



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
426139 - SW4630
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. (Customer Sample Comment: Engine)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0105515	GFL0105531	GFL0085451
Sample Date		Client Info		11 Jan 2024	20 Dec 2023	11 Jul 2023
Machine Age	mls	Client Info		227361	226266	217792
Oil Age	mls	Client Info		227361	217792	217792
Filter Age	mls	Client Info		0	226266	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	20	51	14
Chromium	ppm	ASTM D5185m	>5	<1	2	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	1	3	2
Lead	ppm	ASTM D5185m	>30	0	0	<1
Copper	ppm	ASTM D5185m	>150	3	9	3
Tin	ppm	ASTM D5185m	>5	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

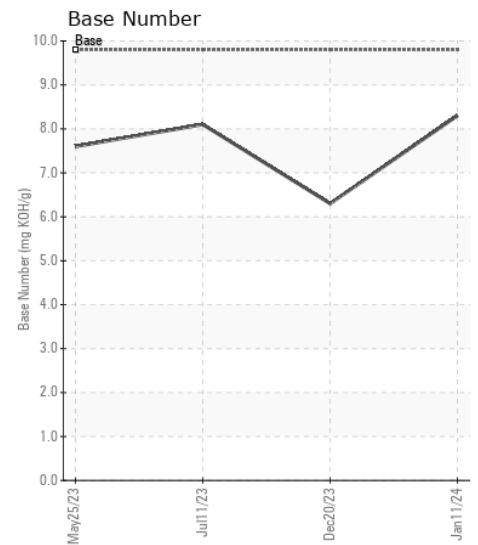
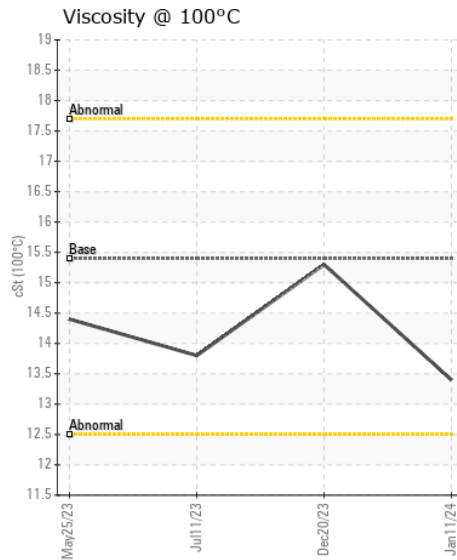
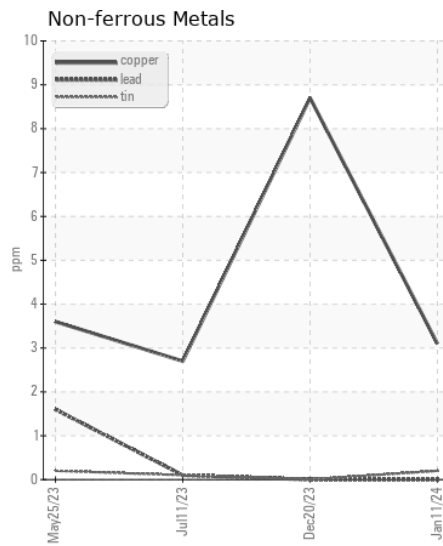
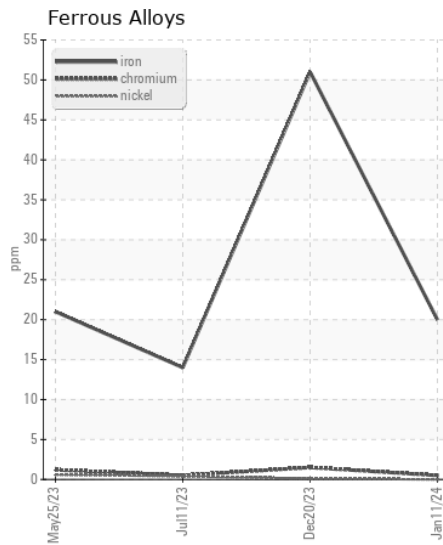
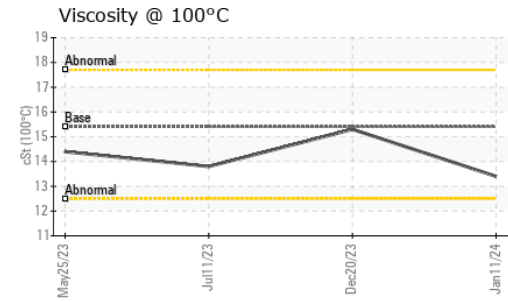
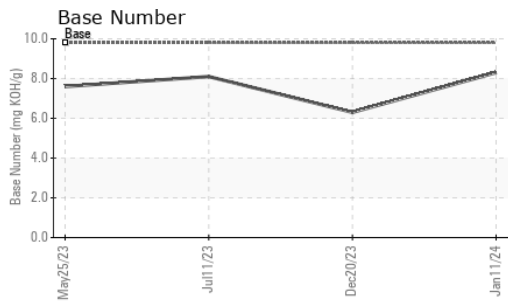
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	9	14	12
Potassium	ppm	ASTM D5185m	>20	2	3	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.4	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.2	8.6	5.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.4	19.6	14.8
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		1	0	0
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	51	39	40
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	37	11	25
Calcium	ppm	ASTM D5185m	1070	2272	2314	2198
Phosphorus	ppm	ASTM D5185m	1150	1127	893	996
Zinc	ppm	ASTM D5185m	1270	1302	1140	1118
Sulfur	ppm	ASTM D5185m	2060	3222	3054	3106
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.9	12.9	8.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.3	6.3	8.1
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	15.3	13.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105515 **Received** : 19 Jan 2024
Lab Number : 06065335 **Diagnosed** : 22 Jan 2024
Unique Number : 10836717 **Diagnostician** : Sean Felton
Test Package : FLEET

GFL Environmental - 983 - Sugar Land Hauling
 16011 West Belfort Street
 Sugar Land, TX
 US 77498
 Contact: Gino Griego
 ggriego@gflenv.com
 T: (720)999-0726
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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)