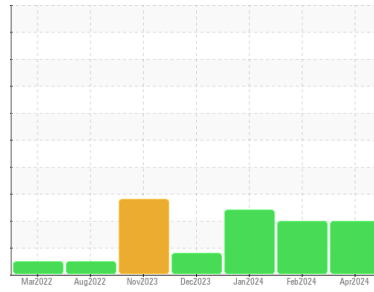




# PROBLEM SUMMARY

## Sample Rating Trend



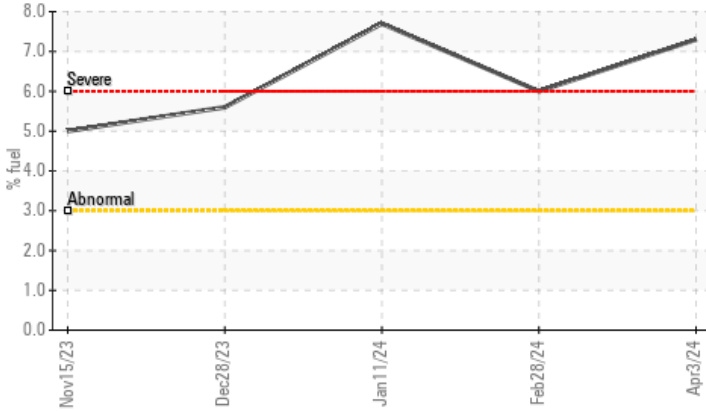
## FUEL



Machine Id  
**4639M**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (36 GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Fuel Dilution



## RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>SEVERE</b>	SEVERE	SEVERE
Fuel	%	ASTM D3524	>3.0	<b>▲ 7.3</b>	▲ 6.0	▲ 7.7

Customer Id: GFL410  
 Sample No.: GFL0104401  
 Lab Number: 06140966  
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Wes Davis +1 905-569-8600 x223  
[wesd@wearcheck.ca](mailto:wesd@wearcheck.ca)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

## HISTORICAL DIAGNOSIS

FUEL



### 28 Feb 2024 Diag: Wes Davis

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. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report



FUEL



### 11 Jan 2024 Diag: Wes Davis

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. 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.

view report



FUEL



### 28 Dec 2023 Diag: Wes Davis

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. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

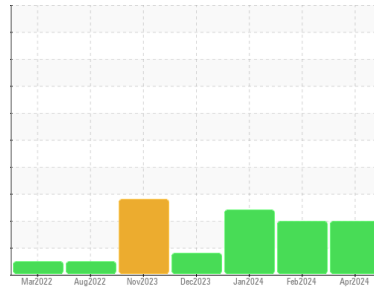
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id  
**4639M**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (36 GAL)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### ▲ Contamination

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

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0104401</b>	GFL0104349	GFL0110000
Sample Date	Client Info		<b>03 Apr 2024</b>	28 Feb 2024	11 Jan 2024
Machine Age	hrs	Client Info	<b>19244</b>	19120	18658
Oil Age	hrs	Client Info	<b>300</b>	600	600
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status			<b>SEVERE</b>	SEVERE	SEVERE

## CONTAMINATION

	method	limit/base	current	history1	history2
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	>75	<b>17</b>	10	23
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	<1	1
Lead	ppm	ASTM D5185m	>25	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>100	<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	<b>2</b>	1	<1
Barium	ppm	ASTM D5185m	0	<b>0</b>	1	0
Molybdenum	ppm	ASTM D5185m	60	<b>55</b>	52	55
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	1010	<b>875</b>	871	916
Calcium	ppm	ASTM D5185m	1070	<b>963</b>	939	946
Phosphorus	ppm	ASTM D5185m	1150	<b>990</b>	966	982
Zinc	ppm	ASTM D5185m	1270	<b>1167</b>	1138	1182
Sulfur	ppm	ASTM D5185m	2060	<b>3092</b>	2508	2726

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	2	4
Sodium	ppm	ASTM D5185m		<b>5</b>	3	6
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	<1
Fuel	%	ASTM D3524	>3.0	<b>▲ 7.3</b>	▲ 6.0	▲ 7.7

## INFRA-RED

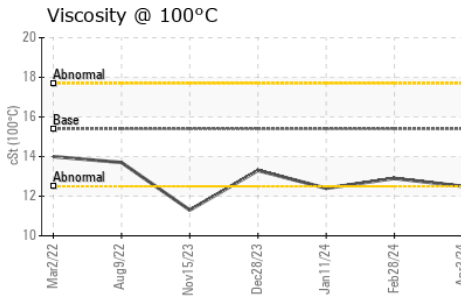
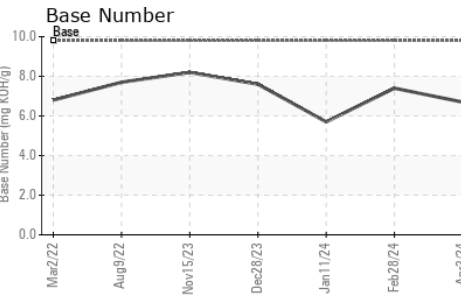
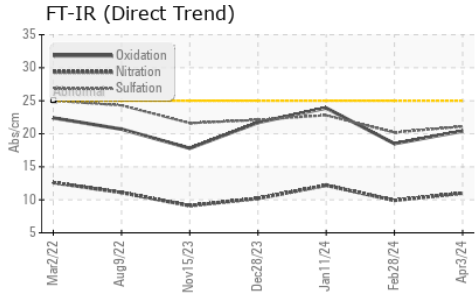
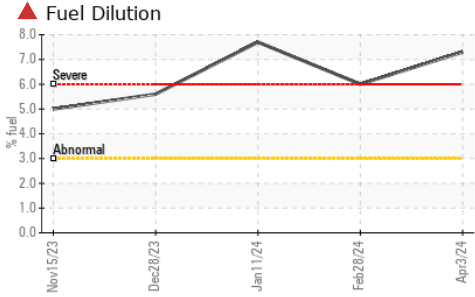
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>6	<b>0.5</b>	0.4	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.0</b>	9.9	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.1</b>	20.2	22.8

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.4</b>	18.5	23.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.7</b>	7.4	5.7



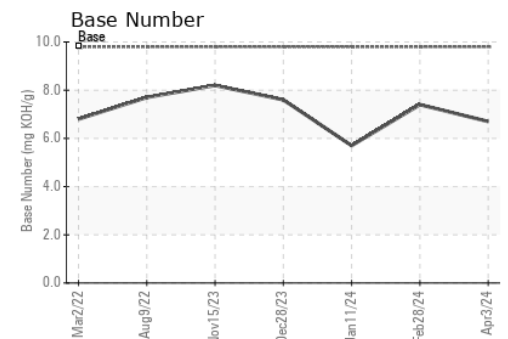
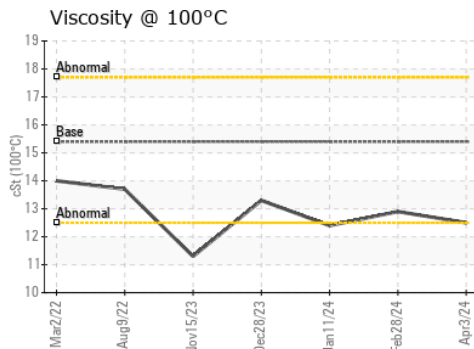
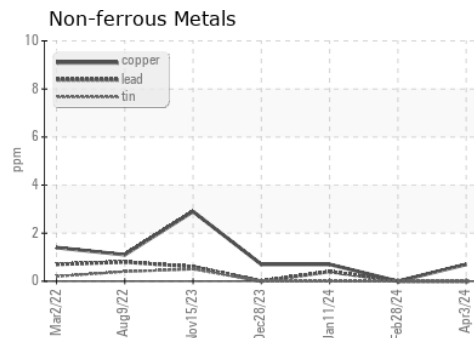
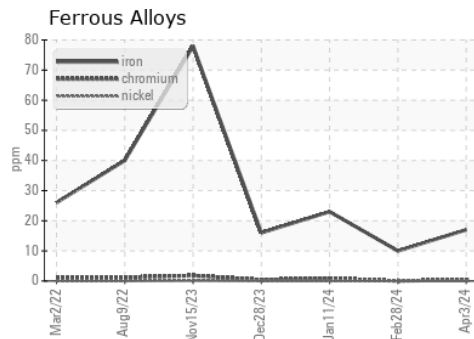
# OIL ANALYSIS REPORT



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	12.5	12.9 ▲ 12.4

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0104401 **Received** : 08 Apr 2024  
**Lab Number** : 06140966 **Tested** : 10 Apr 2024  
**Unique Number** : 10965774 **Diagnosed** : 10 Apr 2024 - Wes Davis  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**GFL Environmental - 410 - Michigan West**  
 39000 Van Born Rd  
 Wayne, MI  
 US 48184

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)

Contact: Belal Dgheish  
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 T: (734)714-2340  
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