



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Area
(BC14412)
Machine Id
929017-1271
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (46 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		GFL0120898	GFL0110327	GFL0110282
Sample Date		Client Info		11 Jul 2024	11 Apr 2024	04 Mar 2024
Machine Age	hrs	Client Info		15881	13568	13568
Oil Age	hrs	Client Info		2313	600	0
Filter Age	hrs	Client Info		2313	600	0
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	13	21	15
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	1	1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<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.

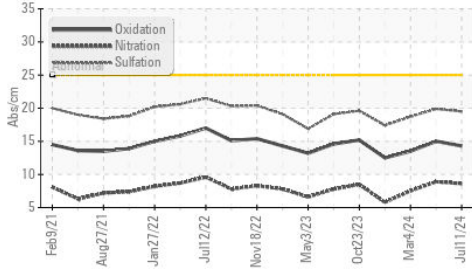
Silicon	ppm	ASTM D5185m	>25	6	4	3
Potassium	ppm	ASTM D5185m	>20	9	24	4
Fuel		WC Method	>3.0	<1.0	<1.0	1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.8	0.5
Nitration	Abs/cm	*ASTM D7624	>20	8.6	8.9	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	19.9	18.7
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

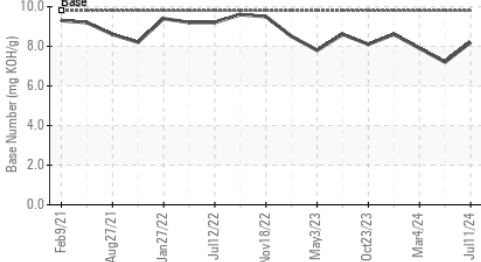
The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		▲ 268	▲ 157	▲ 118
Boron	ppm	ASTM D5185m	0	0	4	5
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	66	64	66
Manganese	ppm	ASTM D5185m	0	0	0	<1
Magnesium	ppm	ASTM D5185m	1010	842	821	824
Calcium	ppm	ASTM D5185m	1070	1063	1057	1057
Phosphorus	ppm	ASTM D5185m	1150	1042	907	853
Zinc	ppm	ASTM D5185m	1270	1216	1087	1068
Sulfur	ppm	ASTM D5185m	2060	3432	3036	2656
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.3	15.0	13.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.2	7.2	7.9
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	▲ 12.4	▲ 12.4

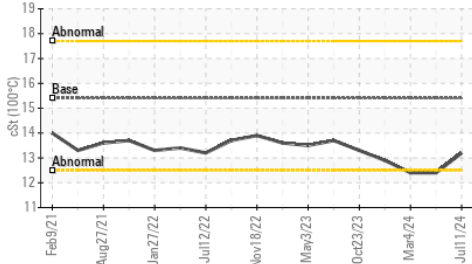
FT-IR (Direct Trend)



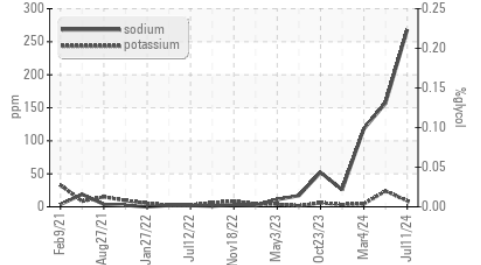
Base Number



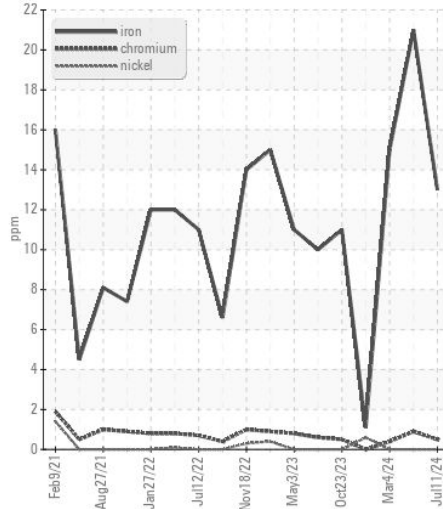
Viscosity @ 100°C



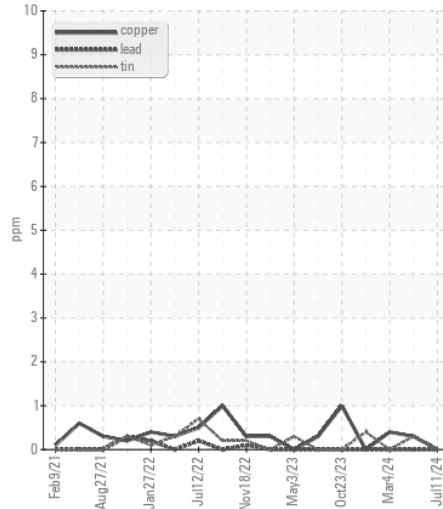
Glycol Contamination



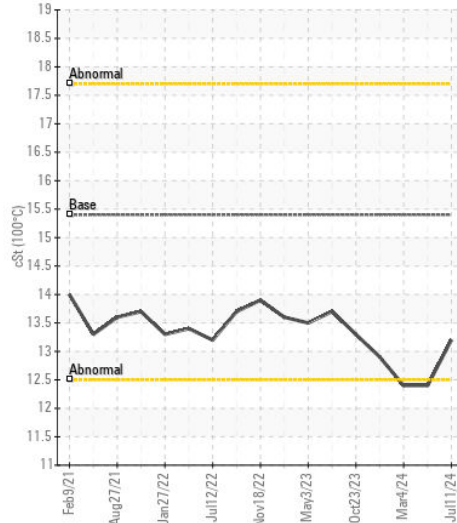
Ferrous Alloys



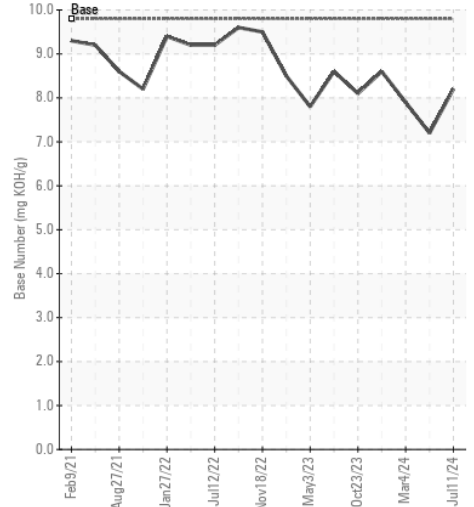
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0120898 **Received** : 15 Jul 2024
Lab Number : 06237320 **Tested** : 18 Jul 2024
Unique Number : 11126154 **Diagnosed** : 18 Jul 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 622 - Traverse City Hauling
 160 Hughes Dr
 Traverse City, MI
 US 49686
 Contact: GARY BREWER

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: