

Machine Id
FREIGHTLINER 35

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high.

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.

SAMPLE INFORMATION method limit/base current history1 history2

Sample Number	Client Info	PCA0053911	PCA0020927	---
Sample Date	Client Info	08 Aug 2023	31 Aug 2020	---
Machine Age	mls	320933	567268	---
Oil Age	mls	20000	20000	---
Oil Changed	Client Info	Changed	Changed	---
Sample Status		ABNORMAL	ATTENTION	---

CONTAMINATION method limit/base current history1 history2

Fuel	WC Method	>3.0	<1.0	0.0	---
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WEAR METALS method limit/base current history1 history2

Iron	ppm	ASTM D5185m	>200	57	18	---
Chromium	ppm	ASTM D5185m	>20	2	<1	---
Nickel	ppm	ASTM D5185m	>2	<1	<1	---
Titanium	ppm	ASTM D5185m	>2	<1	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>30	18	5	---
Lead	ppm	ASTM D5185m	>30	0	<1	---
Copper	ppm	ASTM D5185m	>30	16	6	---
Tin	ppm	ASTM D5185m	>15	0	<1	---
Antimony	ppm	ASTM D5185m		---	<1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES method limit/base current history1 history2

Boron	ppm	ASTM D5185m	0	542	114	---
Barium	ppm	ASTM D5185m	0	0	0	---
Molybdenum	ppm	ASTM D5185m	60	703	59	---
Manganese	ppm	ASTM D5185m	0	1	<1	---
Magnesium	ppm	ASTM D5185m	1010	218	368	---
Calcium	ppm	ASTM D5185m	1070	1002	1811	---
Phosphorus	ppm	ASTM D5185m	1150	352	1018	---
Zinc	ppm	ASTM D5185m	1270	440	1236	---
Sulfur	ppm	ASTM D5185m	2060	2801	2955	---

CONTAMINANTS method limit/base current history1 history2

Silicon	ppm	ASTM D5185m	>30	12	5	---
Sodium	ppm	ASTM D5185m		8	<1	---
Potassium	ppm	ASTM D5185m	>20	▲ 198	2	---
Glycol	%	*ASTM D2982		NEG	NEG	---

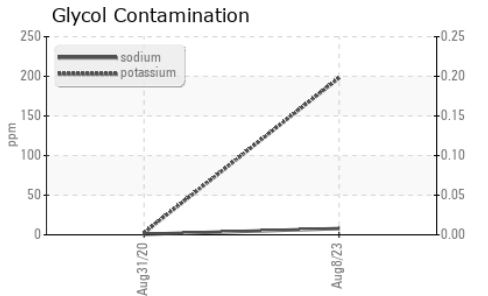
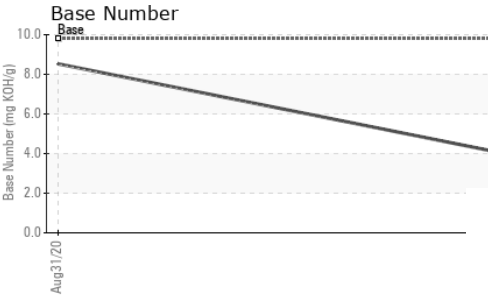
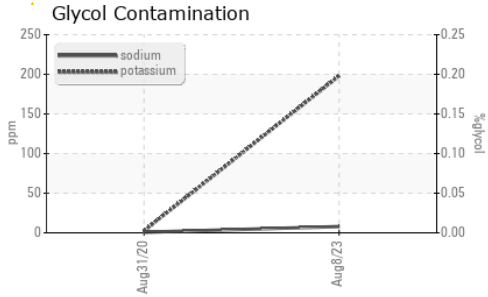
INFRA-RED method limit/base current history1 history2

Soot %	%	*ASTM D7844	>3	0.1	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	7.8	7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.6	20.2	---

FLUID DEGRADATION method limit/base current history1 history2

Oxidation	Abs/.1mm	*ASTM D7414	>25	17.5	16.2	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	4.16	8.53	---

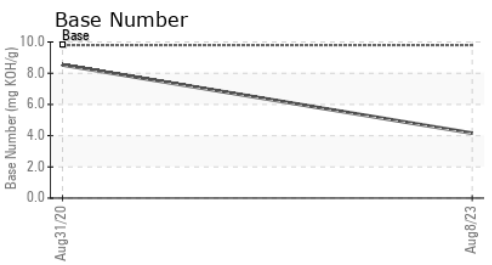
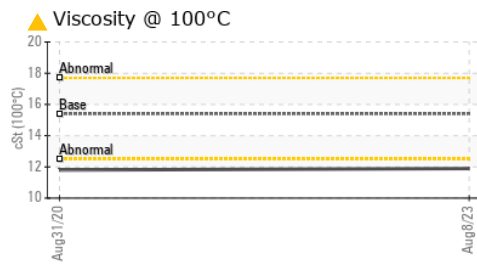
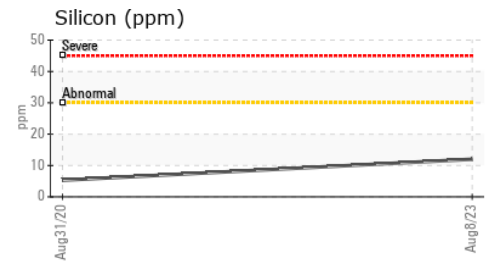
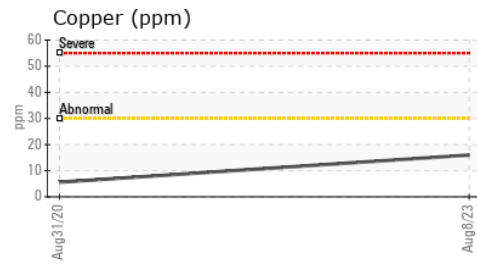
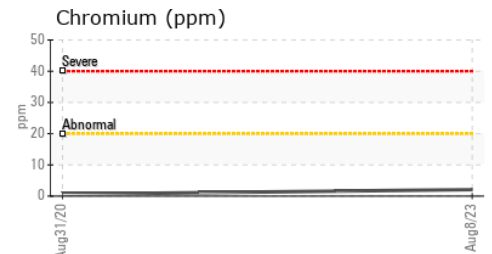
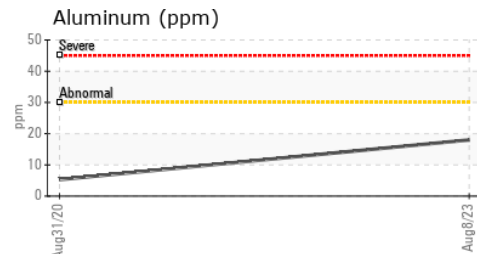
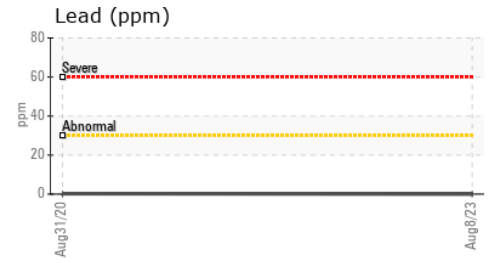
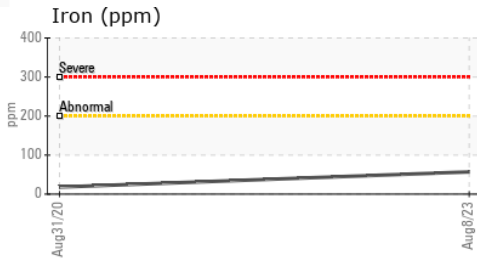
OIL ANALYSIS REPORT



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	15.4	▲ 11.9	▲ 11.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0053911 **Received** : 18 Sep 2023
Lab Number : 05954202 **Diagnosed** : 20 Sep 2023
Unique Number : 10655415 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: Glycol)

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 US 95356
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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)