



Machine Id
827073 PETERBILT 320

Component
Diesel Engine

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

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. (Customer Sample Comment: Sampled only)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0061432	GFL0061440	---
Sample Date		Client Info		26 Feb 2024	13 Nov 2023	---
Machine Age	hrs	Client Info		20376	20376	---
Oil Age	hrs	Client Info		500	600	---
Filter Age	hrs	Client Info		500	600	---
Oil Changed		Client Info		Not Changd	Changed	---
Filter Changed		Client Info		Not Changd	Changed	---
Sample Status				SEVERE	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>110	46	66	---
Chromium	ppm	ASTM D5185m	>4	1	2	---
Nickel	ppm	ASTM D5185m	>2	0	0	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>25	2	3	---
Lead	ppm	ASTM D5185m	>45	<1	10	---
Copper	ppm	ASTM D5185m	>85	<1	3	---
Tin	ppm	ASTM D5185m	>4	<1	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

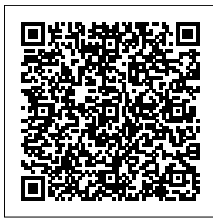
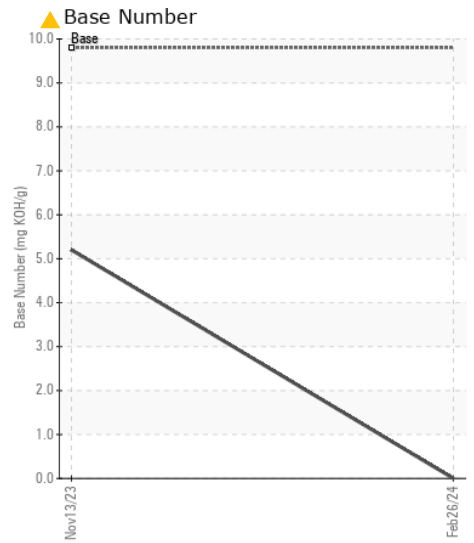
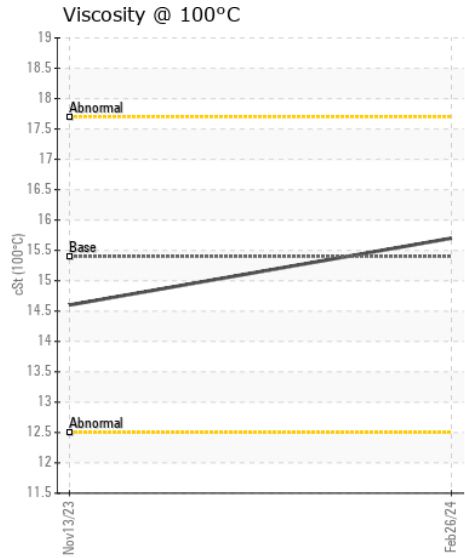
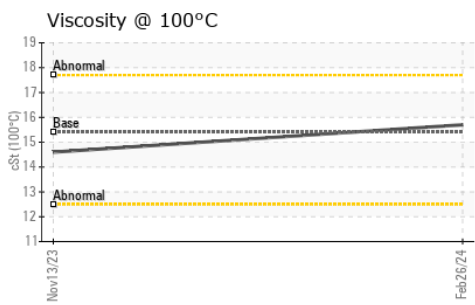
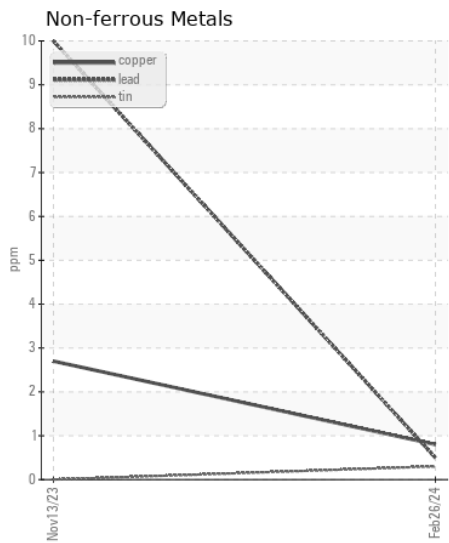
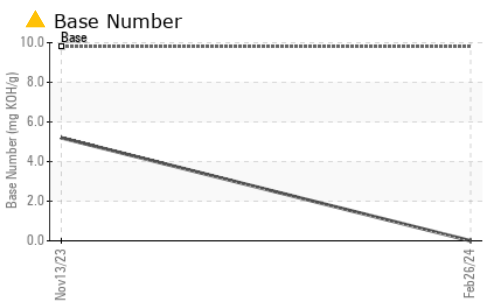
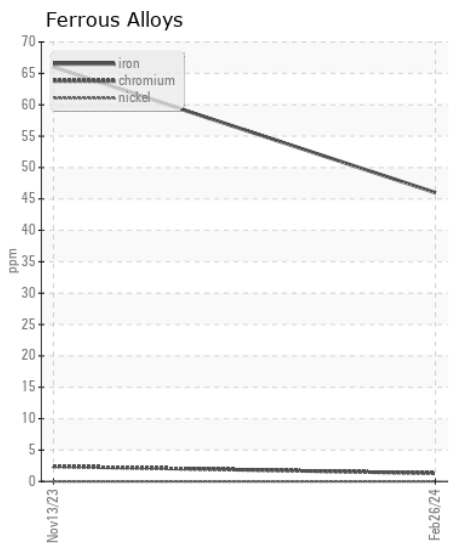
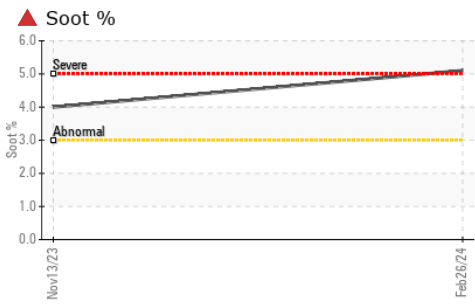
There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>30	5	6	---
Potassium	ppm	ASTM D5185m	>20	1	4	---
Fuel	%	ASTM D3524	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	▲ 5.1	▲ 4	---
Nitration	Abs/cm	*ASTM D7624	>20	15.3	13.1	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	30.9	30.5	---
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	---

FLUID CONDITION

The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		4	4	---
Boron	ppm	ASTM D5185m	0	8	5	---
Barium	ppm	ASTM D5185m	0	0	<1	---
Molybdenum	ppm	ASTM D5185m	60	54	68	---
Manganese	ppm	ASTM D5185m	0	<1	<1	---
Magnesium	ppm	ASTM D5185m	1010	857	1004	---
Calcium	ppm	ASTM D5185m	1070	1033	1216	---
Phosphorus	ppm	ASTM D5185m	1150	1001	1083	---
Zinc	ppm	ASTM D5185m	1270	1207	1373	---
Sulfur	ppm	ASTM D5185m	2060	2864	3542	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	24.5	19.7	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 0.0	5.2	---
Visc @ 100°C	cSt	ASTM D445	15.4	15.7	14.6	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0061432 **Received** : 28 Feb 2024
Lab Number : 06103587 **Tested** : 06 Mar 2024
Unique Number : 10901817 **Diagnosed** : 07 Mar 2024 - Doug Bogart
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 642- Grand Rapids Hauling
 5826 Alden Nash Ave SE
 Lowell, MI
 US 49331
 Contact: Josh Arnett
 joshuaarnett@gflenv.com

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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F: