



Machine Id
10893

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. 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		GFL0104021	GFL0060311	GFL0049269
Sample Date		Client Info		02 Jan 2024	05 Oct 2022	15 Apr 2022
Machine Age	hrs	Client Info		123554	9805	219
Oil Age	hrs	Client Info		886	9805	219
Filter Age	hrs	Client Info		650	650	219
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	79	13	26
Chromium	ppm	ASTM D5185m	>20	3	<1	1
Nickel	ppm	ASTM D5185m	>4	1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	13	7	10
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	4	3	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
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.

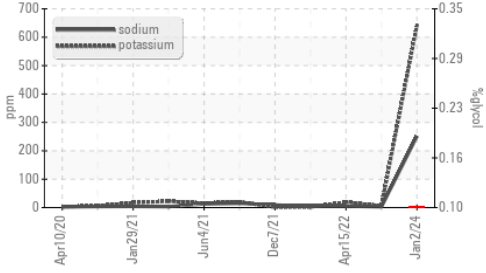
Silicon	ppm	ASTM D5185m	>25	21	5	8
Potassium	ppm	ASTM D5185m	>20	640	6	19
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		0.10	NEG	NEG
Soot %	%	*ASTM D7844	>3	2	0.4	0.9
Nitration	Abs/cm	*ASTM D7624	>20	20.1	9.2	11.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	33.7	19.9	23.5
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

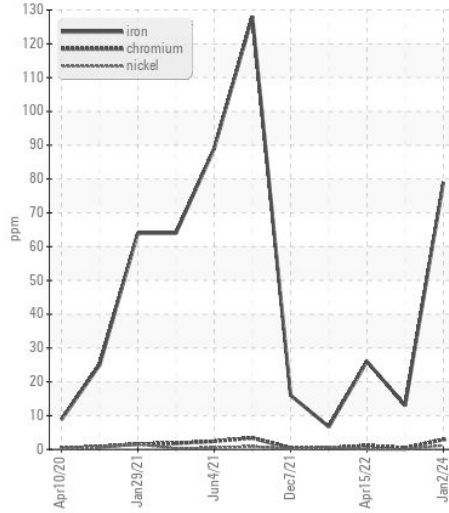
The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		251	3	5
Boron	ppm	ASTM D5185m	0	6	23	8
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	126	65	60
Manganese	ppm	ASTM D5185m	0	1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	771	825	967
Calcium	ppm	ASTM D5185m	1070	969	1119	1213
Phosphorus	ppm	ASTM D5185m	1150	830	999	1087
Zinc	ppm	ASTM D5185m	1270	1089	1191	1363
Sulfur	ppm	ASTM D5185m	2060	2583	3571	2605
Oxidation	Abs/.1mm	*ASTM D7414	>25	38.9	15.8	20.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	3.0	9.6	7.2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	14.0	14.0

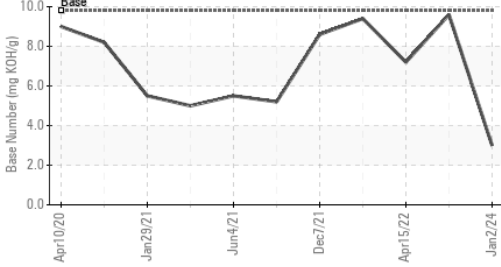
Glycol Contamination



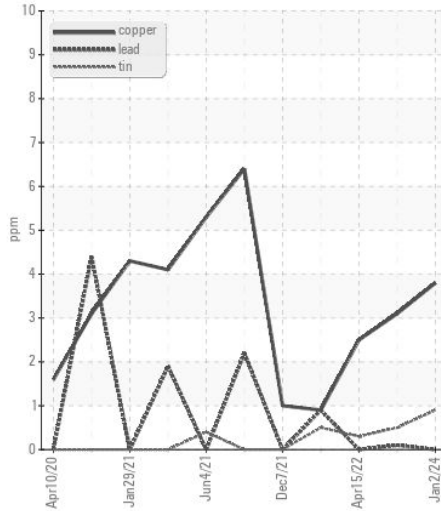
Ferrous Alloys



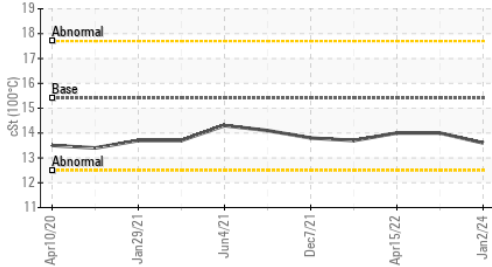
Base Number



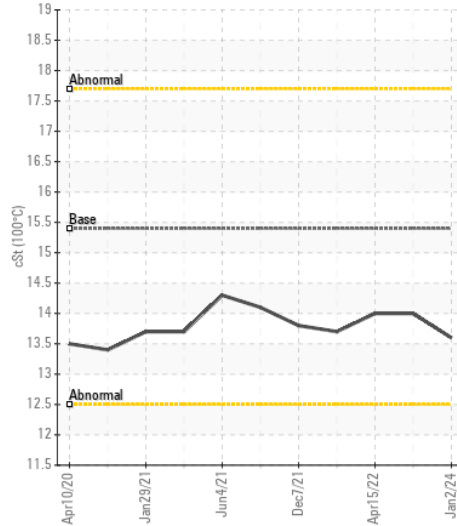
Non-ferrous Metals



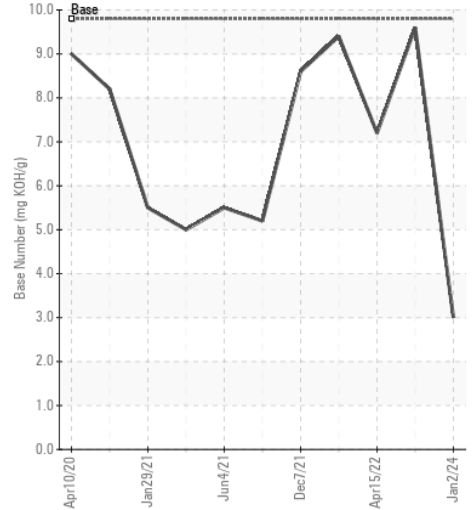
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0104021 **Received** : 11 Jan 2024
Lab Number : 06057892 **Diagnosed** : 12 Jan 2024
Unique Number : 10829274 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 015 - Columbia
 7800 Farrow Road
 Columbia, SC
 US 29203-3219
 Contact: NOEL MATTHEWS
 nmatthewsjr@gflenv.com
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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)