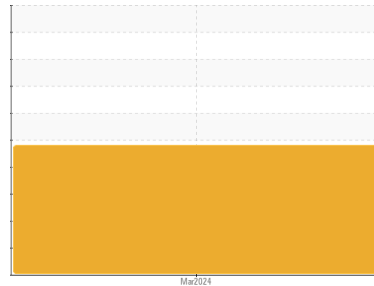


OIL ANALYSIS REPORT



Area
East Chicago Operations
 Machine Id
LIEBHERR R912 MH-85 (S/N 5007455)
 Component
Rear Diesel Engine
 Fluid
PETRO CANADA 15W40 (--- GAL)

Sample Rating Trend



GLYCOL



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: FLUID CHANGED FILTER SERVICED)

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Light fuel dilution occurring. Test for glycol is negative.

Fluid Condition

The oil viscosity is lower than normal. The BN level is low. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0113781	---	---
Sample Date	Client Info		28 Mar 2024	---	---
Machine Age	hrs	Client Info	1838	---	---
Oil Age	hrs	Client Info	1838	---	---
Oil Changed	Client Info		Changed	---	---
Sample Status			ABNORMAL	---	---

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	91	---	---
Chromium	ppm	ASTM D5185m >5	2	---	---
Nickel	ppm	ASTM D5185m >5	0	---	---
Titanium	ppm	ASTM D5185m	0	---	---
Silver	ppm	ASTM D5185m >3	0	---	---
Aluminum	ppm	ASTM D5185m >15	8	---	---
Lead	ppm	ASTM D5185m >30	8	---	---
Copper	ppm	ASTM D5185m >125	8	---	---
Tin	ppm	ASTM D5185m >5	1	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	18	---	---
Barium	ppm	ASTM D5185m	0	---	---
Molybdenum	ppm	ASTM D5185m	40	---	---
Manganese	ppm	ASTM D5185m	1	---	---
Magnesium	ppm	ASTM D5185m	246	---	---
Calcium	ppm	ASTM D5185m	477	---	---
Phosphorus	ppm	ASTM D5185m	623	---	---
Zinc	ppm	ASTM D5185m	763	---	---
Sulfur	ppm	ASTM D5185m	2484	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >60	7	---	---
Sodium	ppm	ASTM D5185m	▲ 91	---	---
Potassium	ppm	ASTM D5185m >20	▲ 20	---	---
Fuel	%	ASTM D3524 >5	▲ 3.2	---	---
Glycol	%	*ASTM D2982	NEG	---	---

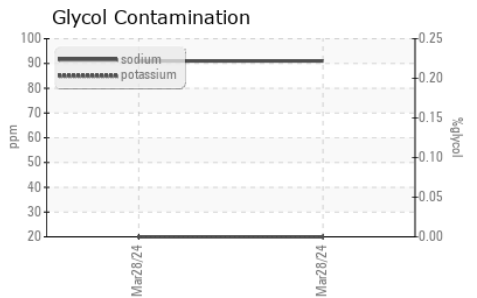
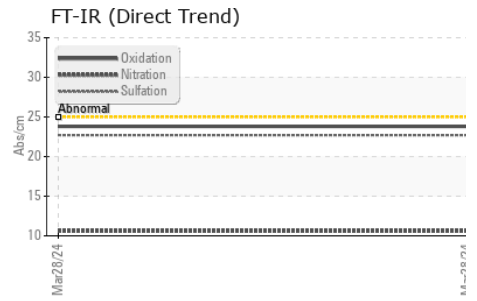
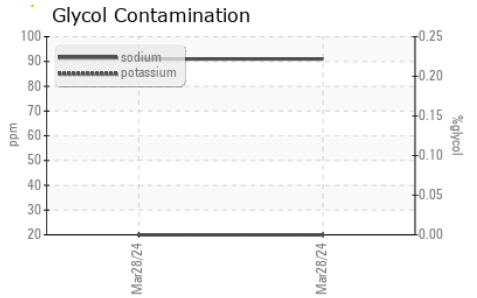
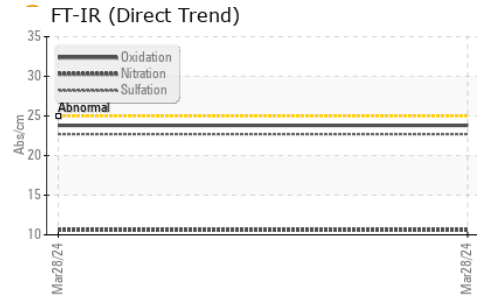
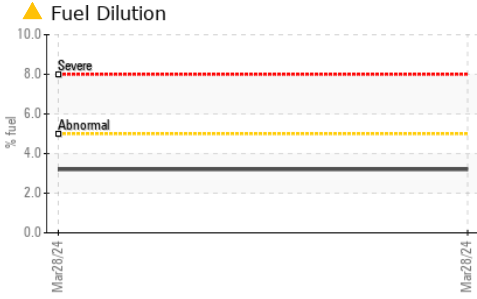
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.7	---	---
Nitration	Abs/cm	*ASTM D7624 >20	10.6	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.7	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	23.8	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	▲ 1.65	---	---

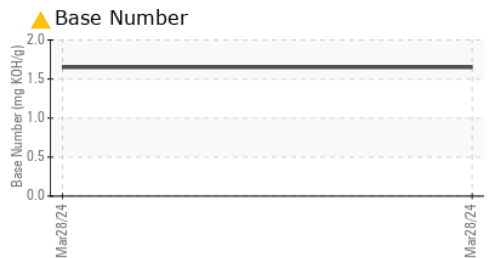
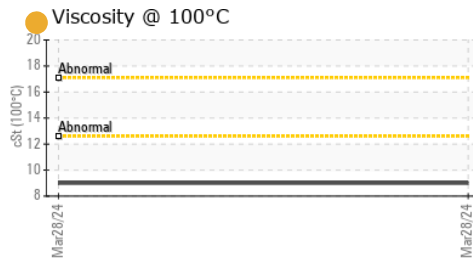
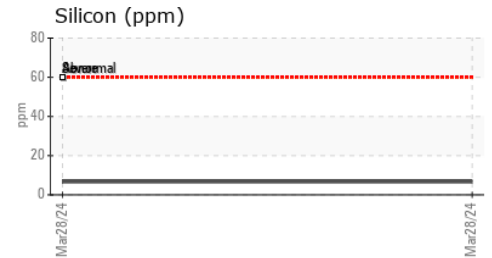
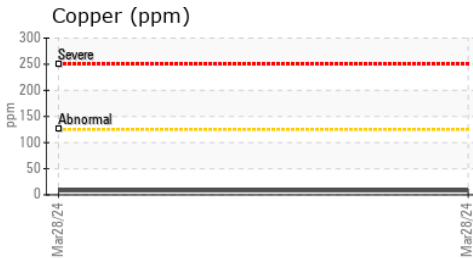
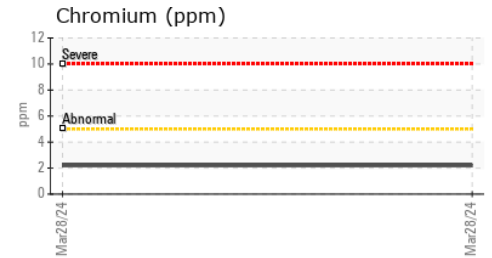
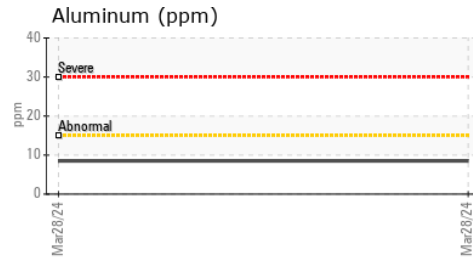
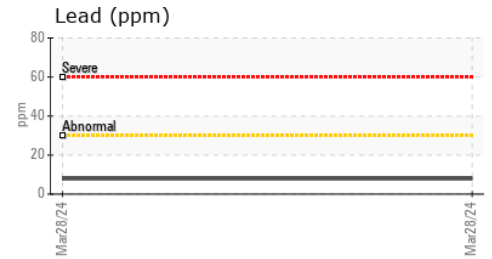
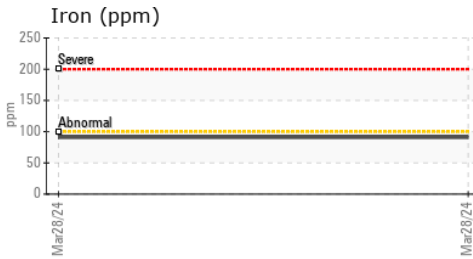
OIL ANALYSIS REPORT



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	9.0	---	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0113781 **Received** : 05 Apr 2024
Lab Number : 06140140 **Tested** : 10 Apr 2024
Unique Number : 10964948 **Diagnosed** : 10 Apr 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, PercentFuel)

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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