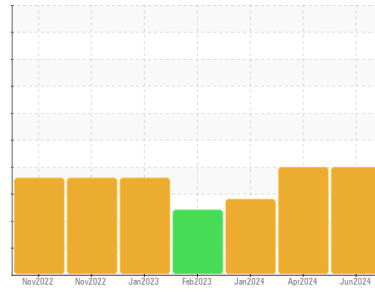


# OIL ANALYSIS REPORT

## Sample Rating Trend



FUEL



Machine Id

**730**

Component

**Diesel Engine**

Fluid

**PETRO CANADA DURON HP 15W40 (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. 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 level is low. Fuel is present in the oil and is lowering the viscosity. 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>PCA0127660</b>	PCA0118133	PCA0096407
Sample Date	Client Info	<b>19 Jun 2024</b>	18 Apr 2024	31 Jan 2024
Machine Age	hrs	<b>15516</b>	14826	14042
Oil Age	hrs	<b>690</b>	784	500
Oil Changed	Client Info	<b>N/A</b>	Changed	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 >100	<b>42</b>	25	10
Chromium	ppm	ASTM D5185m >20	<b>2</b>	<1	<1
Nickel	ppm	ASTM D5185m >4	<b>1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>2</b>	1	2
Lead	ppm	ASTM D5185m >40	<b>2</b>	0	<1
Copper	ppm	ASTM D5185m >330	<b>1</b>	0	2
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	<b>&lt;1</b>	0	7
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>28</b>	34	40
Manganese	ppm	ASTM D5185m	<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>455</b>	566	606
Calcium	ppm	ASTM D5185m	<b>551</b>	643	749
Phosphorus	ppm	ASTM D5185m	<b>517</b>	591	712
Zinc	ppm	ASTM D5185m	<b>636</b>	750	823
Sulfur	ppm	ASTM D5185m	<b>1635</b>	2083	1935

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<b>5</b>	4	5
Sodium	ppm	ASTM D5185m	<b>3</b>	1	3
Potassium	ppm	ASTM D5185m >20	<b>5</b>	0	2
Fuel	%	ASTM D3524 >5	<b>▲ 52.0</b>	▲ 42.0	▲ 30.7

## INFRA-RED

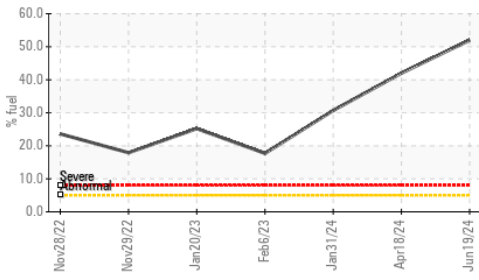
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	<b>0.4</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.4</b>	8.1	8.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.3</b>	17.6	17.9

## FLUID DEGRADATION

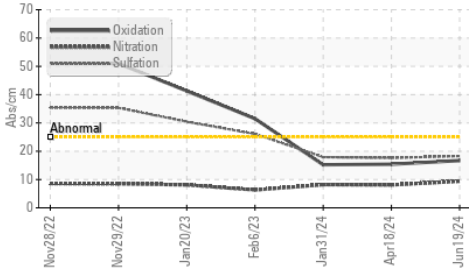
method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.7</b>	15.4	15.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>▲ 1.6</b>	▲ 2.6	5.2

# OIL ANALYSIS REPORT

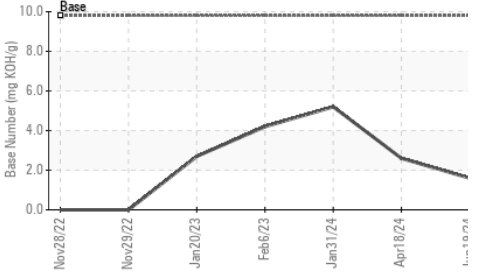
## ▲ Fuel Dilution



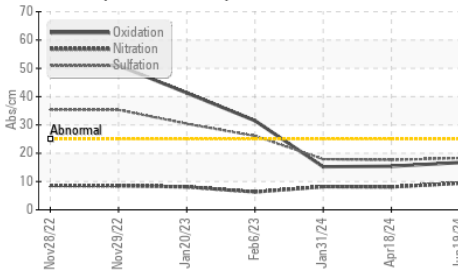
## FT-IR (Direct Trend)



## ▲ Base Number



## FT-IR (Direct Trend)



## VISUAL

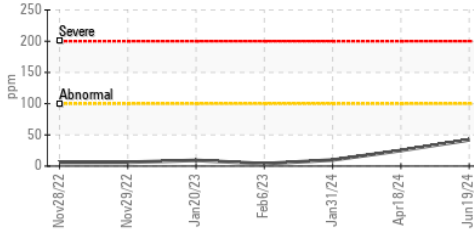
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*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

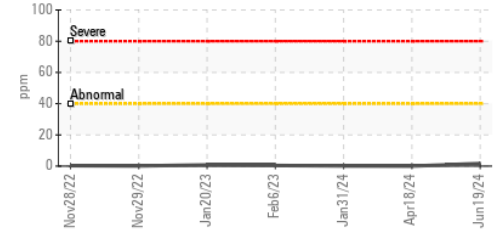
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6 ▲ 3.9	▲ 4.9	▲ 6.8

## GRAPHS

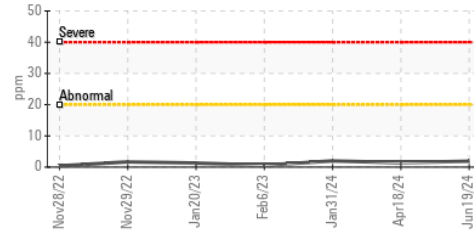
### Iron (ppm)



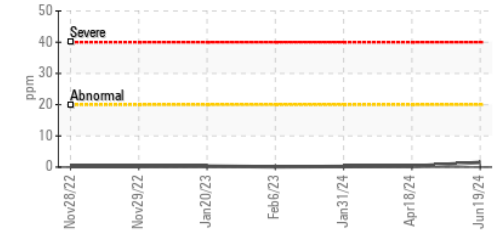
### Lead (ppm)



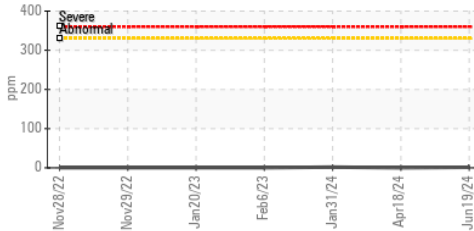
### Aluminum (ppm)



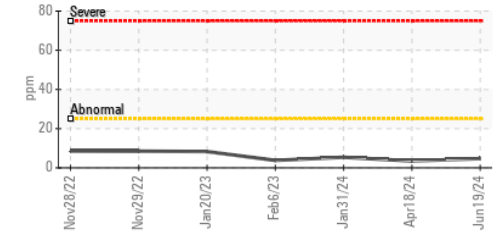
### Chromium (ppm)



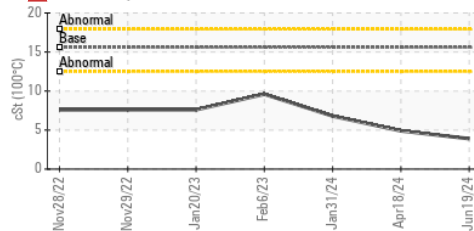
### Copper (ppm)



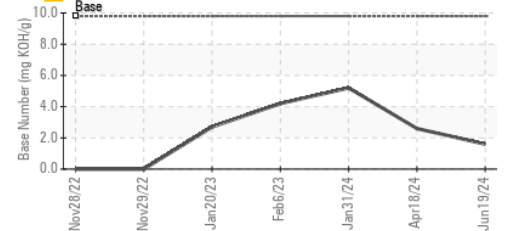
### Silicon (ppm)



## ▲ Viscosity @ 100°C



## ▲ Base Number



Certificate L2367

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

**Sample No.** : PCA0127660

**Lab Number** : 06219023

**Unique Number** : 11097220

**Test Package** : MOB 1 ( Additional Tests: PercentFuel, TBN )

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)

**Received** : 24 Jun 2024

**Tested** : 27 Jun 2024

**Diagnosed** : 27 Jun 2024 - Don Baldrige

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