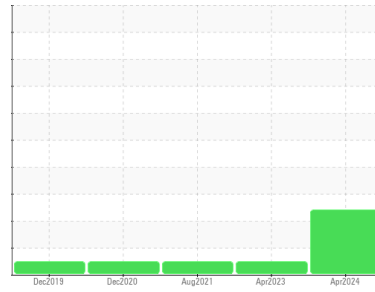


OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
FREIGHTLINER 297661

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

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. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PCA0121707	PCA0093187	PCA0055346
Sample Date	Client Info			22 Apr 2024	22 Apr 2023	17 Aug 2021
Machine Age	mls Client Info			190767	156790	96193
Oil Age	mls Client Info			0	0	24000
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	49	37	46
Chromium	ppm	ASTM D5185m	>20	1	1	2
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>30	12	12	18
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>30	3	3	5
Tin	ppm	ASTM D5185m	>15	2	<1	2
Antimony	ppm	ASTM D5185m		---	---	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	6	5	6
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	87	66	69
Manganese	ppm	ASTM D5185m	0	<1	1	1
Magnesium	ppm	ASTM D5185m	950	1116	883	1063
Calcium	ppm	ASTM D5185m	1050	1378	1179	1262
Phosphorus	ppm	ASTM D5185m	995	1210	947	1120
Zinc	ppm	ASTM D5185m	1180	1480	1188	1317
Sulfur	ppm	ASTM D5185m	2600	4066	2781	2660

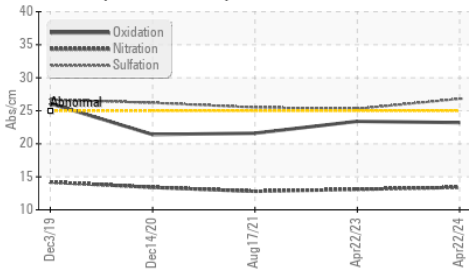
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	13	8	9
Sodium	ppm	ASTM D5185m		▲ 179	28	2
Potassium	ppm	ASTM D5185m	>20	▲ 143	29	12
Glycol	%	*ASTM D2982		NEG	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	1.1	1.2	1.1
Nitration	Abs/cm	*ASTM D7624	>20	13.4	13.1	12.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.8	25.3	25.5

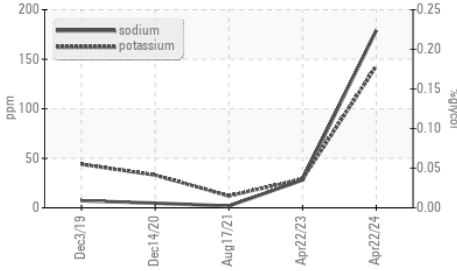
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.2	23.4	21.6
Base Number (BN)	mg KOH/g	ASTM D2896		6.3	4.9	---

OIL ANALYSIS REPORT

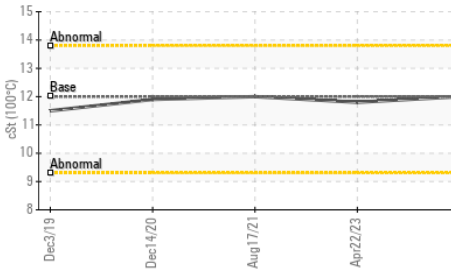
FT-IR (Direct Trend)



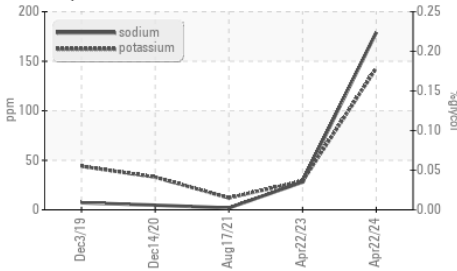
Glycol Contamination



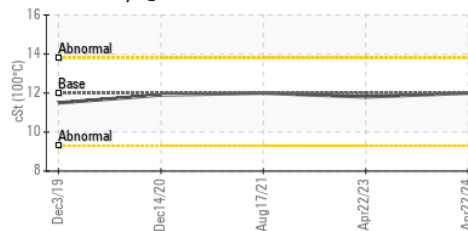
Viscosity @ 100°C



Glycol Contamination



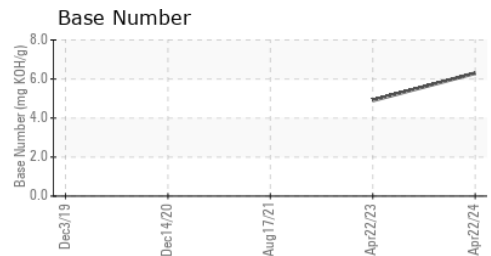
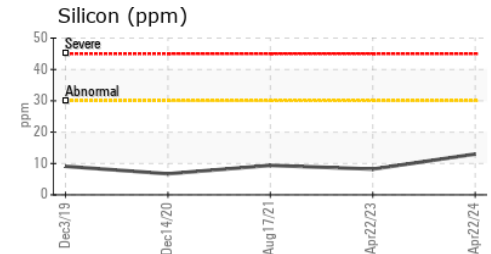
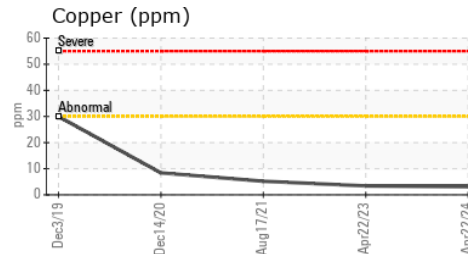
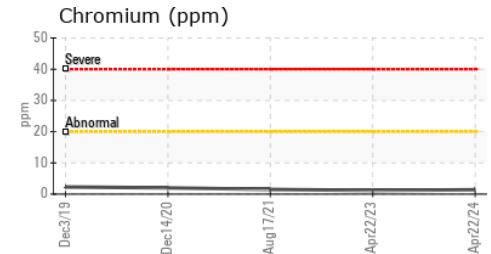
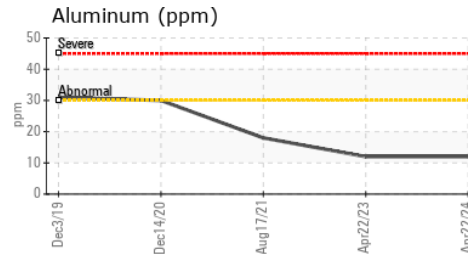
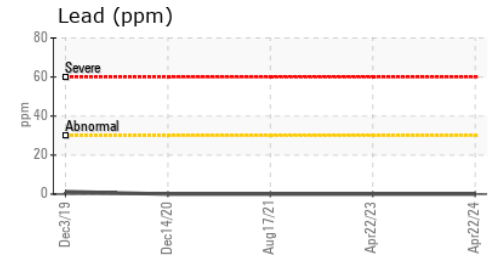
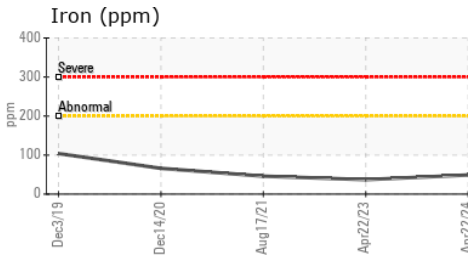
Viscosity @ 100°C



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 @ 100°C	cSt	ASTM D445	12.00	12.0	11.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0121707
Lab Number : 06161232
Unique Number : 10996655
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

MILLER TRUCK LEASING #112
 1504 MAINLINE DR
 CINNAMINSON, NJ
 US 08077

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: MIKE BOYER
 mboyer@millertransgroup.com

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (856)662-4264

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: (856)663-4898