



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**4650M**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0108832</b>	GFL0105860	GFL0101488
Sample Date		Client Info		<b>06 Jan 2024</b>	20 Dec 2023	30 Nov 2023
Machine Age	hrs	Client Info		<b>16317</b>	16184	16028
Oil Age	hrs	Client Info		<b>16184</b>	15166	15166
Filter Age	hrs	Client Info		<b>16184</b>	0	15166
Oil Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>21</b>	12	19
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	1	1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

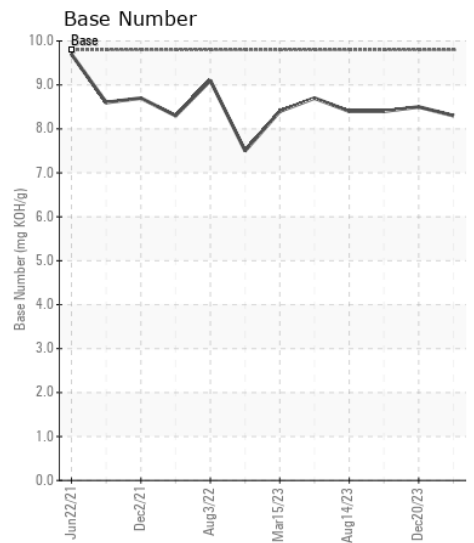
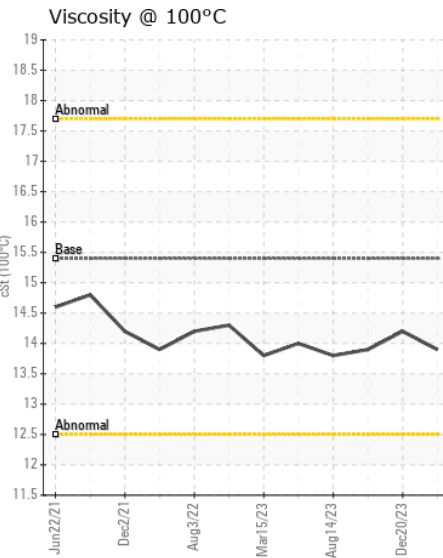
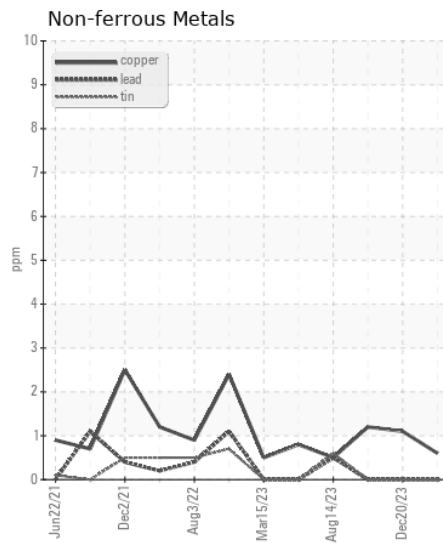
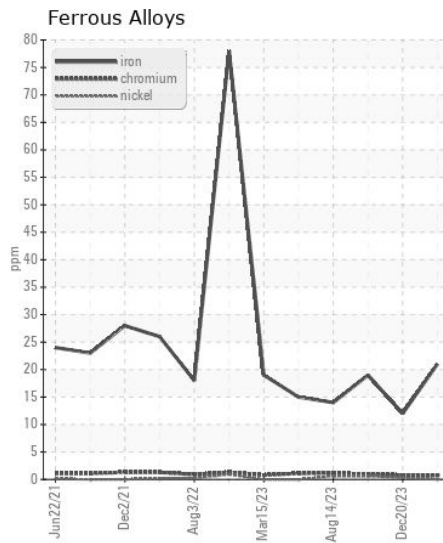
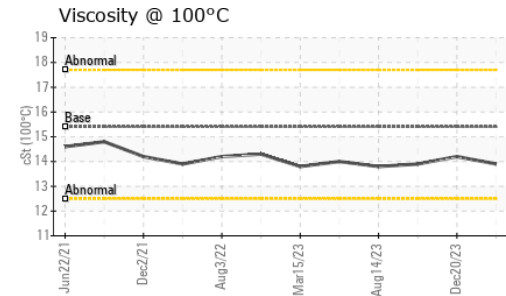
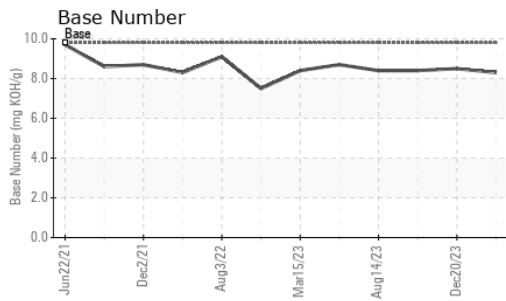
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>3</b>	4	2
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	1
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.4</b>	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.8</b>	6.6	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.0</b>	18.7	19.7
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>4</b>	6	4
Boron	ppm	ASTM D5185m	0	<b>0</b>	3	<1
Barium	ppm	ASTM D5185m	0	<b>0</b>	<1	2
Molybdenum	ppm	ASTM D5185m	60	<b>65</b>	64	61
Manganese	ppm	ASTM D5185m	0	<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m	1010	<b>1058</b>	1007	930
Calcium	ppm	ASTM D5185m	1070	<b>1138</b>	1110	1098
Phosphorus	ppm	ASTM D5185m	1150	<b>1092</b>	1162	968
Zinc	ppm	ASTM D5185m	1270	<b>1351</b>	1360	1240
Sulfur	ppm	ASTM D5185m	2060	<b>3169</b>	3139	4254
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.1</b>	15.0	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>8.3</b>	8.5	8.4
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.9</b>	14.2	13.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0108832 **Received** : 09 Jan 2024  
**Lab Number** : 06055789 **Diagnosed** : 10 Jan 2024  
**Unique Number** : 10821738 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**GFL Environmental - 415 - Michigan East**  
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 Sterling Heights, MI  
 US 48313  
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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)