

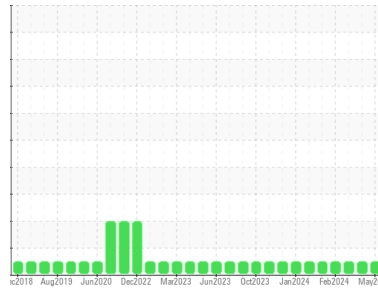


# OIL ANALYSIS REPORT



Machine Id  
**428033-402325**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

Sample Rating Trend



**NORMAL**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### 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.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0120182</b>	GFL0117158	GFL0114000
Sample Date	Client Info		<b>21 May 2024</b>	23 Apr 2024	28 Mar 2024
Machine Age	hrs	Client Info	<b>3367</b>	3198	3075
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>4</b>	3	40
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	3
Nickel	ppm	ASTM D5185m >5	<b>&lt;1</b>	1	<1
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	2	7
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	2	0
Copper	ppm	ASTM D5185m >330	<b>2</b>	2	2
Tin	ppm	ASTM D5185m >15	<b>1</b>	2	1
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>6</b>	6	0
Barium	ppm	ASTM D5185m 0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m 60	<b>58</b>	62	56
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>938</b>	895	935
Calcium	ppm	ASTM D5185m 1070	<b>1100</b>	1101	1101
Phosphorus	ppm	ASTM D5185m 1150	<b>999</b>	950	1038
Zinc	ppm	ASTM D5185m 1270	<b>1255</b>	1177	1258
Sulfur	ppm	ASTM D5185m 2060	<b>3536</b>	3219	3571

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>6</b>	7	16
Sodium	ppm	ASTM D5185m	<b>2</b>	<1	6
Potassium	ppm	ASTM D5185m >20	<b>1</b>	3	9

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.2</b>	0.1	0.7
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.1</b>	6.6	10.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.8</b>	17.4	20.1

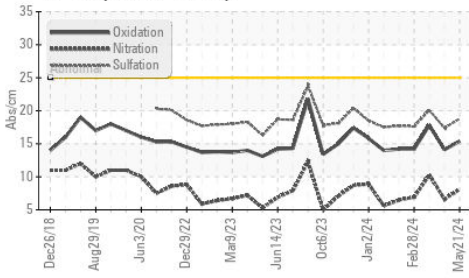
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.4</b>	14.1	17.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.5</b>	7.7	7.3

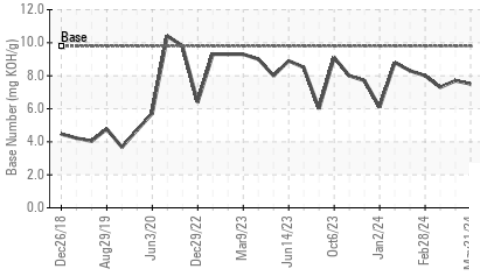


# OIL ANALYSIS REPORT

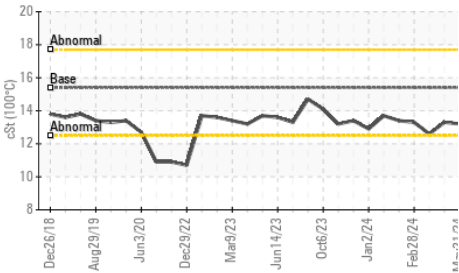
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

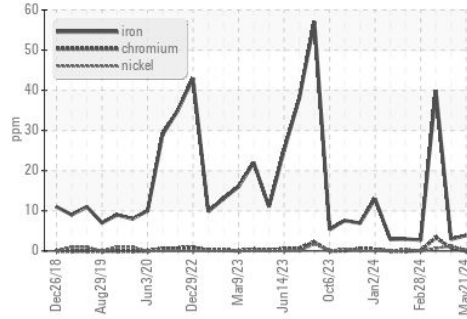


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

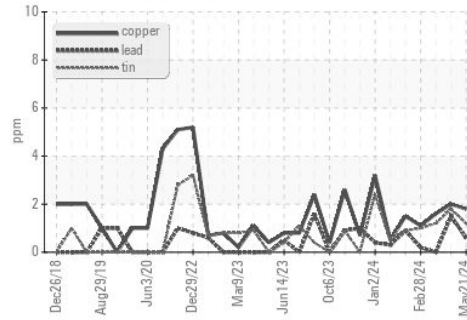
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	13.3

## GRAPHS

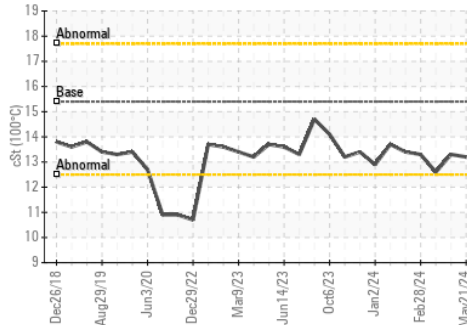
Ferrous Alloys



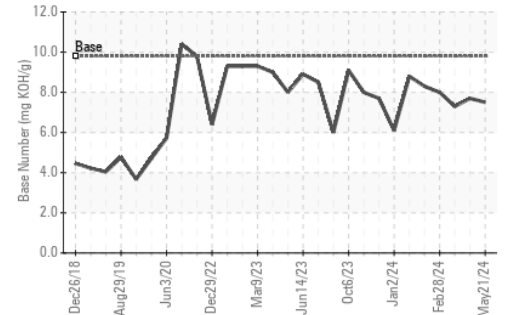
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0120182  
 Lab Number : 06188960  
 Unique Number : 11045712  
 Test Package : FLEET

Received : 23 May 2024  
 Tested : 24 May 2024  
 Diagnosed : 24 May 2024 - Wes Davis

GFL Environmental - 836 - Kansas City Hauling  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Loyce Stewart  
 loyce.stewart@gflenv.com

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)

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F: