FLEET LUBE 360 OIL DIAGNOSTICS

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE

Machine Id
4600M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

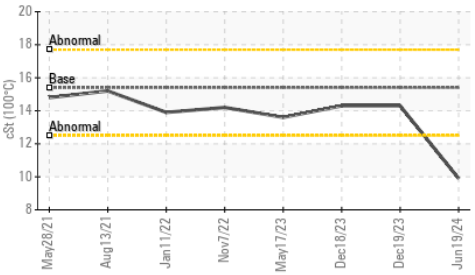
FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

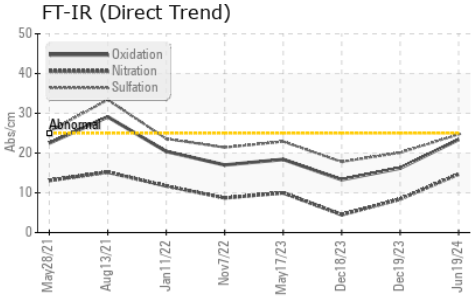
Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**GFL0122485**	GFL0105634	GFL0105715
Sample Date		Client Info		**19 Jun 2024**	19 Dec 2023	18 Dec 2023
Machine Age	hrs	Client Info		**19183**	18790	18221
Oil Age	hrs	Client Info		**18790**	18221	18221
Filter Age	hrs	Client Info		**18790**	18221	18221
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Filter Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**SEVERE**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>90	**65**	33	4
Chromium	ppm	ASTM D5185m	>20	**3**	2	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	0
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**3**	4	2
Lead	ppm	ASTM D5185m	>40	**<1**	0	0
Copper	ppm	ASTM D5185m	>330	**1**	2	12
Tin	ppm	ASTM D5185m	>15	**0**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	<1	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	**9**	17	9
Potassium	ppm	ASTM D5185m	>20	**4**	4	1
Fuel	%	ASTM D3524	>3.0	▲ **23.8**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>6	**2**	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**14.7**	8.4	4.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.7**	20.1	17.8
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
Sodium	ppm	ASTM D5185m		**21**	40	0
Boron	ppm	ASTM D5185m	0	**3**	2	18
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**47**	61	61
Manganese	ppm	ASTM D5185m	0	**1**	<1	0
Magnesium	ppm	ASTM D5185m	1010	**797**	987	885
Calcium	ppm	ASTM D5185m	1070	**852**	1098	990
Phosphorus	ppm	ASTM D5185m	1150	**845**	1133	864
Zinc	ppm	ASTM D5185m	1270	**1027**	1299	1121
Sulfur	ppm	ASTM D5185m	2060	**2574**	3270	2815
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.4**	16.2	13.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.5**	8.6	9.3
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.9**	14.3	14.3

Fuel Dilution

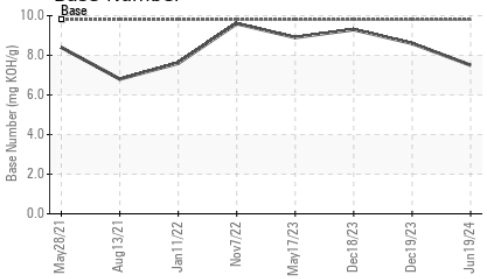
Viscosity @ 100°C



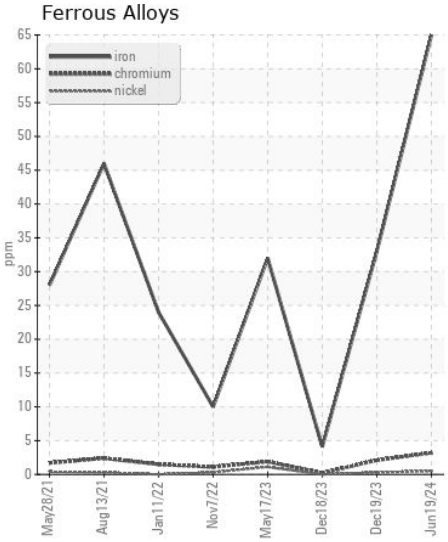
FT-IR (Direct Trend)



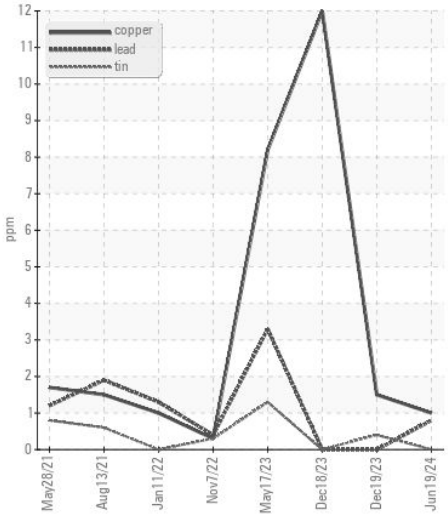
Base Number



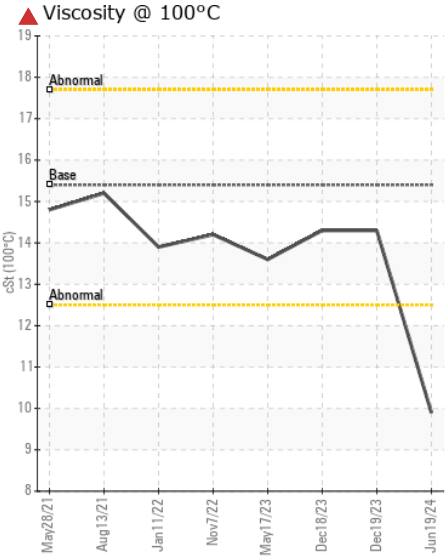
Ferrous Alloys



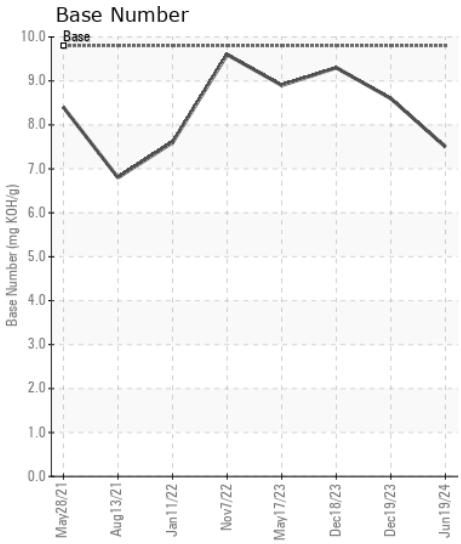
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122485
Lab Number : 06215350
Unique Number : 11088214
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 20 Jun 2024
Tested : 24 Jun 2024
Diagnosed : 24 Jun 2024 - Wes Davis

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)

GFL Environmental - 415 - Michigan East
6200 Elmridge
Sterling Heights, MI
US 48313
Contact: Frank Wolak
fwolak@gflenv.com
T: (586)825-9514
F: