



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
(NH4188)
Machine Id
3820
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0090137	GFL0090125	GFL0075174
Sample Date		Client Info		16 Apr 2024	05 Jan 2024	02 Oct 2023
Machine Age	hrs	Client Info		15483	14889	14296
Oil Age	hrs	Client Info		15483	14889	14296
Filter Age	hrs	Client Info		594	534	552
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>165	11	7	7
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	1	2
Lead	ppm	ASTM D5185m	>150	25	4	<1
Copper	ppm	ASTM D5185m	>90	2	2	10
Tin	ppm	ASTM D5185m	>5	1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

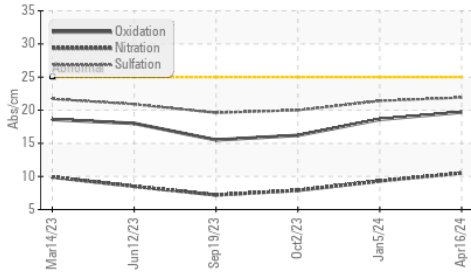
Silicon	ppm	ASTM D5185m	>35	8	10	31
Potassium	ppm	ASTM D5185m	>20	3	0	<1
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>7.5	0.4	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.5	9.3	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.9	21.4	20.0
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

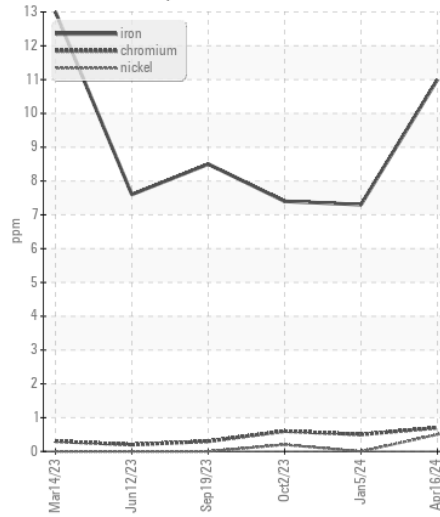
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		4	3	6
Boron	ppm	ASTM D5185m	0	2	1	1
Barium	ppm	ASTM D5185m	0	0	<1	0
Molybdenum	ppm	ASTM D5185m	60	67	60	65
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	1010	1033	990	1106
Calcium	ppm	ASTM D5185m	1070	1160	1109	1193
Phosphorus	ppm	ASTM D5185m	1150	1143	1129	1209
Zinc	ppm	ASTM D5185m	1270	1339	1298	1519
Sulfur	ppm	ASTM D5185m	2060	3298	3042	3501
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.7	18.6	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.6	8.2	8.4
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.2	13.8

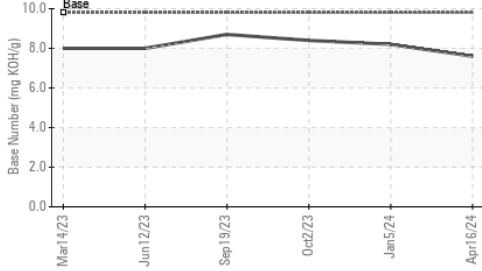
FT-IR (Direct Trend)



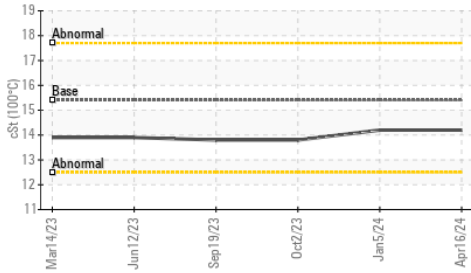
Ferrous Alloys



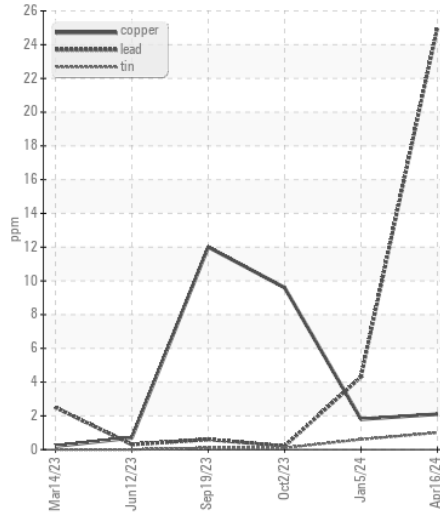
Base Number



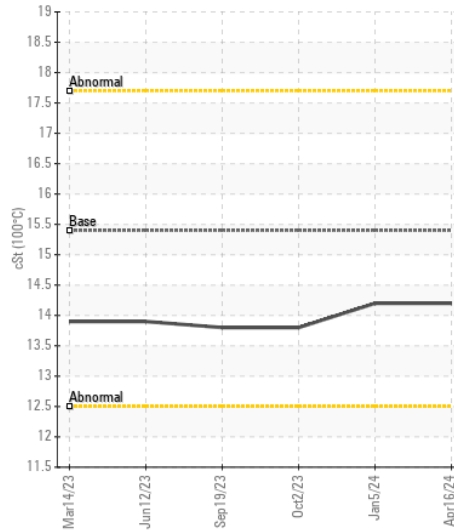
Viscosity @ 100°C



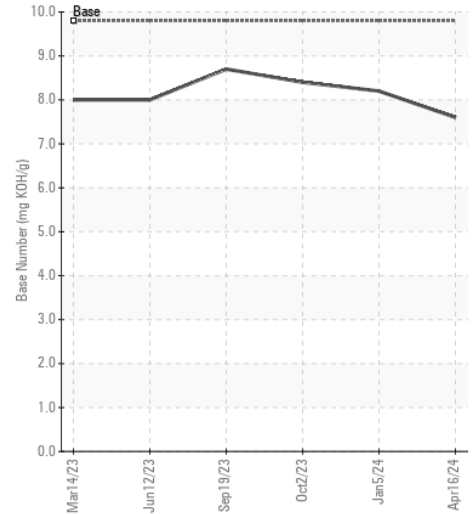
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090137
Lab Number : 06155060
Unique Number : 10990483
Test Package : FLEET

Received : 19 Apr 2024
Tested : 22 Apr 2024
Diagnosed : 22 Apr 2024 - Wes Davis

GFL Environmental - 044 - Elizabeth City
 657 Old US 17
 Elizabeth City, NC
 US 27909
 Contact: TOM BAIRD
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 F: (252)264-4411

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)