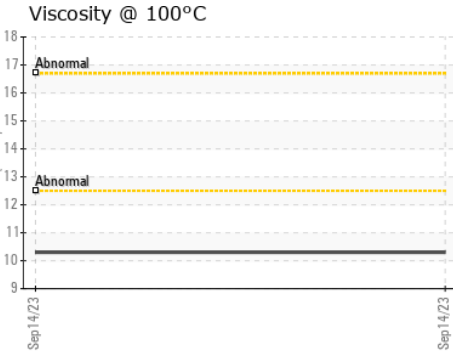
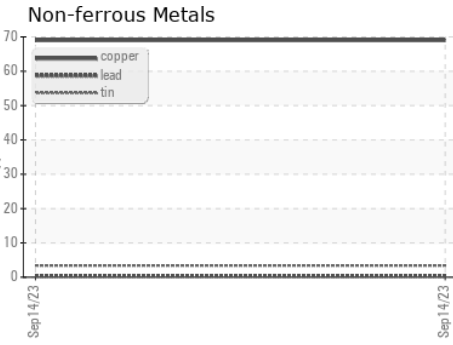
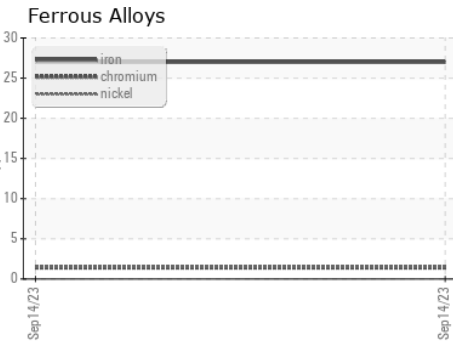
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.3	---	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0096092 **Received** : 27 Nov 2023
Lab Number : 06017741 **Diagnosed** : 29 Nov 2023
Unique Number : 10756885 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Z FORCE TRANSPORTATION INC
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 CHICAGO HEIGHTS, IL
 US 60411
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 mprocanin@zforcetransportation.com

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)

T:
F: