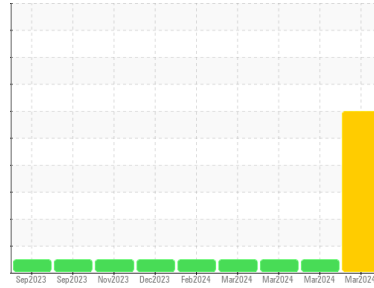




# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area  
**BD SHOP**  
 Machine Id  
**200280**

Component  
**Diesel Engine**  
 Fluid

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

## DIAGNOSIS

### ▲ Recommendation

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.

### ▲ Wear

Aluminum ppm levels are severe. Piston wear is indicated.

### 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 oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0888915</b>	WC0888916	WC0888920
Sample Date	Client Info		<b>28 Mar 2024</b>	28 Mar 2024	24 Mar 2024
Machine Age	kms	Client Info	<b>122674</b>	122675	324283
Oil Age	kms	Client Info	<b>60199</b>	1	1
Oil Changed	Client Info		<b>Not Chngd</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>100	<b>60</b>	2	7
Chromium	ppm	ASTM D5185(m)	>20	<b>4</b>	0	0
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>▲ 60</b>	2	3
Lead	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185(m)	>330	<b>32</b>	<1	5
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	0
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>3</b>	4	0
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	50	<b>61</b>	54	58
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185(m)	950	<b>944</b>	932	954
Calcium	ppm	ASTM D5185(m)	1050	<b>1167</b>	992	1033
Phosphorus	ppm	ASTM D5185(m)	995	<b>953</b>	962	951
Zinc	ppm	ASTM D5185(m)	1180	<b>1181</b>	1122	1140
Sulfur	ppm	ASTM D5185(m)	2600	<b>2196</b>	2508	2388
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

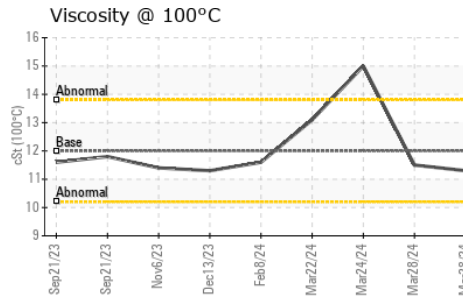
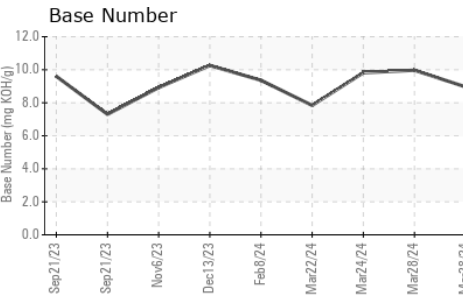
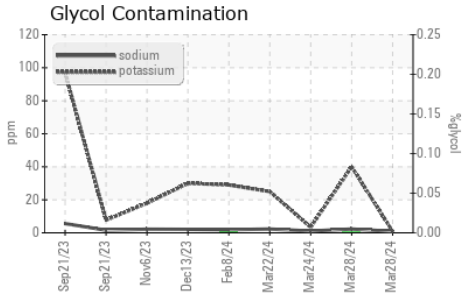
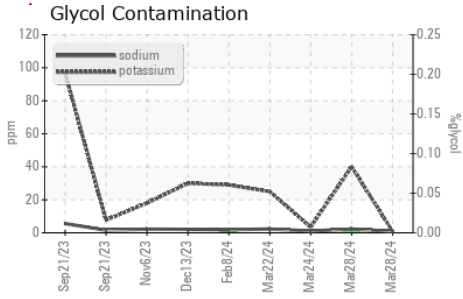
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	<b>7</b>	3	2
Sodium	ppm	ASTM D5185(m)		<b>2</b>	<1	1
Potassium	ppm	ASTM D5185(m)	>20	<b>40</b>	<1	3
Glycol	%	ASTM D7922*		<b>0.0</b>	NEG	NEG

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	<b>0.8</b>	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.7</b>	4.3	5.2
Nitration(Diff)	Abs/cm	ASTM E2412*		<b>10.2</b>	0.7	1.8
Sulfation	Abs./1mm	ASTM D7415*	>30	<b>21.3</b>	17.7	18.1
Sulfation(Diff)	Abs/cm	ASTM E2412*		<b>5.2</b>	0.4	0



# OIL ANALYSIS REPORT

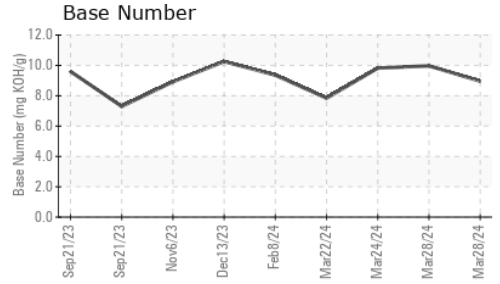
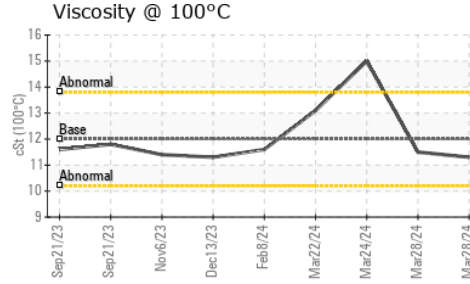
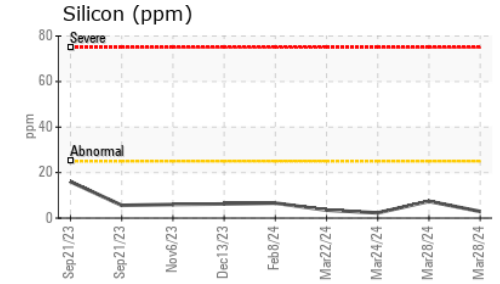
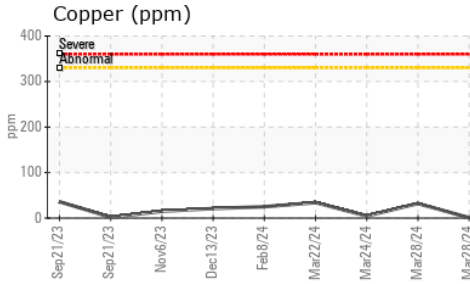
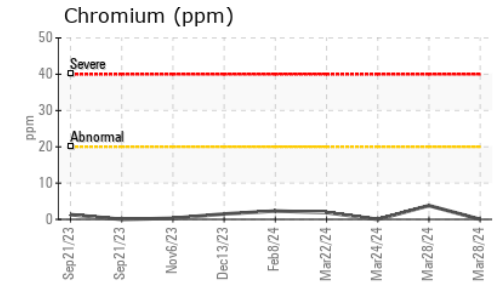
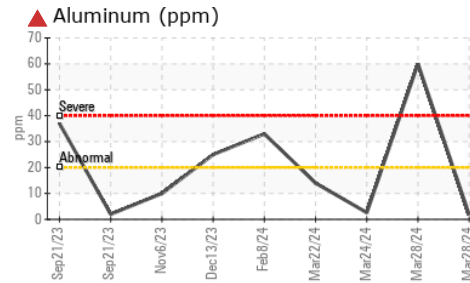
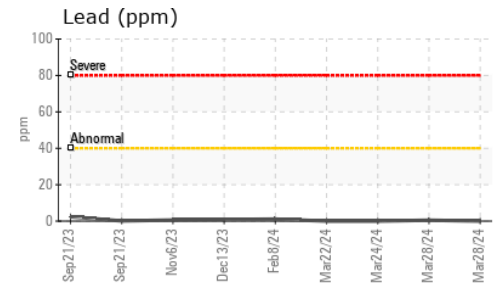
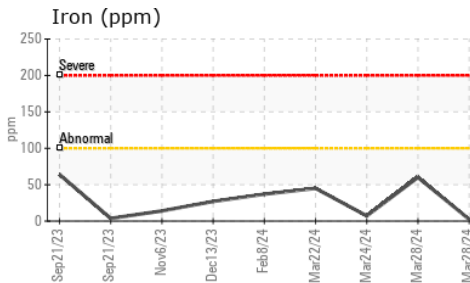


FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	16.7	12.8
Oxidation(Diff)	Abs/cm	ASTM E2412*		11.1	0.8
Base Number (BN)	mg KOH/g	ASTM D2896*	8.96	9.97	9.82

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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	11.3	11.5

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0888915 **Received** : 01 Apr 2024  
**Lab Number** : 02625525 **Tested** : 01 Apr 2024  
**Unique Number** : 5750644 **Diagnosed** : 02 Apr 2024 - Kevin Marson  
**Test Package** : MOB 2 ( Additional Tests: FT-IR(Diff), Glycol )

**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.