



WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	ABNORMAL

Machine Id
927081-260333

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- 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		GFL0098355	GFL0098320	GFL0098338
Sample Date		Client Info		24 Jan 2024	20 Dec 2023	27 Nov 2023
Machine Age	hrs	Client Info		18892	18831	18667
Oil Age	hrs	Client Info		600	700	700
Filter Age	hrs	Client Info		0	700	700
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	28	7	31
Chromium	ppm	ASTM D5185m	>20	2	<1	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	1	6
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	<1	2	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Light fuel dilution occurring.

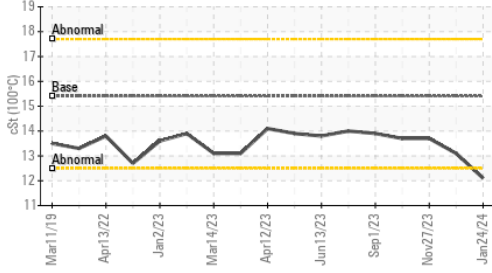
Silicon	ppm	ASTM D5185m	>25	6	3	6
Potassium	ppm	ASTM D5185m	>20	2	<1	9
Fuel	%	ASTM D3524	>5	▲ 3.9	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.7	1.1
Nitration	Abs/cm	*ASTM D7624	>20	9.0	8.0	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	19.8	20.9
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

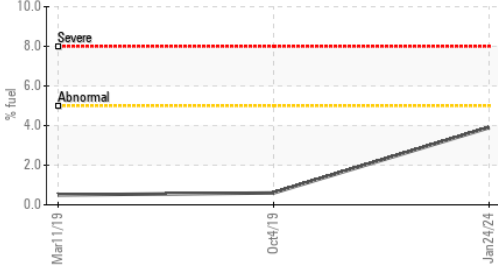
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		6	2	41
Boron	ppm	ASTM D5185m	0	41	<1	0
Barium	ppm	ASTM D5185m	0	0	0	3
Molybdenum	ppm	ASTM D5185m	60	54	54	66
Manganese	ppm	ASTM D5185m	0	<1	0	0
Magnesium	ppm	ASTM D5185m	1010	578	889	899
Calcium	ppm	ASTM D5185m	1070	1456	958	1003
Phosphorus	ppm	ASTM D5185m	1150	753	1030	987
Zinc	ppm	ASTM D5185m	1270	894	1164	1173
Sulfur	ppm	ASTM D5185m	2060	2538	2893	3129
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	15.4	17.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.8	7.6	7.6
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 12.1	13.1	13.7

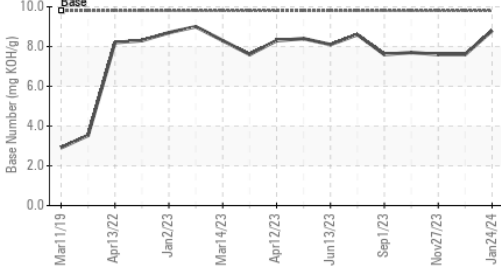
▲ Viscosity @ 100°C



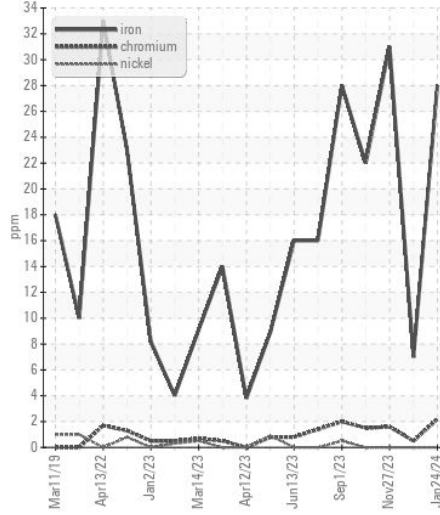
▲ Fuel Dilution



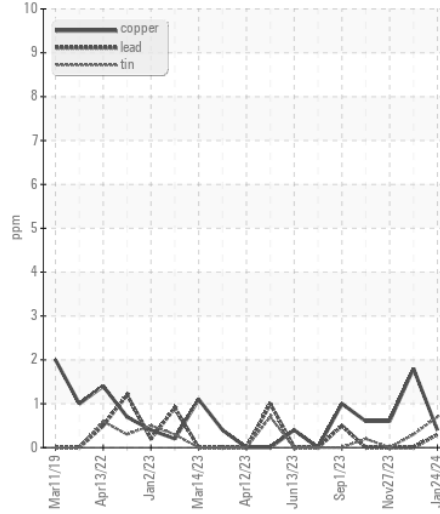
Base Number



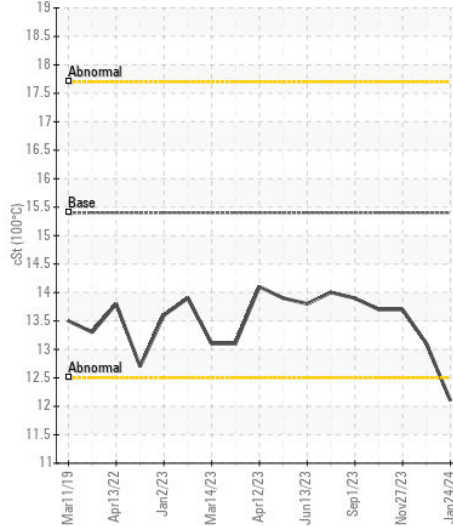
Ferrous Alloys



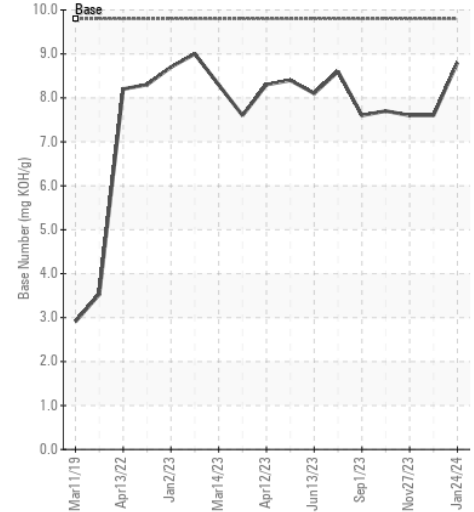
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0098355 **Received** : 31 Jan 2024
Lab Number : 06075368 **Diagnosed** : 02 Feb 2024
Unique Number : 10857459 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 822 - Springfield Hauling
 2120 West Bennett Street
 Springfield, MO
 US 65807
 Contact: Dennis Moore
 dennis.moore@gflenv.com
 T: (417)403-3641
 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)