



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
926009-9011
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

RECOMMENDATION

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		GFL0091850	GFL0091839	GFL0091857
Sample Date		Client Info		07 May 2024	03 May 2024	01 May 2024
Machine Age	hrs	Client Info		22284	22284	22271
Oil Age	hrs	Client Info		22284	22284	22271
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Exhaust valve wear is indicated.

Iron	ppm	ASTM D5185m	>120	13	2	17
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	▲ 7	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	5
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	2	<1	2
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
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.

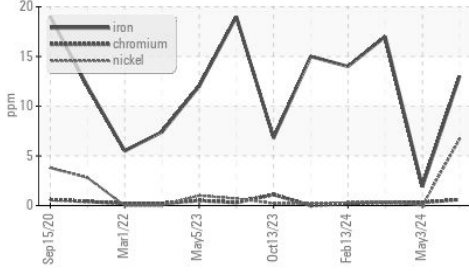
Silicon	ppm	ASTM D5185m	>25	7	4	10
Potassium	ppm	ASTM D5185m	>20	4	2	6
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.7	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.8	5.2	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	18.0	19.2
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

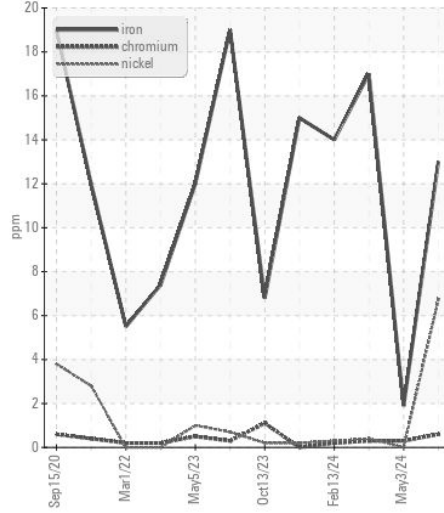
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	2	4
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	57	55	55
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	1010	854	886	868
Calcium	ppm	ASTM D5185m	1070	1081	1072	1076
Phosphorus	ppm	ASTM D5185m	1150	911	1041	982
Zinc	ppm	ASTM D5185m	1270	1144	1172	1150
Sulfur	ppm	ASTM D5185m	2060	3089	3320	2945
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	13.7	15.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.7	8.5	7.7
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.3	13.2

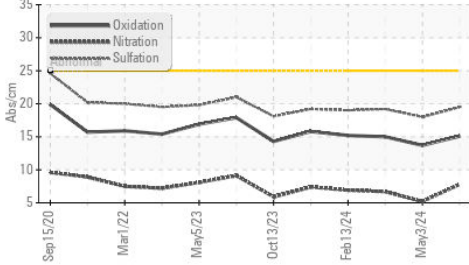
▲ Ferrous Alloys



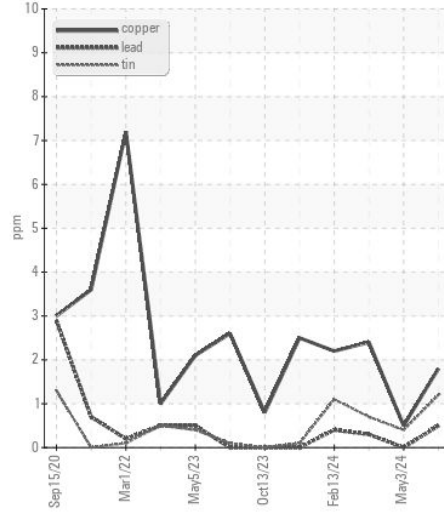
▲ Ferrous Alloys



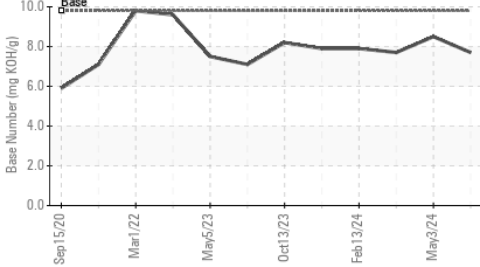
FT-IR (Direct Trend)



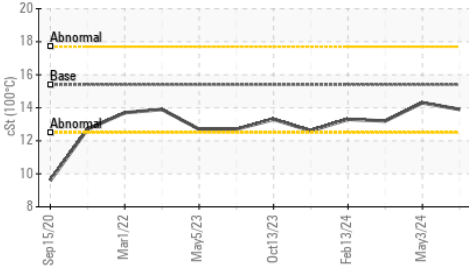
Non-ferrous Metals



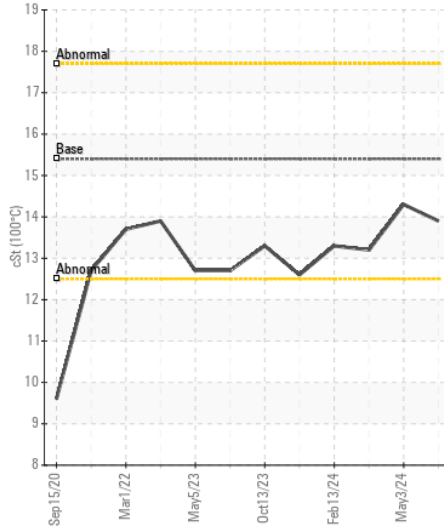
Base Number



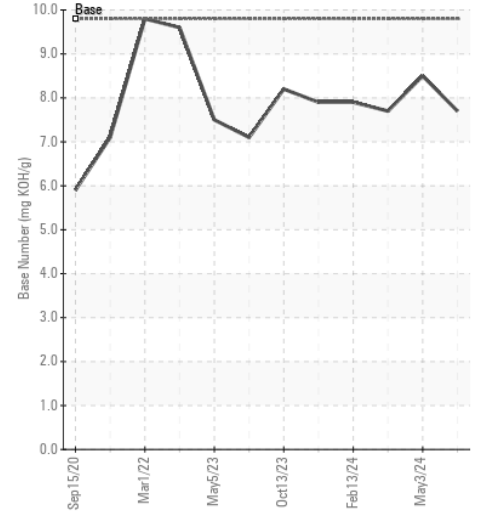
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0091850
Lab Number : 06178181
Unique Number : 11029507
Test Package : FLEET

Received : 13 May 2024
Tested : 14 May 2024
Diagnosed : 15 May 2024 - Sean Felton

GFL Environmental - 654 - Richmond Hauling
 11800 Lewis Road
 Chester, VA
 US 23831
 Contact: Jimmy Mayes
 jmayes@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)