



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
4632M
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0097688	GFL0087299	GFL0072965
Sample Date		Client Info		17 Dec 2023	31 Aug 2023	06 Apr 2023
Machine Age	hrs	Client Info		20499	19636	18995
Oil Age	hrs	Client Info		663	650	659
Filter Age	hrs	Client Info		663	650	659
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ATTENTION	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	13	11	13
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	0
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	3	2	<1
Tin	ppm	ASTM D5185m	>15	0	<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

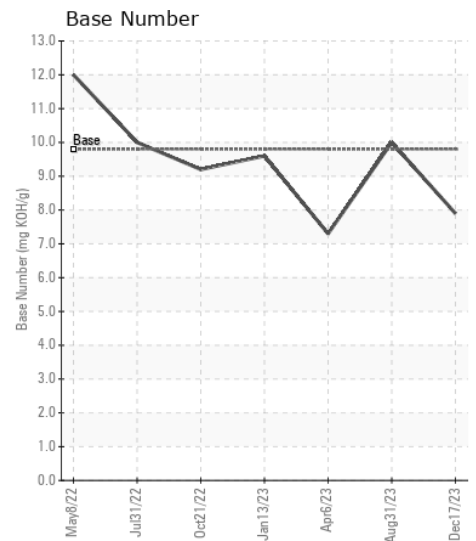
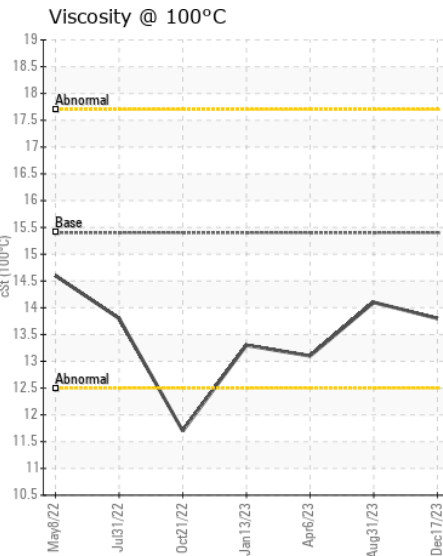
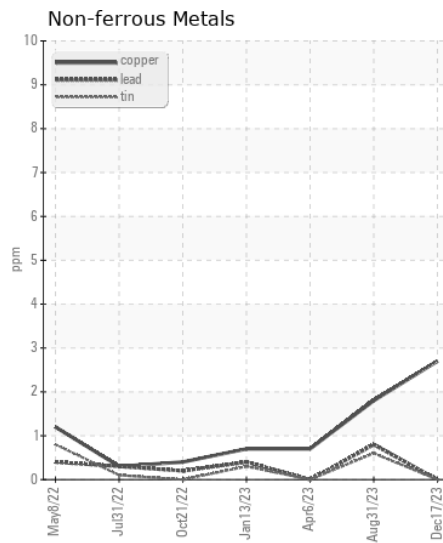
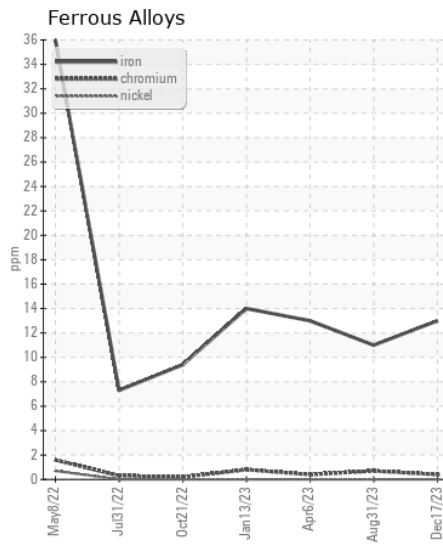
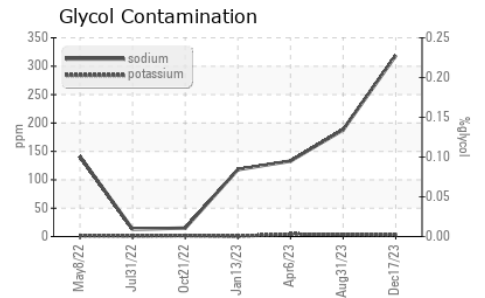
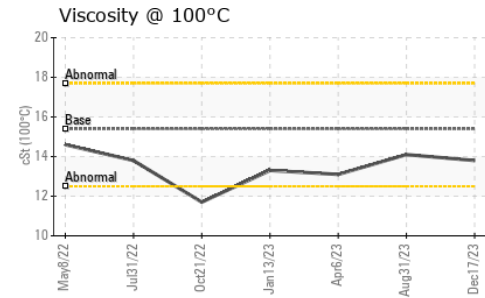
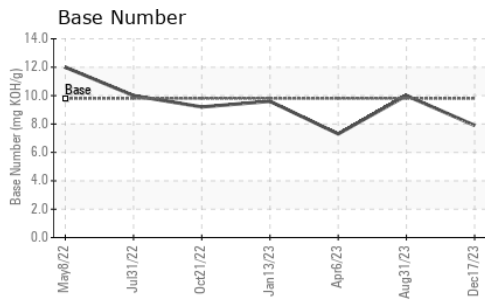
Sodium and/or potassium levels are high.

Silicon	ppm	ASTM D5185m	>25	8	8	5
Potassium	ppm	ASTM D5185m	>20	3	4	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0	0.6
Nitration	Abs/cm	*ASTM D7624	>20	9.4	7.3	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.9	21.1	18.3
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 result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		▲ 319	● 188	● 133
Boron	ppm	ASTM D5185m	0	11	7	4
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	62	69	61
Manganese	ppm	ASTM D5185m	0	0	1	<1
Magnesium	ppm	ASTM D5185m	1010	860	1018	794
Calcium	ppm	ASTM D5185m	1070	942	1168	1018
Phosphorus	ppm	ASTM D5185m	1150	996	1122	940
Zinc	ppm	ASTM D5185m	1270	1189	1359	1140
Sulfur	ppm	ASTM D5185m	2060	2843	3992	2998
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	15.6	15.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.9	10.0	7.3
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	14.1	13.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0097688

Lab Number : 06042845

Unique Number : 10803453

Test Package : FLEET (Additional Tests: Glycol)

Received : 22 Dec 2023

Tested : 26 Dec 2023

Diagnosed : 26 Dec 2023 - Jonathan Hester

GFL Environmental - 405 - Arbor Hills

7400 Napier Rd

NORTHVILLE, MI

US 48168

Contact: John Nahal

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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)