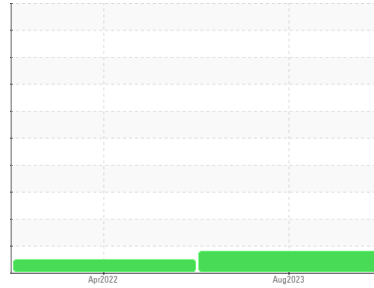


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
708546
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

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

Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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		PCA0100797	PCA0067681	---
Sample Date	Client Info		19 Aug 2023	22 Apr 2022	---
Machine Age	mls	Client Info	300903	201446	---
Oil Age	mls	Client Info	300903	12000	---
Oil Changed	Client Info		Changed	Changed	---
Sample Status			ABNORMAL	NORMAL	---

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	▲ 107	13	---
Chromium	ppm	ASTM D5185m >20	3	<1	---
Nickel	ppm	ASTM D5185m >4	0	<1	---
Titanium	ppm	ASTM D5185m	5	0	---
Silver	ppm	ASTM D5185m >3	<1	<1	---
Aluminum	ppm	ASTM D5185m >20	13	2	---
Lead	ppm	ASTM D5185m >40	3	<1	---
Copper	ppm	ASTM D5185m >330	<1	<1	---
Tin	ppm	ASTM D5185m >15	<1	<1	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	5	8	---
Barium	ppm	ASTM D5185m 0	0	0	---
Molybdenum	ppm	ASTM D5185m 50	59	51	---
Manganese	ppm	ASTM D5185m 0	1	<1	---
Magnesium	ppm	ASTM D5185m 950	958	852	---
Calcium	ppm	ASTM D5185m 1050	1314	1345	---
Phosphorus	ppm	ASTM D5185m 995	1072	1026	---
Zinc	ppm	ASTM D5185m 1180	1364	1195	---
Sulfur	ppm	ASTM D5185m 2600	3235	2795	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	4	---
Sodium	ppm	ASTM D5185m	2	1	---
Potassium	ppm	ASTM D5185m >20	19	4	---

INFRA-RED

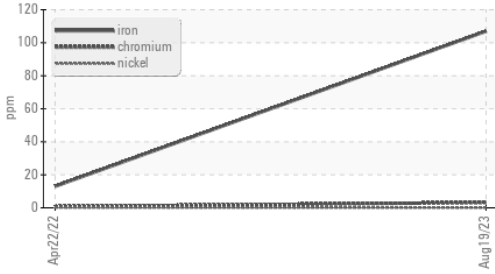
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.2	---
Nitration	Abs/cm	*ASTM D7624 >20	15.1	8.5	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	29.1	19.4	---

FLUID DEGRADATION

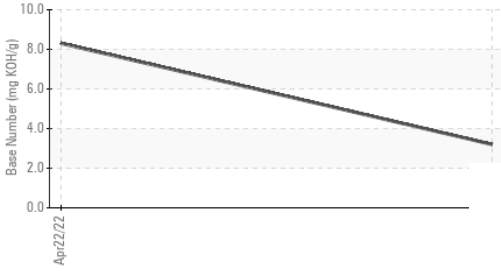
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	29.0	15.8	---
Base Number (BN)	mg KOH/g	ASTM D2896	3.2	8.3	---

OIL ANALYSIS REPORT

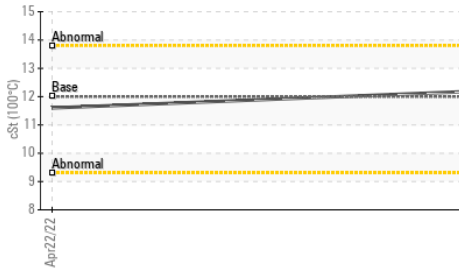
▲ Ferrous Alloys



Base Number



Viscosity @ 100°C

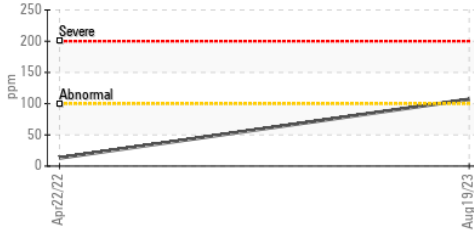


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

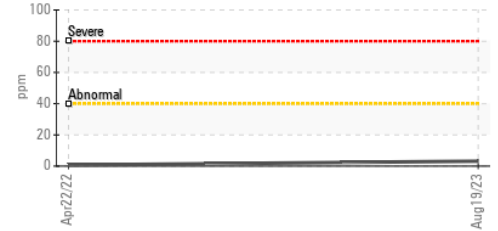
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	12.2	11.6

GRAPHS

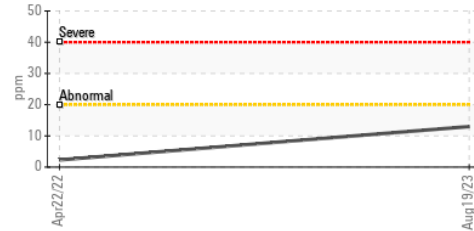
▲ Iron (ppm)



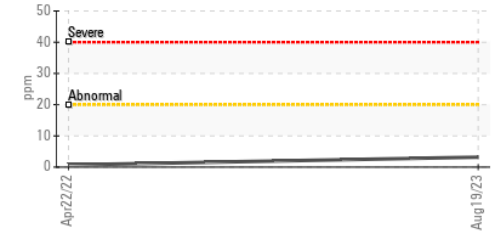
Lead (ppm)



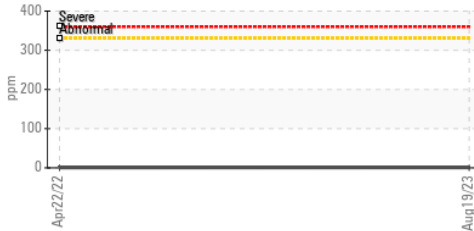
Aluminum (ppm)



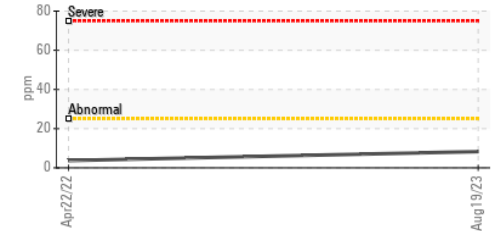
Chromium (ppm)



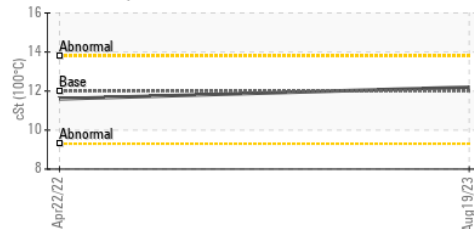
Copper (ppm)



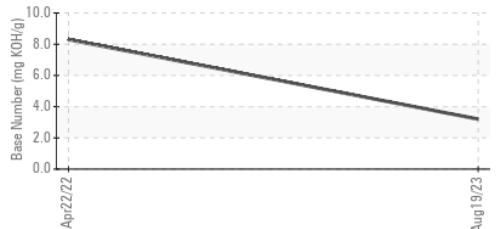
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0100797 **Received** : 06 Sep 2023
Lab Number : 05943322 **Diagnosed** : 08 Sep 2023
Unique Number : 10633934 **Diagnostician** : Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

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 2196 BENNETT ROAD
 PHILADELPHIA, PA
 US 19116
 Contact: ROSTY VITER
 rviter@millertransgroup.com
 T: (215)552-9832
 F: (215)552-9892

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)