



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL



Machine Id
727146
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. 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		GFL0084811	GFL0084858	GFL0084833
Sample Date		Client Info		14 Mar 2024	20 Oct 2023	04 Aug 2023
Machine Age	hrs	Client Info		17107	16009	15935
Oil Age	hrs	Client Info		17107	15935	15152
Filter Age	hrs	Client Info		17107	0	15152
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	▲ 124	78	20
Chromium	ppm	ASTM D5185m	>5	4	3	<1
Nickel	ppm	ASTM D5185m	>2	1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	6	4	1
Lead	ppm	ASTM D5185m	>30	3	<1	0
Copper	ppm	ASTM D5185m	>150	4	3	<1
Tin	ppm	ASTM D5185m	>5	<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

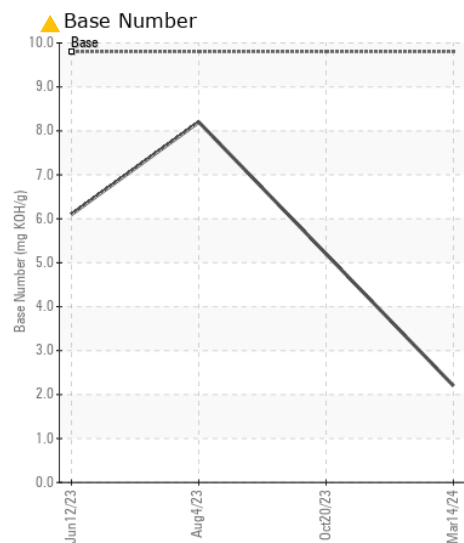
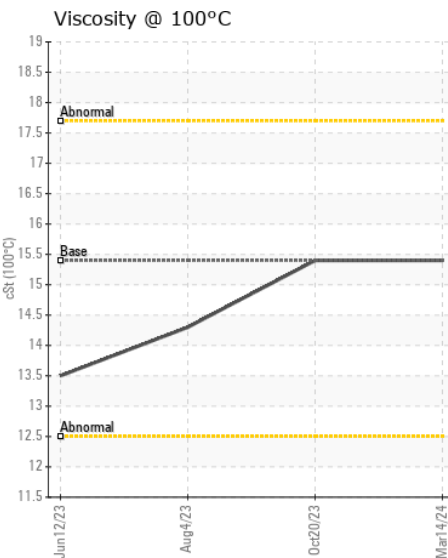
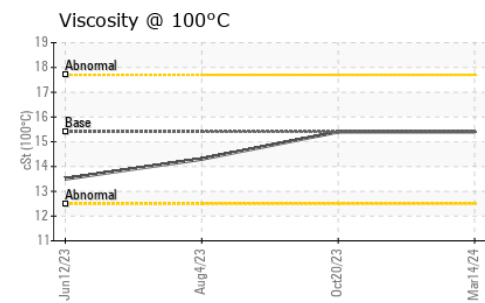
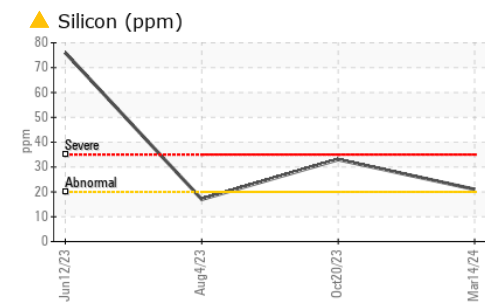
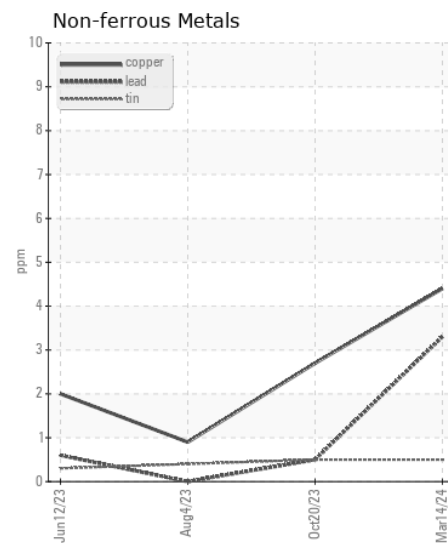
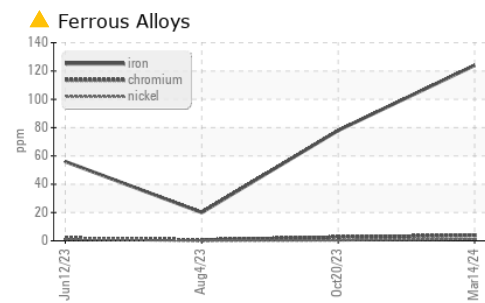
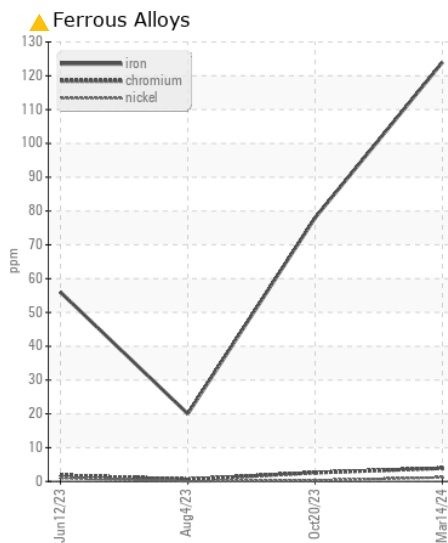
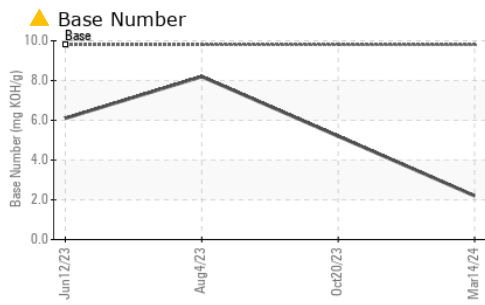
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>20	▲ 21	▲ 33	17
Potassium	ppm	ASTM D5185m	>20	10	● 35	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
Soot %	%	*ASTM D7844	>3	2.4	1.9	0.6
Nitration	Abs/cm	*ASTM D7624	>20	18.9	16.4	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	35.2	31.8	20.3
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 level is low. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		37	● 94	8
Boron	ppm	ASTM D5185m	0	6	4	3
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	68	58	56
Manganese	ppm	ASTM D5185m	0	1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	1035	949	1011
Calcium	ppm	ASTM D5185m	1070	1202	1157	1146
Phosphorus	ppm	ASTM D5185m	1150	1175	1035	1012
Zinc	ppm	ASTM D5185m	1270	1376	1230	1317
Sulfur	ppm	ASTM D5185m	2060	2938	2585	3649
Oxidation	Abs/.1mm	*ASTM D7414	>25	39.0	33.6	17.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 2.2	5.2	8.2
Visc @ 100°C	cSt	ASTM D445	15.4	15.4	15.4	14.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0084811
Lab Number : 06125501
Unique Number : 10939652
Test Package : FLEET

Received : 21 Mar 2024
Tested : 22 Mar 2024
Diagnosed : 25 Mar 2024 - Don Baldrige

GFL Environmental - 959A - Urbana HC
 4808 cunningham Rd
 Urbana, IL
 US 61802
 Contact: Kristine Tryon
 Ktryon@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)

T:
F: