



Area
(BD49631)
Machine Id
913186
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (10 GAL)

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0041816	---	---
Sample Date		Client Info		01 Nov 2023	---	---
Machine Age	mls	Client Info		0	---	---
Oil Age	mls	Client Info		600	---	---
Filter Age	mls	Client Info		600	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

WEAR

Valve wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	43	---	---
Chromium	ppm	ASTM D5185m	>20	1	---	---
Nickel	ppm	ASTM D5185m	>5	▲ 16	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>20	6	---	---
Lead	ppm	ASTM D5185m	>40	<1	---	---
Copper	ppm	ASTM D5185m	>330	96	---	---
Tin	ppm	ASTM D5185m	>15	4	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material.

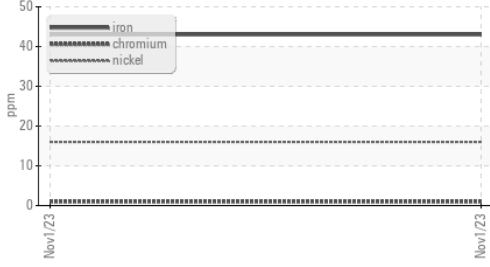
Silicon	ppm	ASTM D5185m	>25	▲ 75	---	---
Potassium	ppm	ASTM D5185m	>20	15	---	---
Fuel	%	ASTM D3524	>3.0	0.3	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>4	0.9	---	---
Nitration	Abs/cm	*ASTM D7624	>20	10.8	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.5	---	---
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	---	---

FLUID CONDITION

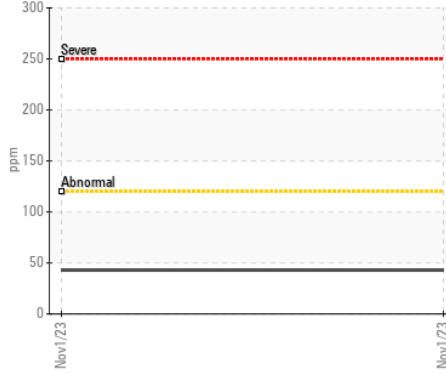
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		2	---	---
Boron	ppm	ASTM D5185m	0	137	---	---
Barium	ppm	ASTM D5185m	0	0	---	---
Molybdenum	ppm	ASTM D5185m	60	112	---	---
Manganese	ppm	ASTM D5185m	0	5	---	---
Magnesium	ppm	ASTM D5185m	1010	750	---	---
Calcium	ppm	ASTM D5185m	1070	1363	---	---
Phosphorus	ppm	ASTM D5185m	1150	777	---	---
Zinc	ppm	ASTM D5185m	1270	894	---	---
Sulfur	ppm	ASTM D5185m	2060	2316	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.2	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.9	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 10.6	---	---

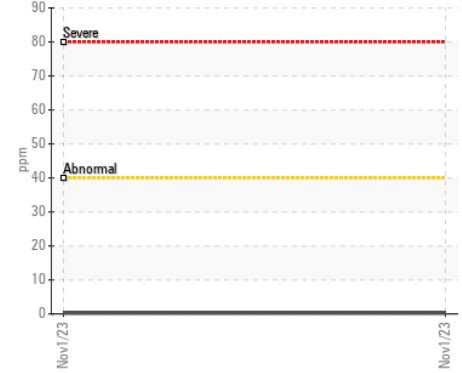
▲ Ferrous Alloys



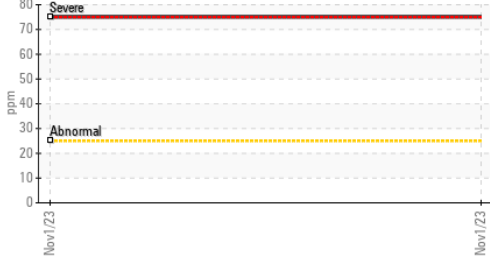
Iron (ppm)



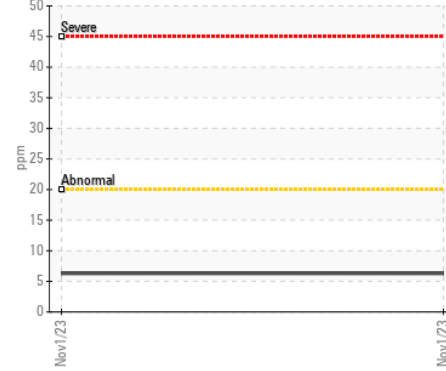
Lead (ppm)



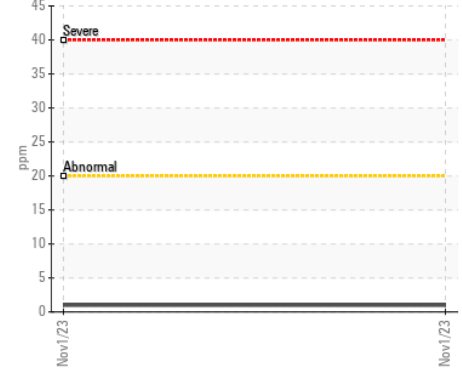
▲ Silicon (ppm)



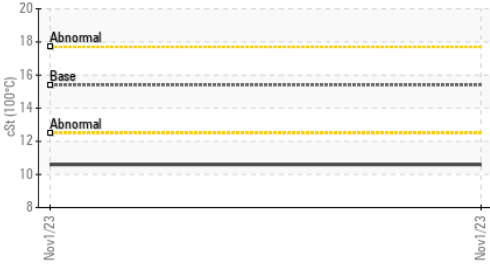
Aluminum (ppm)



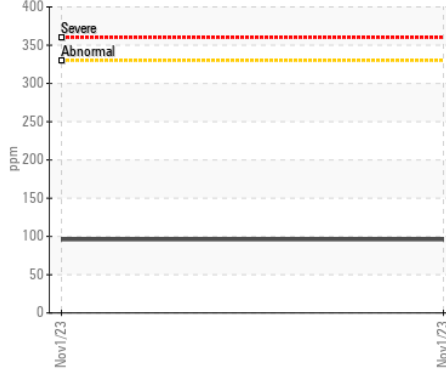
Chromium (ppm)



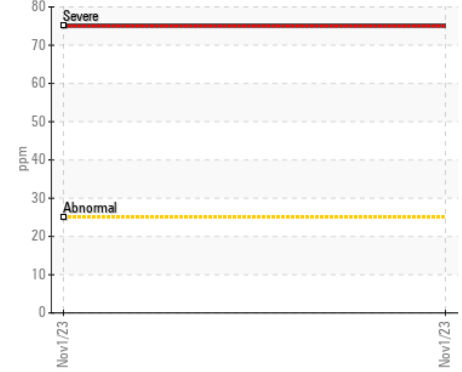
▲ Viscosity @ 100°C



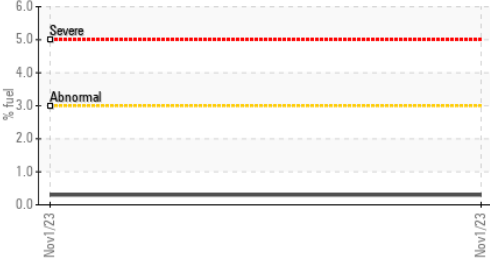
Copper (ppm)



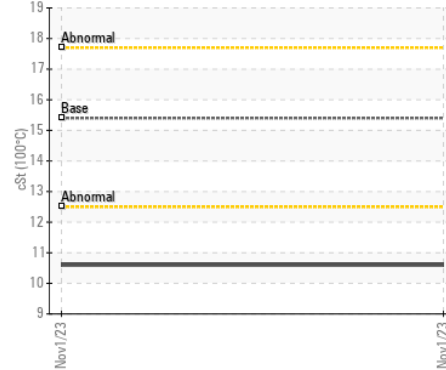
▲ Silicon (ppm)



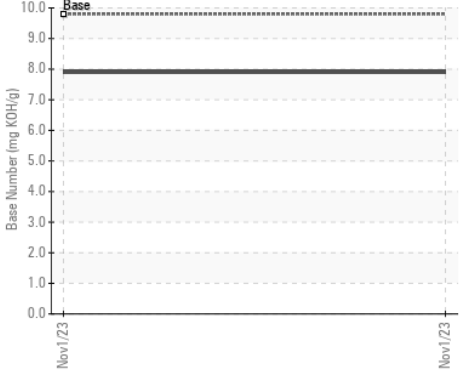
Fuel Dilution



▲ Viscosity @ 100°C



Base Number



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0041816 **Received** : 16 Jan 2024
Lab Number : 06060772 **Diagnosed** : 18 Jan 2024
Unique Number : 10832154 **Diagnostician** : Don Baldrige
Test Package : MOB1+ (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 461 - Smith Hauling
 3239 W. M 28
 Brimley, MI
 US 49715
 Contact: Jim Smith
 jim.smith@gflenv.com
 T: (906)635-3380
 F:

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)