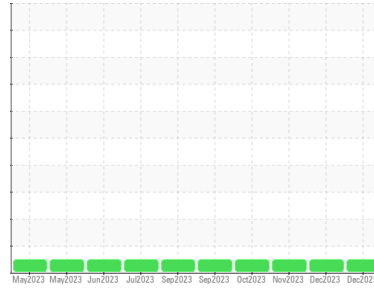




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**BD SHOP**  
 Machine Id  
**200292**

Component  
**Diesel Engine**  
 Fluid

**PETRO CANADA DURON SHP 10W30 (40 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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>WC0888930</b>	WC0864701	WC0864691
Sample Date	Client Info		<b>31 Dec 2023</b>	13 Dec 2023	23 Nov 2023
Machine Age	kms	Client Info	<b>222805</b>	215359	207446
Oil Age	kms	Client Info	<b>49575</b>	42130	34216
Oil Changed	Client Info		<b>Not Chngd</b>	N/A	Not Chngd
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 D5185(m)	>200	<b>25</b>	20	16
Chromium	ppm	ASTM D5185(m)	>6	<b>3</b>	2	2
Nickel	ppm	ASTM D5185(m)	>3	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>50	<b>16</b>	14	12
Lead	ppm	ASTM D5185(m)	>10	<b>1</b>	2	1
Copper	ppm	ASTM D5185(m)	>50	<b>65</b>	67	55
Tin	ppm	ASTM D5185(m)	>6	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	2	<b>2</b>	2	2
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	50	<b>62</b>	63	61
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	950	<b>1003</b>	1004	1000
Calcium	ppm	ASTM D5185(m)	1050	<b>1139</b>	1118	1116
Phosphorus	ppm	ASTM D5185(m)	995	<b>979</b>	1000	989
Zinc	ppm	ASTM D5185(m)	1180	<b>1203</b>	1215	1213
Sulfur	ppm	ASTM D5185(m)	2600	<b>2245</b>	2196	2262
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>50	<b>4</b>	4	4
Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>39</b>	32	25

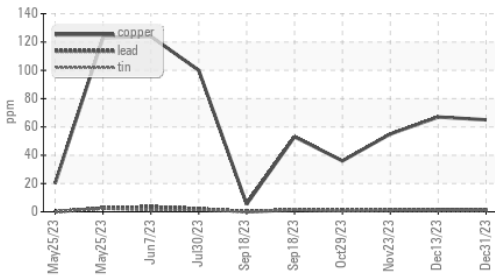
## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	<b>0.5</b>	0.4	0.3
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.0</b>	8.6	7.7
Nitration(Diff)	Abs/cm	ASTM D7624*		<b>0.6</b>	---	---
Sulfation	Abs.:1mm	ASTM D7415*	>30	<b>20.9</b>	20.4	20.2
Sulfation(Diff)	Abs/cm	ASTM D7415*		<b>4.8</b>	---	---

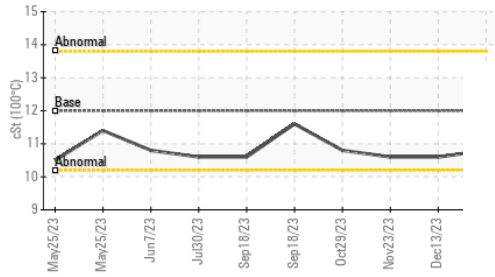


# OIL ANALYSIS REPORT

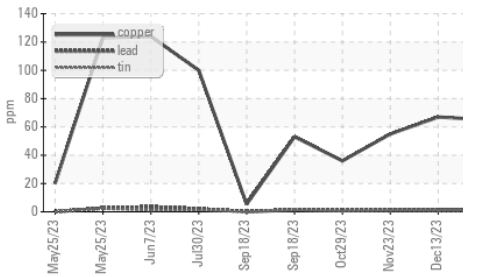
## Non-ferrous Metals



## Viscosity @ 100°C



## Non-ferrous Metals



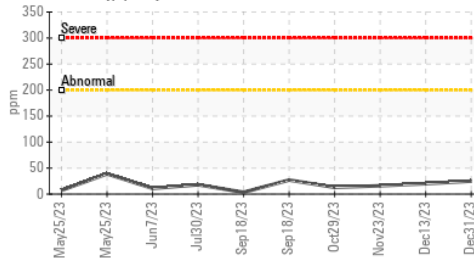
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	17.1	16.5
Oxidation(Diff)	Abs/cm	ASTM D7414*		12.1	---
Base Number (BN)	mg KOH/g	ASTM D2896*	8.97	7.76	7.85

VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

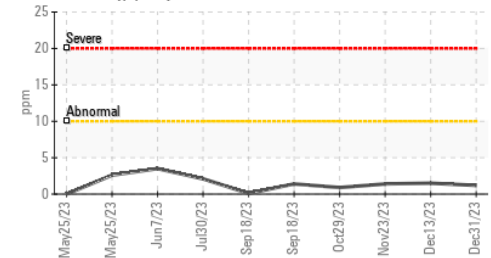
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	10.8	10.6

## GRAPHS

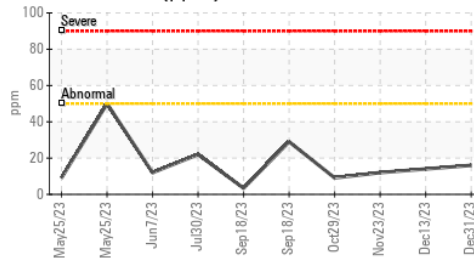
### Iron (ppm)



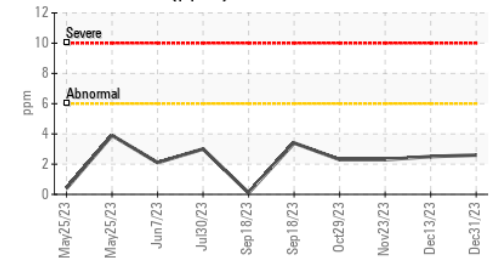
### Lead (ppm)



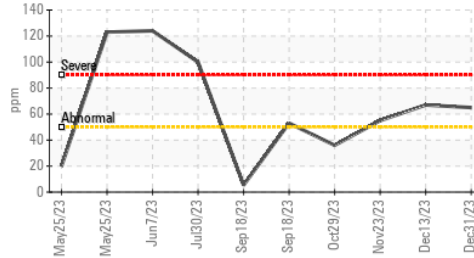
### Aluminum (ppm)



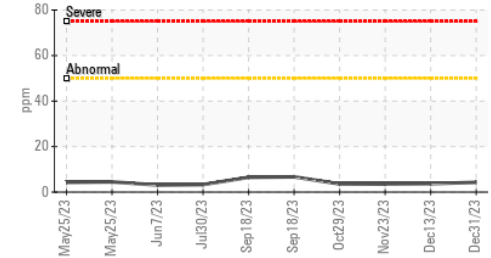
### Chromium (ppm)



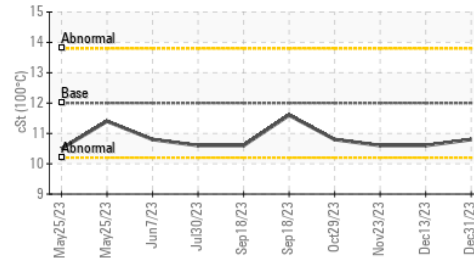
### Copper (ppm)



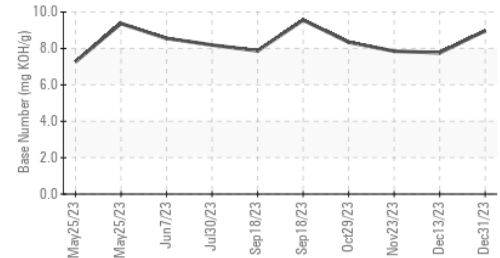
### Silicon (ppm)



## Viscosity @ 100°C



## Base Number



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0888930  
**Lab Number** : 02605827  
**Unique Number** : 5698912  
**Test Package** : MOB 2 ( Additional Tests: FT-IR(Diff) )

**Received** : 02 Jan 2024  
**Diagnosed** : 04 Jan 2024  
**Diagnostician** : Kevin Marson

**WFR Technical Services**  
 5389 Riverside Drive  
 Burlington, ON  
 CA L7L 3Y1  
 Contact: William Ridley  
 wfr.technical.services@gmail.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: