



Machine Id  
**401199**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- LTR)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL011996</b>	GFL0090396	GFL0071504
Sample Date		Client Info		<b>14 May 2024</b>	13 Dec 2023	14 Jun 2023
Machine Age	kms	Client Info		<b>531116</b>	511748	490777
Oil Age	kms	Client Info		<b>0</b>	0	0
Filter Age	kms	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	<b>11</b>	13	11
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>1</b>	1	2
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	1	<1
Copper	ppm	ASTM D5185(m)	>330	<b>&lt;1</b>	3	2
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---

### CONTAMINATION

There is no indication of any contamination in the oil.

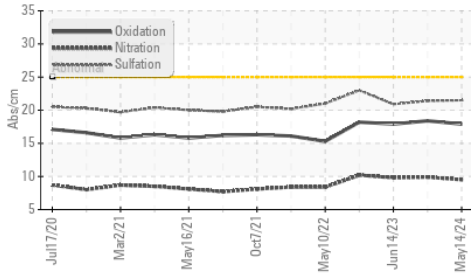
Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>1</b>	1	1
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	2.3
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>4	<b>0.3</b>	0.4	0.4
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.5</b>	9.9	9.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>21.5</b>	21.4	20.9
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

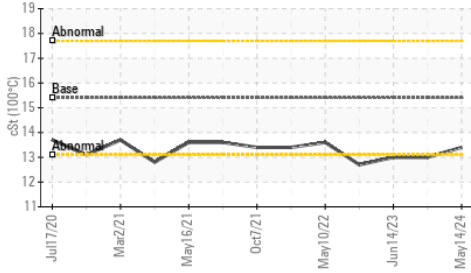
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>4</b>	6	3
Boron	ppm	ASTM D5185(m)	0	<b>2</b>	3	2
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>58</b>	59	58
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>927</b>	922	925
Calcium	ppm	ASTM D5185(m)	1070	<b>1030</b>	1018	1104
Phosphorus	ppm	ASTM D5185(m)	1150	<b>958</b>	919	1017
Zinc	ppm	ASTM D5185(m)	1270	<b>1150</b>	1133	1167
Sulfur	ppm	ASTM D5185(m)	2060	<b>2346</b>	2359	2517
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>17.9</b>	18.4	17.9
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<b>13.4</b>	13.0	13.0

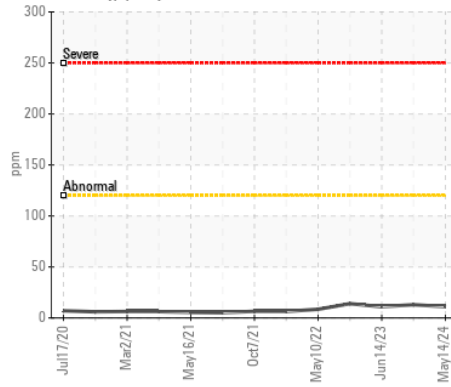
**FT-IR (Direct Trend)**



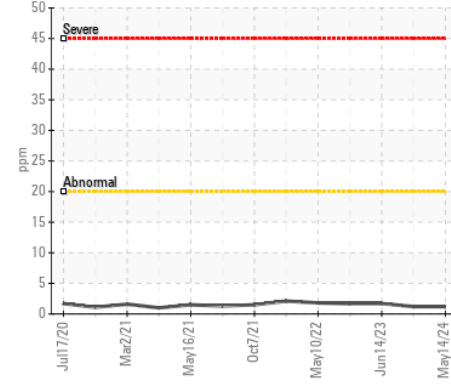
**Viscosity @ 100°C**



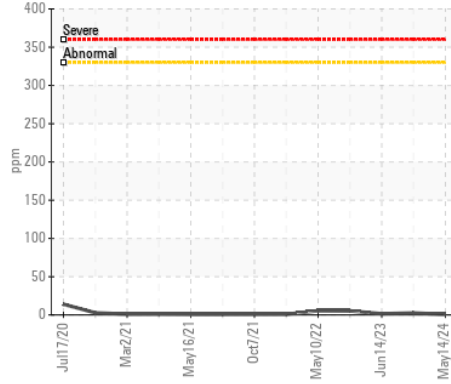
**Iron (ppm)**



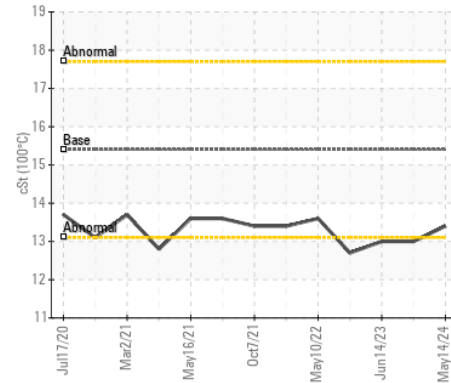
**Aluminum (ppm)**



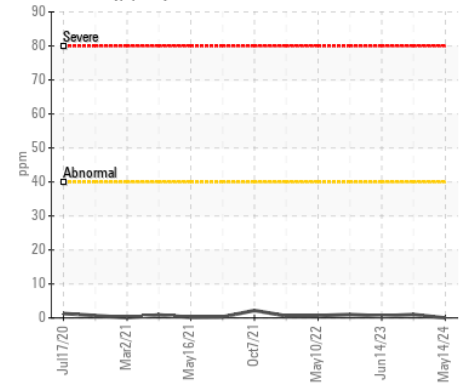
**Copper (ppm)**



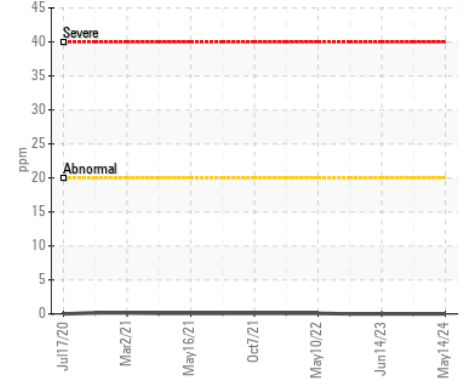
**Viscosity @ 100°C**



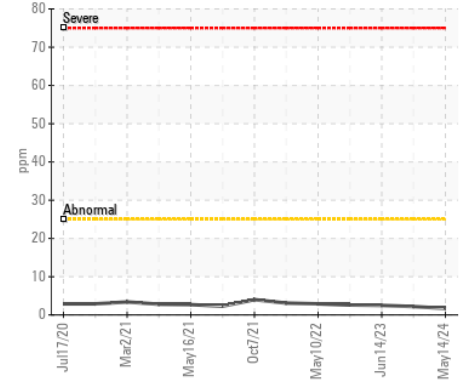
**Lead (ppm)**



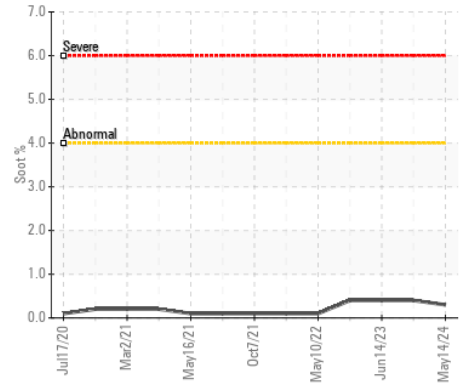
**Chromium (ppm)**



**Silicon (ppm)**



**Soot %**



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : GFL0111996 **Received** : 16 May 2024  
**Lab Number** : 02635948 **Tested** : 16 May 2024  
**Unique Number** : 5785110 **Diagnosed** : 16 May 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**GFL Environmental - 216M**  
 2475 Beryl Drive  
 Oakville, ON  
 CA L6J 7X4  
 Contact: Matthew Gunness  
 mgunness@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

T:  
F: