



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. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. NOTE: High contamination in the sample has limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0103896	GFL0052185	GFL0052224
Sample Date		Client Info		15 Jan 2024	20 Sep 2022	15 Jun 2022
Machine Age	hrs	Client Info		12877	12877	12877
Oil Age	hrs	Client Info		12877	15350	14729
Filter Age	hrs	Client Info		0	621	566
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

Bearing and/or bushing wear is indicated.

Iron	ppm	ASTM D5185m	>165	40	13	4
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	2	<1
Lead	ppm	ASTM D5185m	>150	▲ 12	3	0
Copper	ppm	ASTM D5185m	>90	▲ 83	<1	<1
Tin	ppm	ASTM D5185m	>5	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

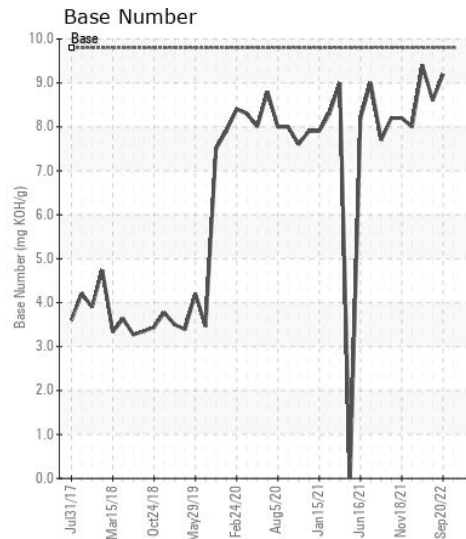
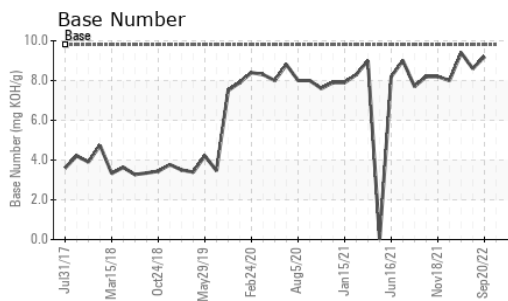
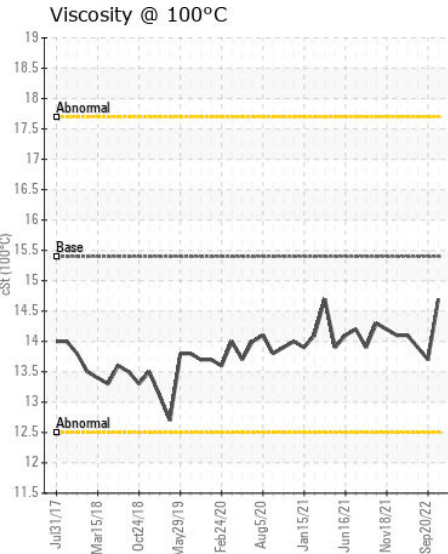
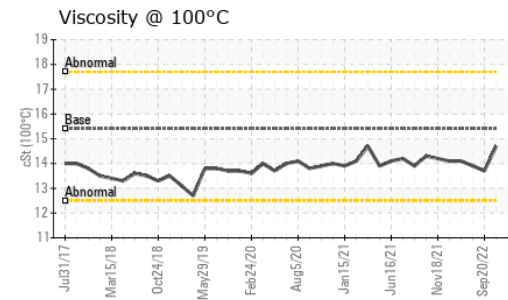
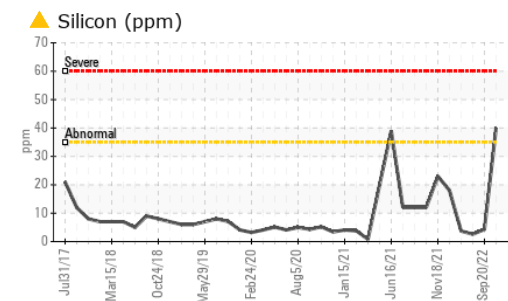
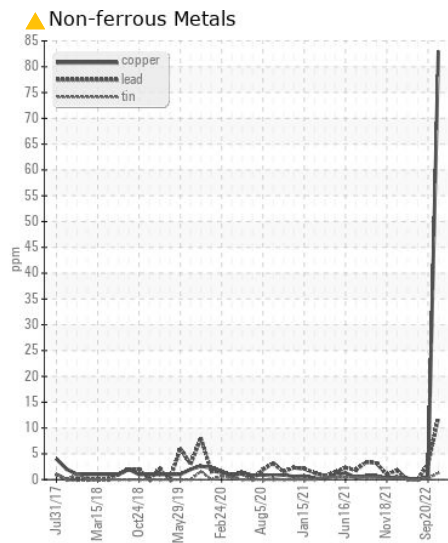
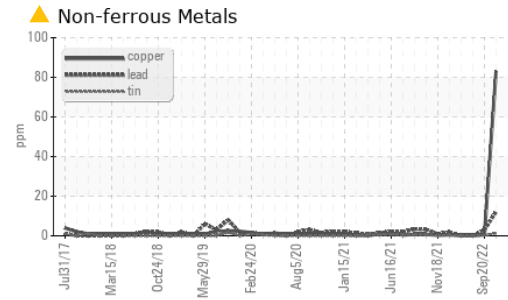
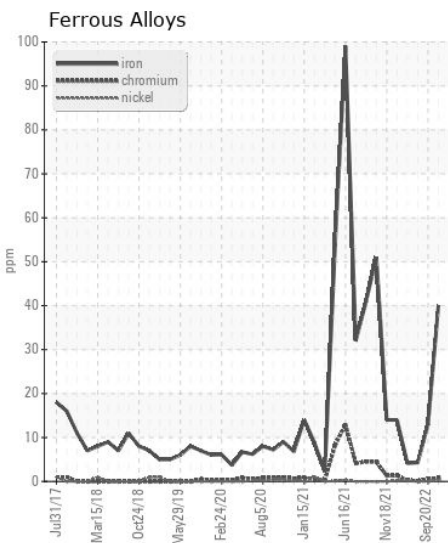
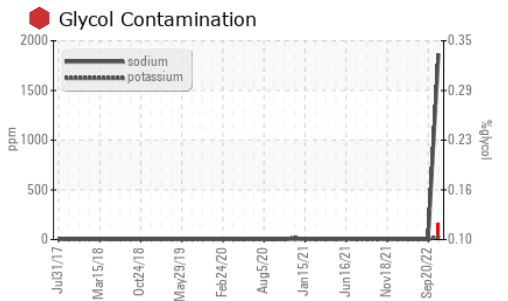
Sodium and/or potassium levels are high. Test for glycol is positive. Elemental level of silicon (Si) above normal indicating ingress of seal material. There is a high concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185m	>35	▲ 40	4	3
Potassium	ppm	ASTM D5185m	>20	▲ 36	1	0
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		◆ 0.12	NEG	NEG
Soot %	%	*ASTM D7844	>7.5	0.4	0.4	0.1
Nitration	Abs/cm	*ASTM D7624	>20	15.5	9.6	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.4	21.8	18.9
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

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		▲ 1861	1	3
Boron	ppm	ASTM D5185m	0	105	3	7
Barium	ppm	ASTM D5185m	0	<1	0	0
Molybdenum	ppm	ASTM D5185m	60	124	67	54
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	1021	898	732
Calcium	ppm	ASTM D5185m	1070	1090	1137	983
Phosphorus	ppm	ASTM D5185m	1150	1137	1046	867
Zinc	ppm	ASTM D5185m	1270	1393	1252	1009
Sulfur	ppm	ASTM D5185m	2060	3637	3599	2564
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.1	17.7	14.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	---	9.2	8.6
Visc @ 100°C	cSt	ASTM D445	15.4	14.7	13.7	13.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103896 **Received** : 19 Jan 2024
Lab Number : 06065384 **Diagnosed** : 02 Feb 2024
Unique Number : 10836766 **Diagnostician** : Doug Bogart
Test Package : FLEET (Additional Tests: Glycol)

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