



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Area  
**TLD LOGISTICS SERVICES INC [NL0001483]**

Machine Id  
**FREIGHTLINER 3124201**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA 15W40 (--- GAL)**

## RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		NL0001483	---	---
Sample Date		Client Info		17 May 2024	---	---
Machine Age	mls	Client Info		62626	---	---
Oil Age	mls	Client Info		62626	---	---
Filter Age	mls	Client Info		62626	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ATTENTION	---	---

## WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>165	104	---	---
Chromium	ppm	ASTM D5185m	>5	5	---	---
Nickel	ppm	ASTM D5185m	>4	2	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>20	115	---	---
Lead	ppm	ASTM D5185m	>150	6	---	---
Copper	ppm	ASTM D5185m	>90	20	---	---
Tin	ppm	ASTM D5185m	>5	4	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

## CONTAMINATION

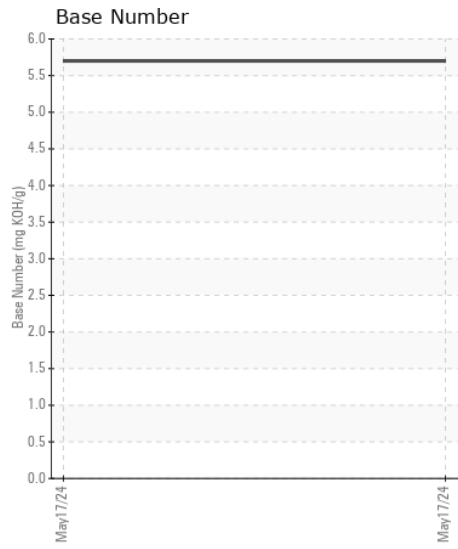
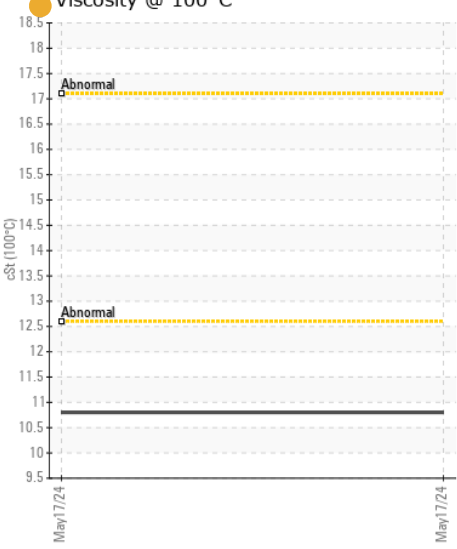
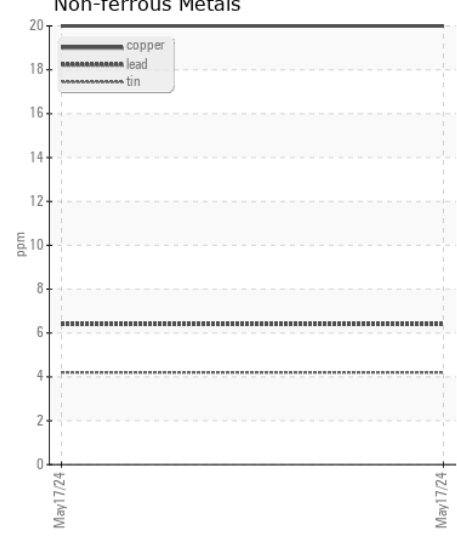
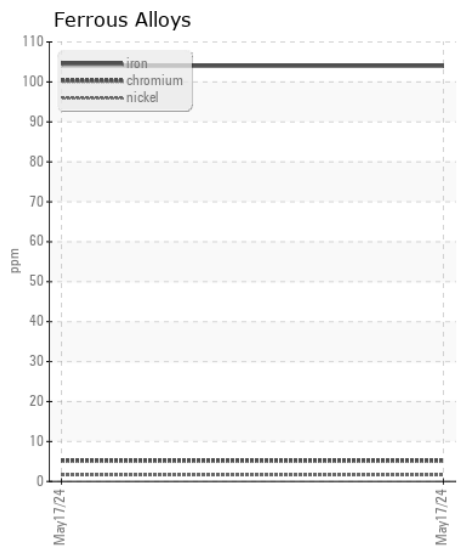
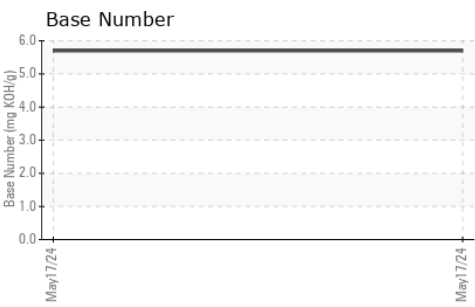
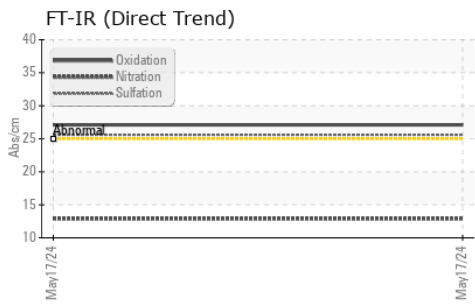
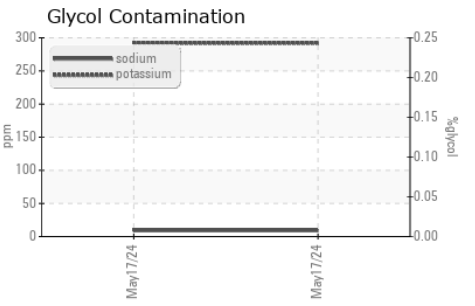
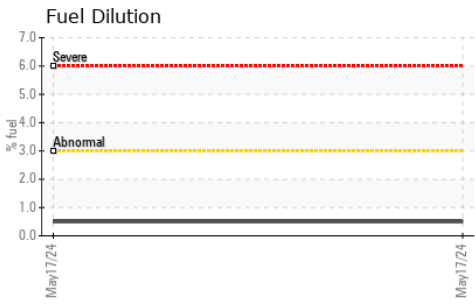
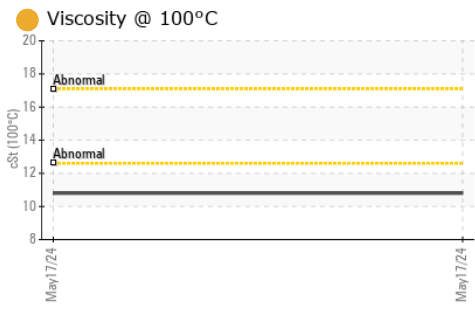
Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

Silicon	ppm	ASTM D5185m	>35	38	---	---
Potassium	ppm	ASTM D5185m	>20	292	---	---
Fuel	%	ASTM D3524	>3.0	0.5	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>7.5	0.9	---	---
Nitration	Abs/cm	*ASTM D7624	>20	12.9	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.6	---	---
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	---	---

## FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		9	---	---
Boron	ppm	ASTM D5185m		21	---	---
Barium	ppm	ASTM D5185m		5	---	---
Molybdenum	ppm	ASTM D5185m		47	---	---
Manganese	ppm	ASTM D5185m		8	---	---
Magnesium	ppm	ASTM D5185m		599	---	---
Calcium	ppm	ASTM D5185m		1671	---	---
Phosphorus	ppm	ASTM D5185m		786	---	---
Zinc	ppm	ASTM D5185m		1001	---	---
Sulfur	ppm	ASTM D5185m		2354	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	27.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		5.7	---	---
Visc @ 100°C	cSt	ASTM D445		10.8	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NL0001483 **Received** : 28 May 2024  
**Lab Number** : 06193390 **Tested** : 31 May 2024  
**Unique Number** : 11050142 **Diagnosed** : 31 May 2024 - Don Baldrige  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

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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)