



Area  
**(DXF671)**

Machine Id  
**10628**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (28 QTS)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0111503</b>	GFL0111493	GFL0111488
Sample Date		Client Info		<b>20 May 2024</b>	26 Apr 2024	17 Apr 2024
Machine Age	hrs	Client Info		<b>21043</b>	20815	20795
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Chngd</b>	Changed	Not Chngd
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ATTENTION</b>	ABNORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>13</b>	16	22
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	2	3
Lead	ppm	ASTM D5185m	>25	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>100	<b>2</b>	1	3
Tin	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
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.

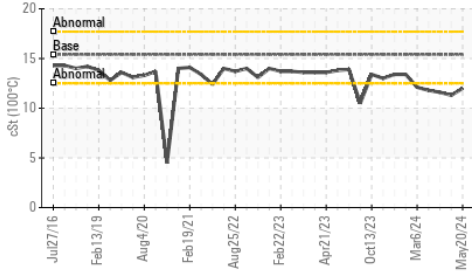
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	12	14
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	2
Fuel	%	ASTM D3524	>3.0	<b>&lt;1.0</b>	▲ 2.3	▲ 3.7
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.5</b>	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.3</b>	6.6	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.7</b>	20.1	19.0
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**

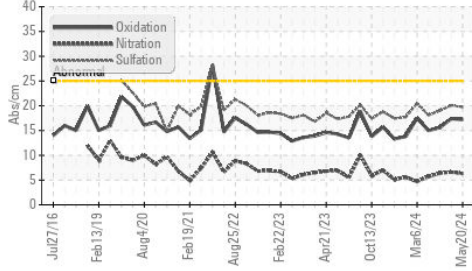
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>8</b>	3	4
Boron	ppm	ASTM D5185m	0	<b>9</b>	16	14
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>49</b>	41	48
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>822</b>	● 671	715
Calcium	ppm	ASTM D5185m	1070	<b>947</b>	● 800	883
Phosphorus	ppm	ASTM D5185m	1150	<b>932</b>	759	818
Zinc	ppm	ASTM D5185m	1270	<b>1105</b>	● 850	945
Sulfur	ppm	ASTM D5185m	2060	<b>3361</b>	2690	2683
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.2</b>	17.4	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>7.1</b>	6.2	7.4
Visc @ 100°C	cSt	ASTM D445	15.4	● <b>12.0</b>	▲ 11.3	▲ 11.6

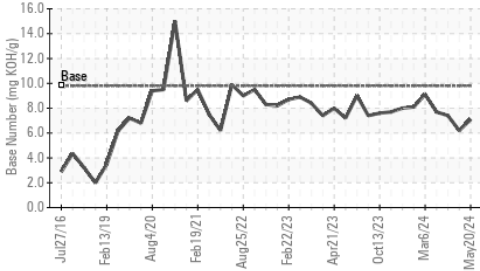
● Viscosity @ 100°C



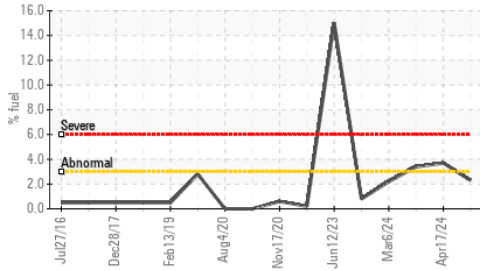
FT-IR (Direct Trend)



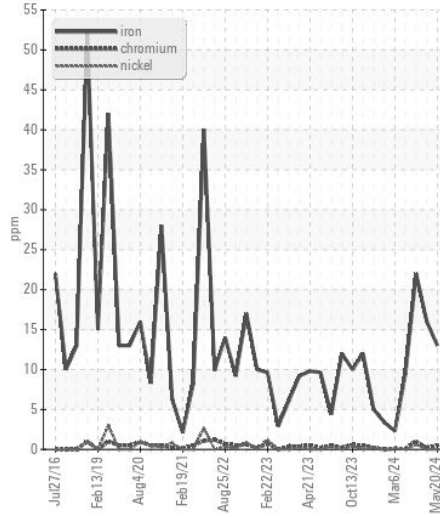
Base Number



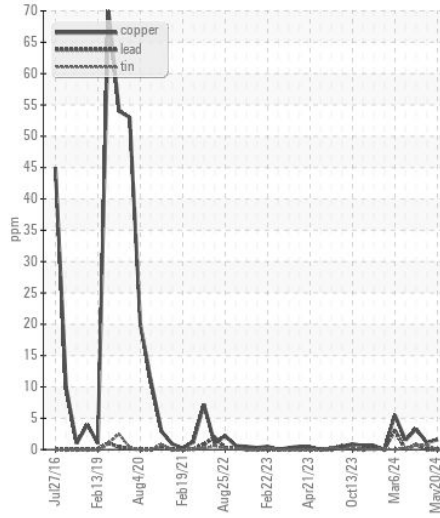
Fuel Dilution



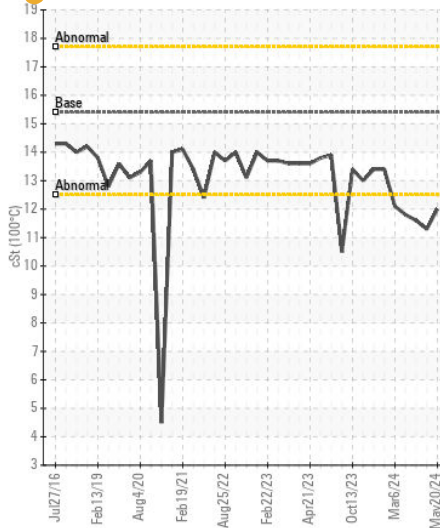
Ferrous Alloys



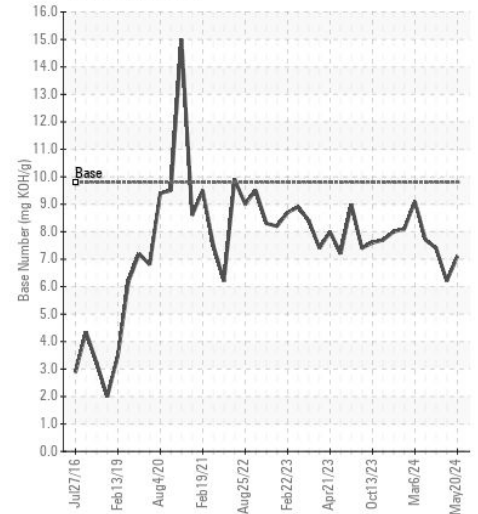
Non-ferrous Metals



● Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0111503

Lab Number : 06187506

Unique Number : 11044258

Test Package : FLEET ( Additional Tests: FuelDilution, PercentFuel )

Received : 22 May 2024

Tested : 28 May 2024

Diagnosed : 28 May 2024 - Jonathan Hester

GFL Environmental - 073 - Warner Robins - Transwaste

155 Story Road

Warner Robins, GA

US 31093

Contact: Mike Taft

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: