



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Area
(83J 44U)
Machine Id
913147
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		GFL0118779	GFL0118804	GFL0114173
Sample Date		Client Info		08 May 2024	17 Apr 2024	26 Mar 2024
Machine Age	hrs	Client Info		3359	3243	3103
Oil Age	hrs	Client Info		3086	2970	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				ATTENTION	ATTENTION	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	6	6	2
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>5	2	3	2
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	1	3	<1
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	0	2	<1
Tin	ppm	ASTM D5185m	>15	<1	1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

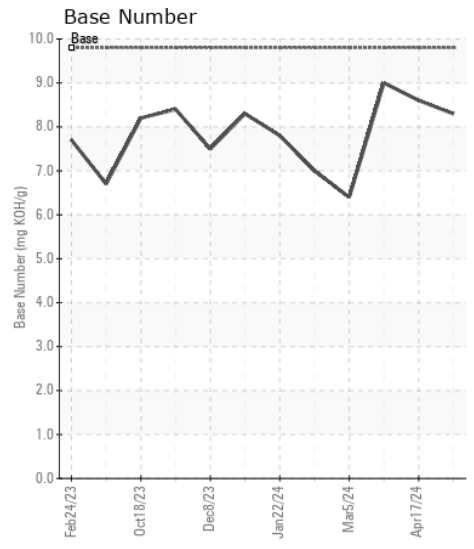
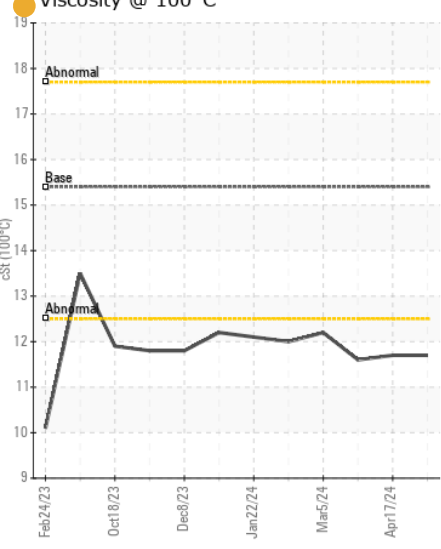
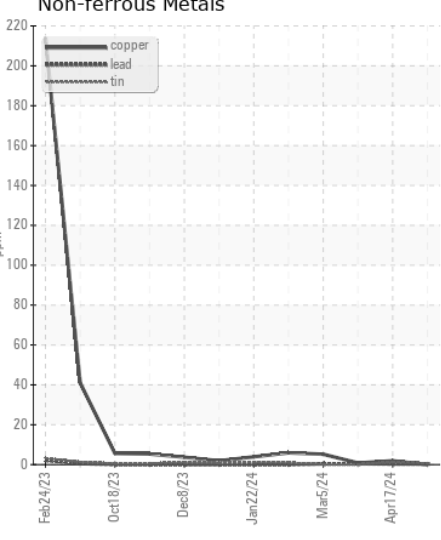
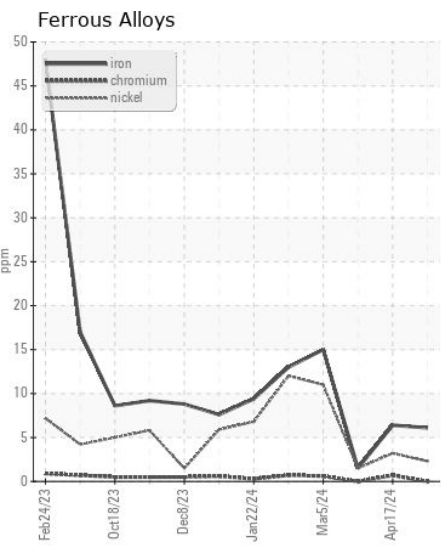
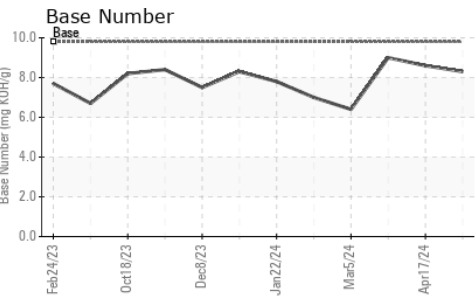
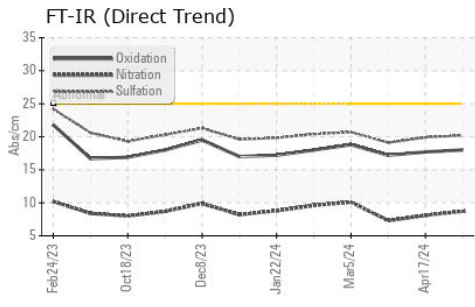
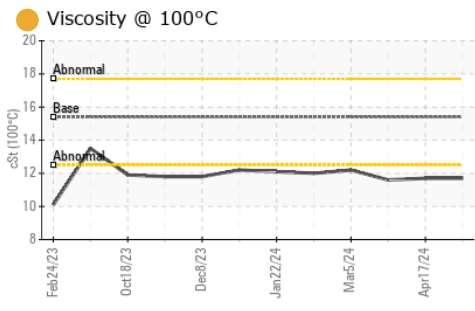
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	5	4
Potassium	ppm	ASTM D5185m	>20	1	2	<1
Fuel		WC Method	>3.0	<1.0	<1.0	0.2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.7	8.1	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	19.9	19.1
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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		5	3	4
Boron	ppm	ASTM D5185m	0	35	40	57
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	56	58	55
Manganese	ppm	ASTM D5185m	0	<1	<1	0
Magnesium	ppm	ASTM D5185m	1010	1063	1038	1142
Calcium	ppm	ASTM D5185m	1070	801	813	872
Phosphorus	ppm	ASTM D5185m	1150	1050	1058	960
Zinc	ppm	ASTM D5185m	1270	1227	1199	1299
Sulfur	ppm	ASTM D5185m	2060	3698	3392	3975
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.0	17.7	17.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.3	8.6	9.0
Visc @ 100°C	cSt	ASTM D445	15.4	11.7	11.7	11.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118779 **Received** : 10 May 2024
Lab Number : 06175191 **Tested** : 11 May 2024
Unique Number : 11021244 **Diagnosed** : 13 May 2024 - Don Baldrige
Test Package : FLEET

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@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)