

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
130180M

Component
Diesel Engine

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

DIAGNOSIS

▲ Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

▲ Wear

The copper level is abnormal. Cylinder, crank, or cam shaft wear is indicated. Elemental level of copper (Cu) probably due to leaching of copper from copper components (i.e. cooling core) by the oil additives.

▲ Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

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	PCA0113652	---	---
Sample Date	Client Info	17 Jan 2024	---	---
Machine Age	mls	Client Info	25779	---
Oil Age	mls	Client Info	25779	---
Oil Changed	Client Info	Changed	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	---	---
Water	WC Method >0.2	NEG	---	---
Glycol	WC Method	NEG	---	---

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	▲ 161	---	---
Chromium	ppm ASTM D5185m >20	3	---	---
Nickel	ppm ASTM D5185m >4	0	---	---
Titanium	ppm ASTM D5185m	0	---	---
Silver	ppm ASTM D5185m >3	0	---	---
Aluminum	ppm ASTM D5185m >20	18	---	---
Lead	ppm ASTM D5185m >40	9	---	---
Copper	ppm ASTM D5185m >330	▲ 343	---	---
Tin	ppm ASTM D5185m >15	6	---	---
Vanadium	ppm ASTM D5185m	0	---	---
Cadmium	ppm ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 2	45	---	---
Barium	ppm ASTM D5185m 0	7	---	---
Molybdenum	ppm ASTM D5185m 50	11	---	---
Manganese	ppm ASTM D5185m 0	4	---	---
Magnesium	ppm ASTM D5185m 950	47	---	---
Calcium	ppm ASTM D5185m 1050	1519	---	---
Phosphorus	ppm ASTM D5185m 995	996	---	---
Zinc	ppm ASTM D5185m 1180	1325	---	---
Sulfur	ppm ASTM D5185m 2600	3177	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 47	---	---
Sodium	ppm ASTM D5185m	7	---	---
Potassium	ppm ASTM D5185m >20	14	---	---

INFRA-RED

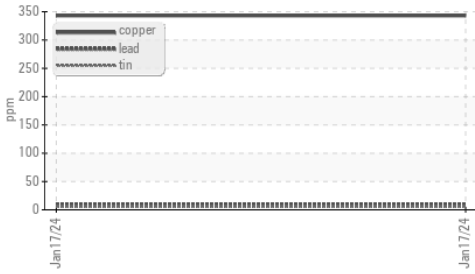
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	1.3	---	---
Nitration	Abs/cm *ASTM D7624 >20	13.1	---	---
Sulfation	Abs/.1mm *ASTM D7415 >30	25.5	---	---

FLUID DEGRADATION

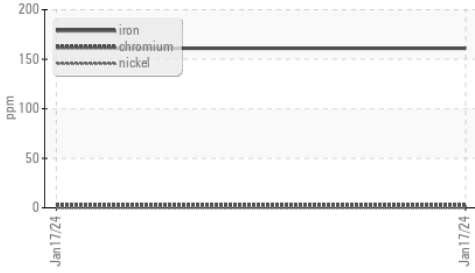
method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	27.0	---	---
Base Number (BN)	mg KOH/g ASTM D2896	5.3	---	---

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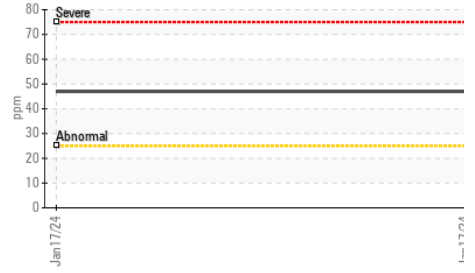
▲ Non-ferrous Metals



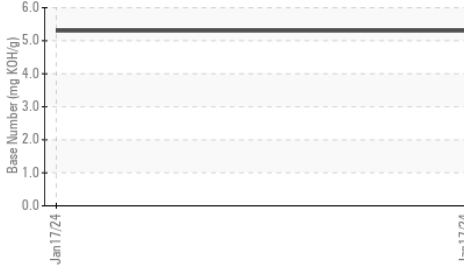
▲ Ferrous Alloys



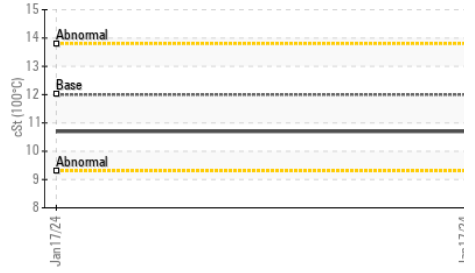
▲ Silicon (ppm)



Base Number



Viscosity @ 100°C

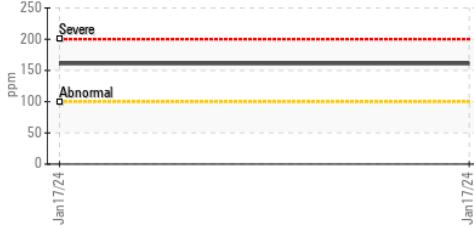


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	---	---
Precipitate	scalar	*Visual	NONE	---	---
Silt	scalar	*Visual	NONE	---	---
Debris	scalar	*Visual	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	---	---
Appearance	scalar	*Visual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

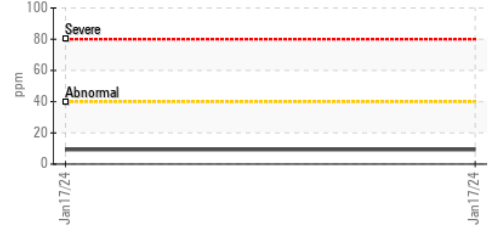
PARAMETER	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	10.7	---

GRAPHS

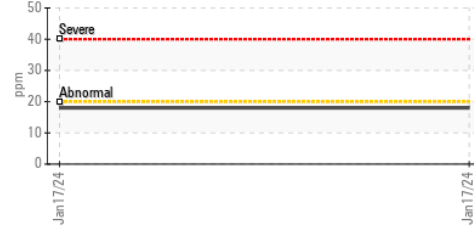
▲ Iron (ppm)



▲ Lead (ppm)



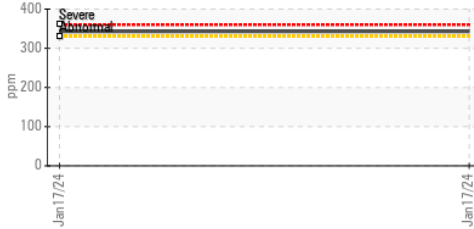
▲ Aluminum (ppm)



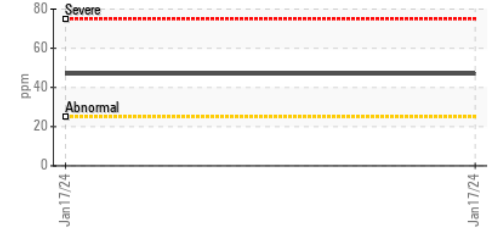
▲ Chromium (ppm)



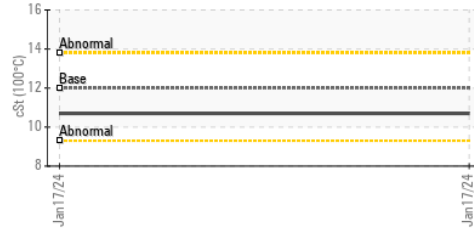
▲ Copper (ppm)



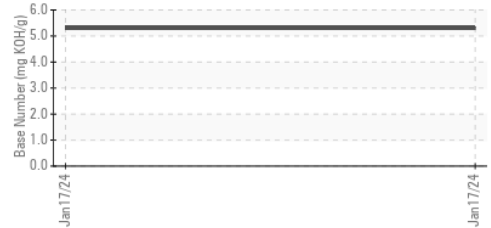
▲ Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0113652 **Received** : 21 Mar 2024
Lab Number : **06124677** **Tested** : 22 Mar 2024
Unique Number : 10938828 **Diagnosed** : 23 Mar 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

MILLER TRUCK LEASING #114
 63 REPAUPO STATION ROAD
 LOGAN TOWNSHIP, NJ
 US 08085
 Contact: ED DAVIS
 edavis@millertransgroup.com
 T: (856)214-3521
 F: (856)214-3663

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)