



Area
(TX272543)

Machine Id
3750

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (8 GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0119053	GFL0112140	GFL0103896
Sample Date		Client Info		11 Apr 2024	08 Feb 2024	15 Jan 2024
Machine Age	hrs	Client Info		12877	12877	12877
Oil Age	hrs	Client Info		12877	12877	12877
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				SEVERE	ABNORMAL	SEVERE

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>165	17	4	40
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	3
Lead	ppm	ASTM D5185m	>150	7	1	▲ 12
Copper	ppm	ASTM D5185m	>90	▲ 118	23	▲ 83
Tin	ppm	ASTM D5185m	>5	<1	0	1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

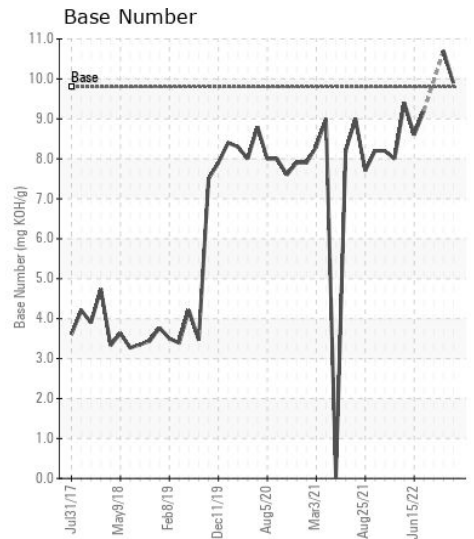
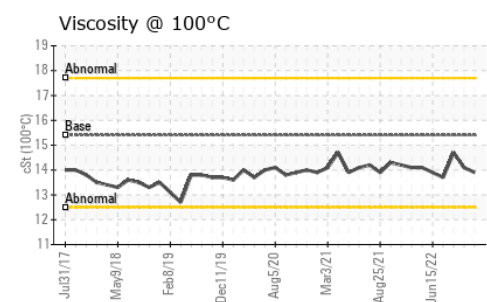
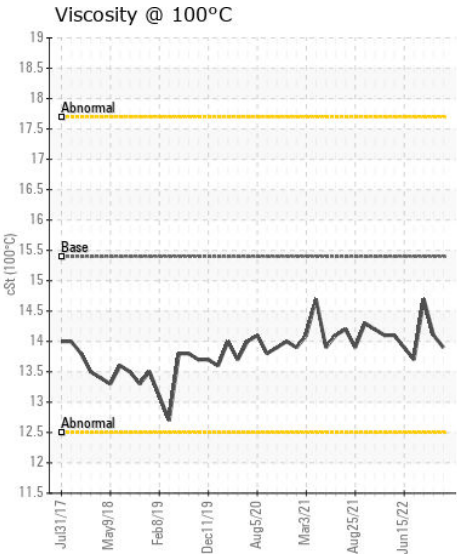
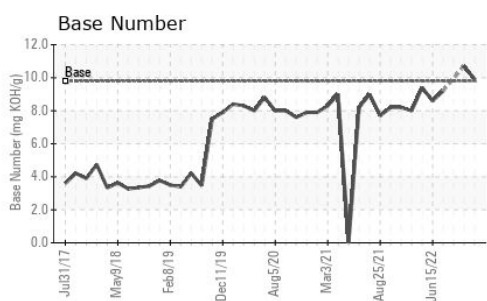
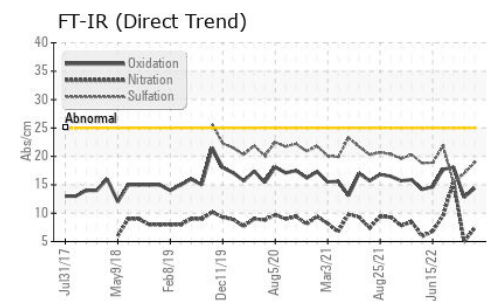
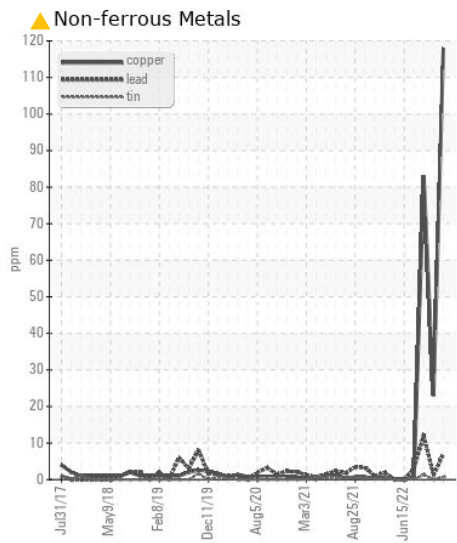
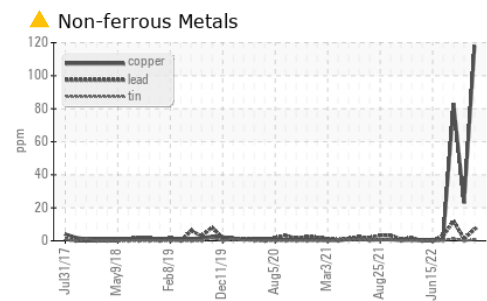
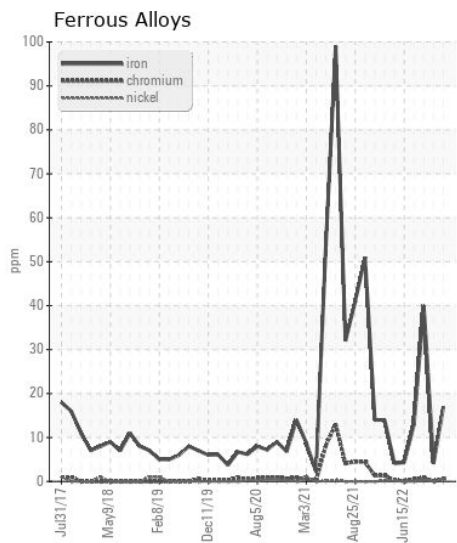
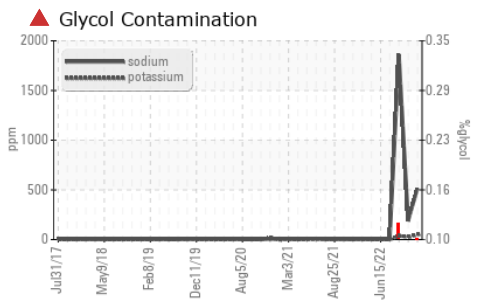
Sodium and/or potassium levels are high. Test for glycol is positive.

Silicon	ppm	ASTM D5185m	>35	13	9	▲ 40
Potassium	ppm	ASTM D5185m	>20	▲ 49	▲ 24	▲ 36
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		▲ 0.10	NEG	▲ 0.12
Soot %	%	*ASTM D7844	>7.5	0.2	0.1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.4	5.0	15.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.9	17.0	15.4
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 oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		▲ 512	▲ 188	● 1861
Boron	ppm	ASTM D5185m	0	18	15	105
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	60	80	64	124
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	932	850	1021
Calcium	ppm	ASTM D5185m	1070	1172	1000	1090
Phosphorus	ppm	ASTM D5185m	1150	1125	966	1137
Zinc	ppm	ASTM D5185m	1270	1232	1240	1393
Sulfur	ppm	ASTM D5185m	2060	3423	2803	3637
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	12.8	18.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.9	10.7	---
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.1	14.7



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0119053 **Received** : 15 Apr 2024
Lab Number : 06148436 **Tested** : 17 Apr 2024
Unique Number : 10978514 **Diagnosed** : 17 Apr 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 045 - Tidewater
 3821 Cook Blvd.
 Chesapeake, VA
 US 23323
 Contact: ELVIN RODRIGUEZ
 elvinrodriguez@gflenv.com
 T:
 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)