



Machine Id
MACK 2658
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0116764	GFL0109042	GFL0109096
Sample Date		Client Info		24 May 2024	22 Feb 2024	18 Jan 2024
Machine Age	hrs	Client Info		34029	33773	33661
Oil Age	hrs	Client Info		1517	1261	33661
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				SEVERE	NORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	34	14	38
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	2
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	4	2	9
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

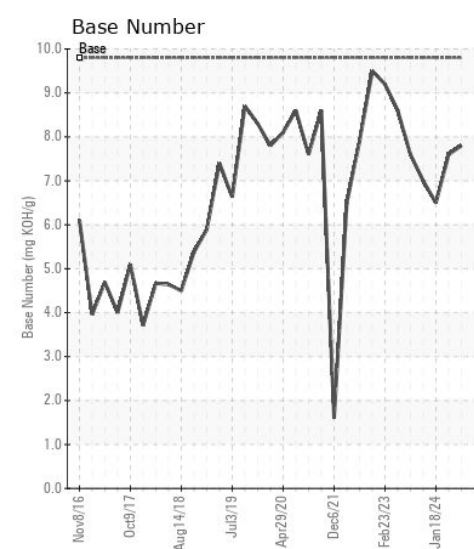
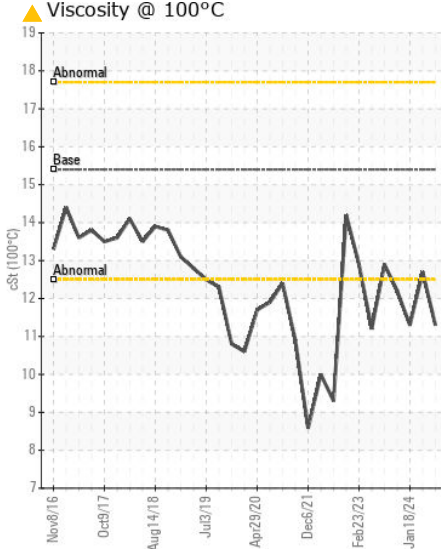
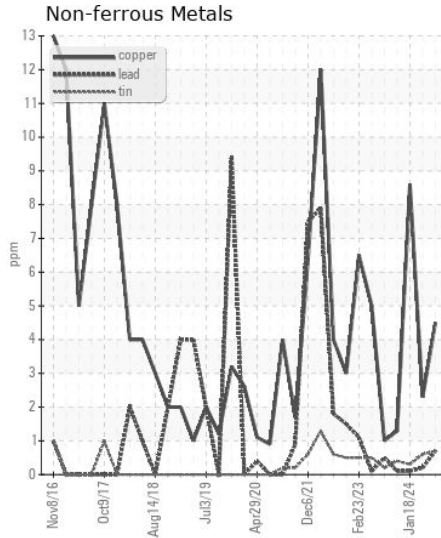
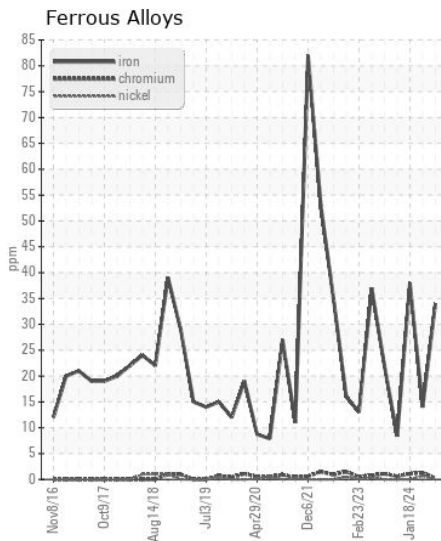
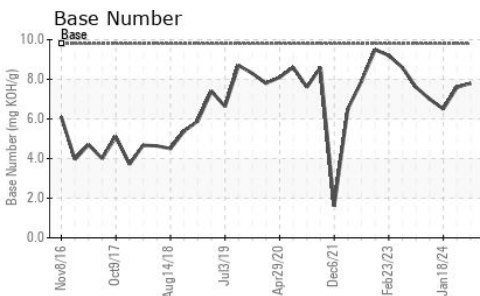
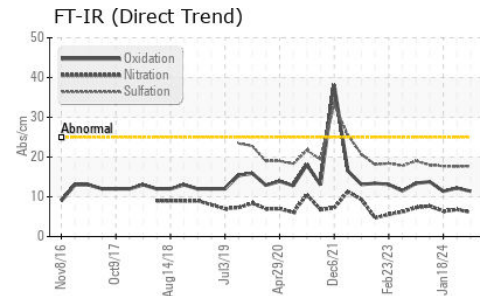
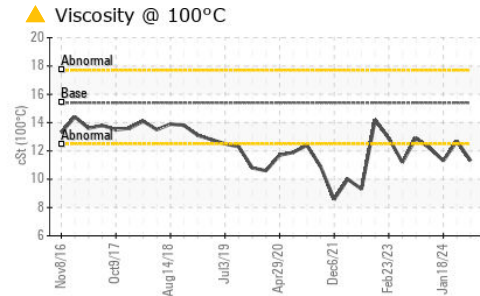
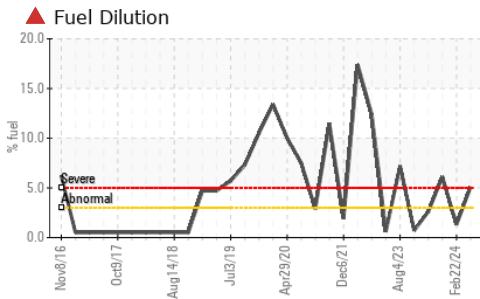
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	4	4	2
Potassium	ppm	ASTM D5185m	>20	2	3	3
Fuel	%	ASTM D3524	>3.0	▲ 5.1	1.3	▲ 6.1
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.9	0.5	1.1
Nitration	Abs/cm	*ASTM D7624	>20	6.1	6.8	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.7	17.6	17.7
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. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		2	5	<1
Boron	ppm	ASTM D5185m	0	18	12	17
Barium	ppm	ASTM D5185m	0	0	1	0
Molybdenum	ppm	ASTM D5185m	60	55	56	53
Manganese	ppm	ASTM D5185m	0	<1	<1	0
Magnesium	ppm	ASTM D5185m	1010	728	673	730
Calcium	ppm	ASTM D5185m	1070	1053	1005	971
Phosphorus	ppm	ASTM D5185m	1150	906	866	889
Zinc	ppm	ASTM D5185m	1270	1052	1049	1063
Sulfur	ppm	ASTM D5185m	2060	3073	2986	2763
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.4	12.2	11.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.8	7.6	6.5
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 11.3	12.7	▲ 11.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0116764 **Received** : 29 May 2024
Lab Number : 06193722 **Tested** : 03 Jun 2024
Unique Number : 11050474 **Diagnosed** : 03 Jun 2024 - Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 009 - Fairburn
 6905 Roosevelt Hwy
 Fairburn, GA
 US 30213
 Contact: Eric Jones
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 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)