



WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	ABNORMAL



Area
(YA122655) GFL035
Machine Id
2583
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (11 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0085227	GFL0071568	GFL0053185
Sample Date		Client Info		11 Jan 2024	15 Aug 2023	14 Feb 2023
Machine Age	mls	Client Info		367050	367050	367050
Oil Age	mls	Client Info		600	600	600
Filter Age	mls	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	4	6	5
Chromium	ppm	ASTM D5185m	>20	0	0	0
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	2	4	1
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	0	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Light fuel dilution occurring. No other contaminants were detected in the oil.

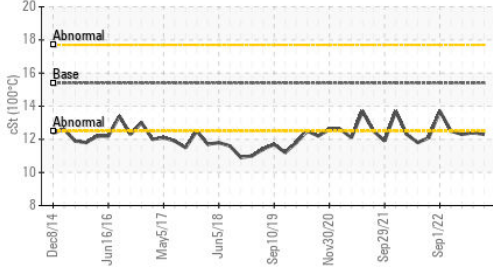
Silicon	ppm	ASTM D5185m	>25	4	7	5
Potassium	ppm	ASTM D5185m	>20	1	<1	2
Fuel	%	ASTM D3524	>6.0	▲ 3.5	● 5.1	▲ 4.4
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.2	0.9
Nitration	Abs/cm	*ASTM D7624	>20	10.5	8.7	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	18.4	19.5
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

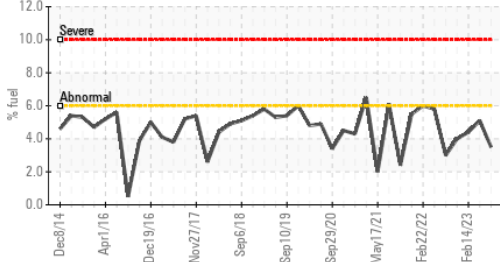
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity.

Sodium	ppm	ASTM D5185m		2	3	2
Boron	ppm	ASTM D5185m	0	28	3	6
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	41	60	63
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	530	927	895
Calcium	ppm	ASTM D5185m	1070	1542	1057	1155
Phosphorus	ppm	ASTM D5185m	1150	782	994	1015
Zinc	ppm	ASTM D5185m	1270	902	1200	1292
Sulfur	ppm	ASTM D5185m	2060	2382	3553	3642
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.8	15.1	14.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.0	8.0	8.8
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.3	▲ 12.4	▲ 12.3

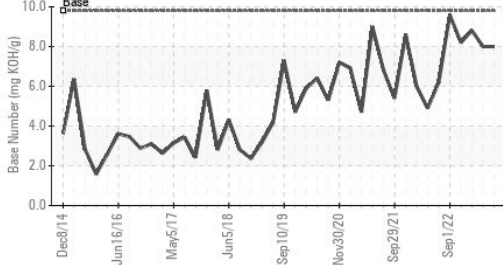
▲ Viscosity @ 100°C



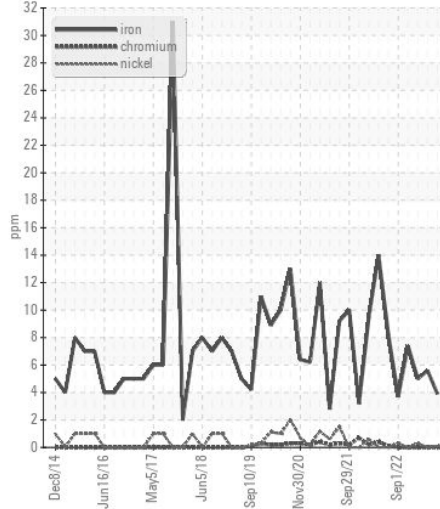
▲ Fuel Dilution



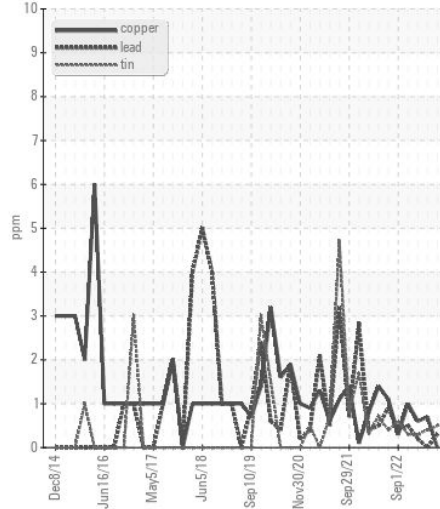
Base Number



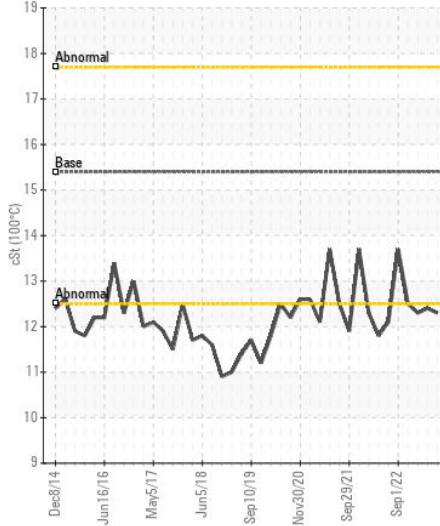
Ferrous Alloys



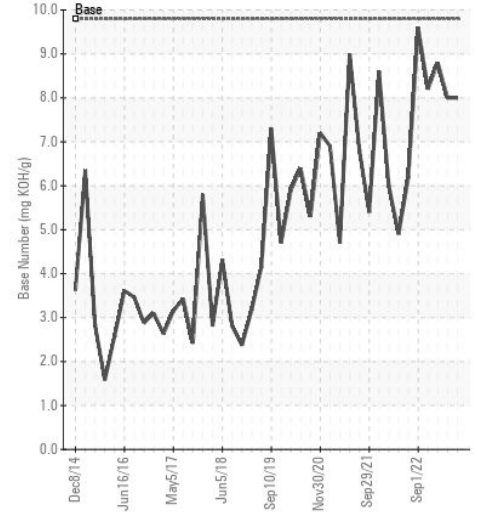
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0085227 **Received** : 16 Jan 2024
Lab Number : 06060830 **Diagnosed** : 18 Jan 2024
Unique Number : 10832212 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 035 - Greensboro
 1236 Elon Place
 High Point, NC
 US 27263
 Contact: JORGE COSTA
 jorge.costa@gflenv.com
 T: (336)668-3712
 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)