



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	NORMAL
OIL CONDITION	NORMAL

Machine Id  
**Ship Service Generator #3 (S/N 15501188)**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON HP 15W40 (62 LTR)**

**RECOMMENDATION**

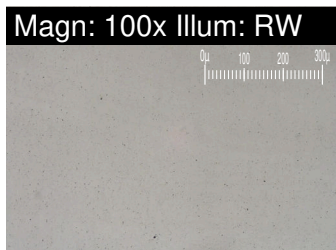
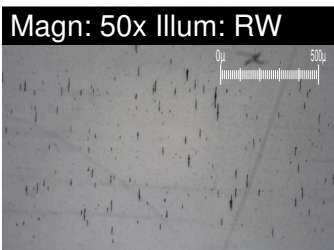
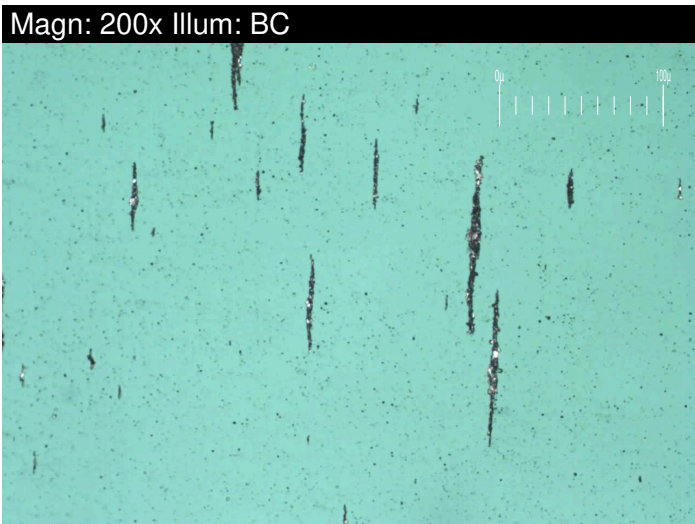
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

**WEAR**

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0772124</b>	WC0772120	WC0700696
Sample Date		Client Info		<b>06 Nov 2023</b>	21 Oct 2023	26 Feb 2023
Machine Age	hrs	Client Info		<b>52537</b>	52337	50475
Oil Age	hrs	Client Info		<b>529</b>	329	511
Filter Age	hrs	Client Info		<b>529</b>	329	511
Oil Changed		Client Info		<b>Changed</b>	Not Chngd	Changed
Filter Changed		Client Info		<b>Changed</b>	Not Chngd	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

PQ		ASTM D8184*		<b>0</b>	0	0
Iron	ppm	ASTM D5185(m)	>100	<b>13</b>	9	18
Chromium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>3	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>1</b>	<1	1
Lead	ppm	ASTM D5185(m)	>40	<b>3</b>	2	1
Copper	ppm	ASTM D5185(m)	>330	<b>106</b>	76	3
Tin	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Large Particles		DR-Ferr*		<b>10.7</b>	3.9	7.2
Small Particles		DR-Ferr*		<b>6.6</b>	1.6	5.7
Total Particles		DR-Ferr*	>---	<b>17.3</b>	5.5	12.9
Large Particles Percentage	%	DR-Ferr*		<b>23.7</b>	41.8	11.6
Severity Index		DR-Ferr*		<b>44</b>	9	11
Ferrous Rubbing	Scale 0-10	ASTM D7684*		<b>3</b>	2	1
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		<b>1</b>	1	1
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*		<b>1</b>	1	
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				



## CONTAMINANTS

There is no indication of any contamination in the oil.

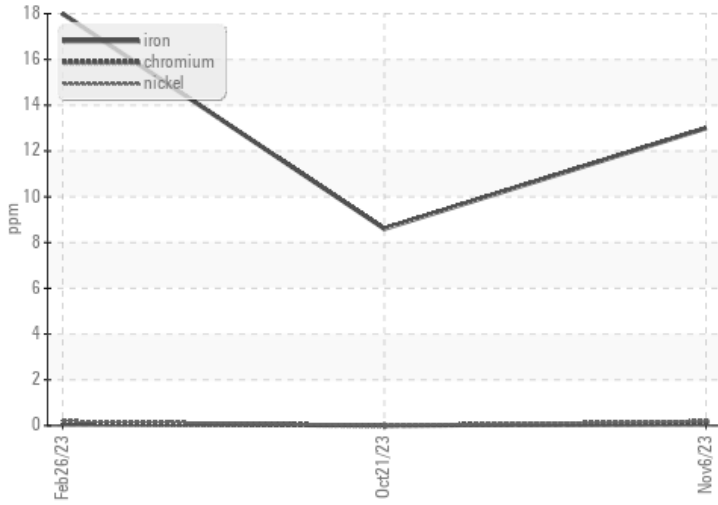
Silicon	ppm	ASTM D5185(m)	>25	<b>6</b>	5	2
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	<1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>3	<b>0.1</b>	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.5</b>	6.3	7.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>20.9</b>	19.6	23.2
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		<b>1</b>	1	
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		<b>1</b>	1	1

## OIL CONDITION

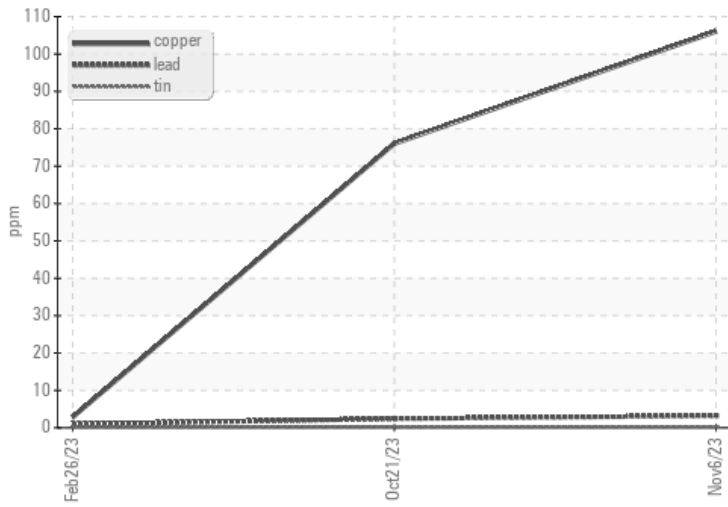
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	2
Boron	ppm	ASTM D5185(m)	0	<b>4</b>	3	3
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>63</b>	64	65
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>992</b>	998	1063
Calcium	ppm	ASTM D5185(m)	1070	<b>1093</b>	1099	1198
Phosphorus	ppm	ASTM D5185(m)	1150	<b>1002</b>	1024	1130
Zinc	ppm	ASTM D5185(m)	1270	<b>1212</b>	1220	1288
Sulfur	ppm	ASTM D5185(m)	2060	<b>2294</b>	2506	2628
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>17.6</b>	15.3	16.1
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	<b>9.27</b>	8.82	8.91
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	<b>14.3</b>	14.4	14.9
Lubricant Degradation	Scale 0-10	ASTM D7684*				

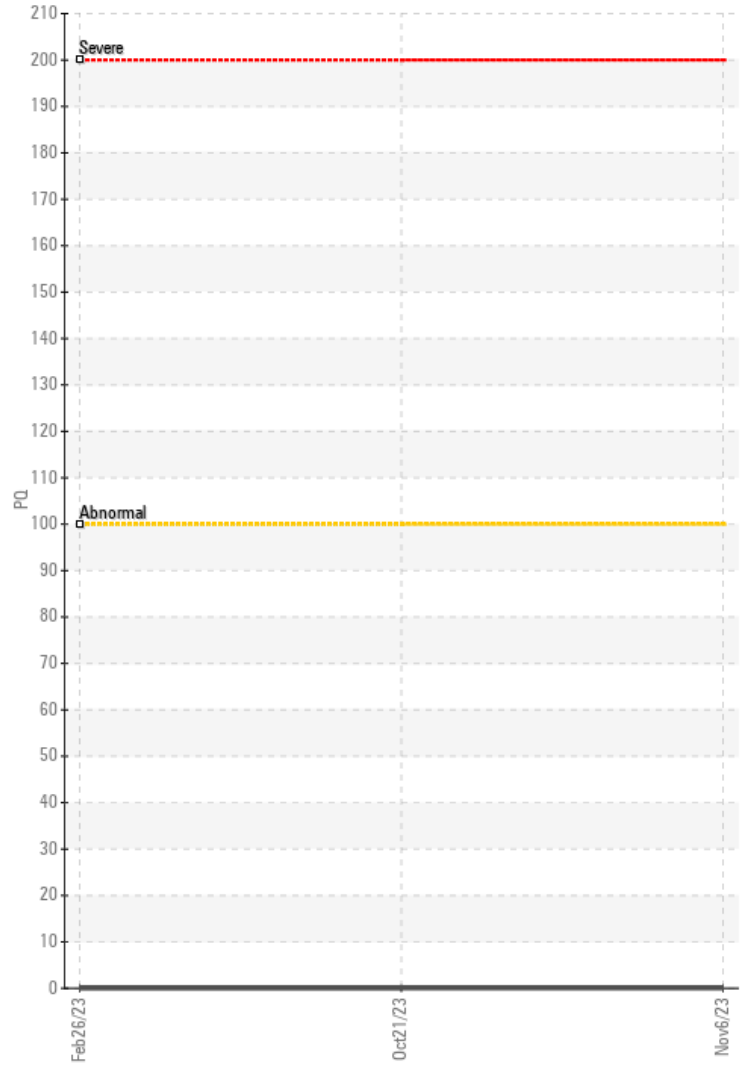
### Ferrous Alloys



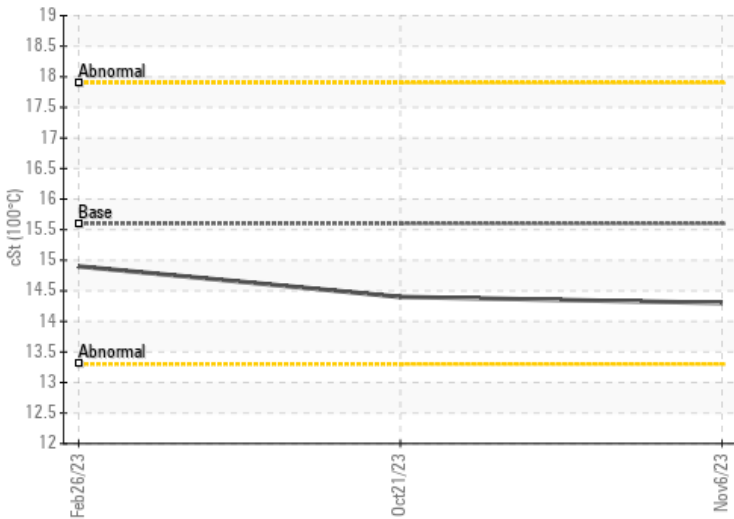
### Non-ferrous Metals



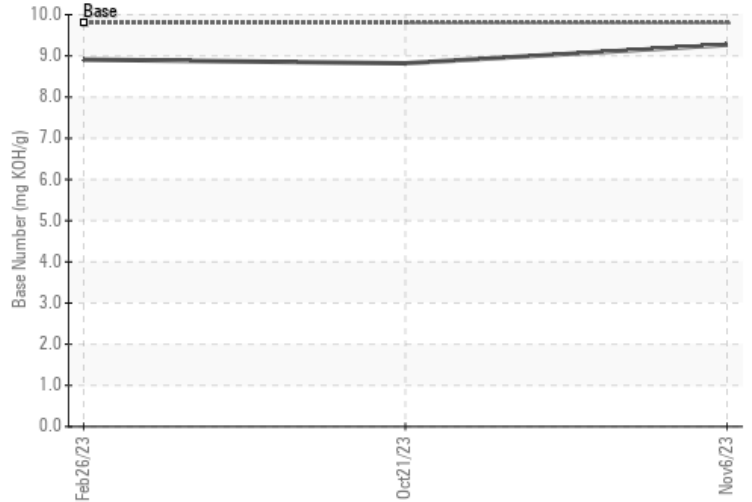
### PQ



### Viscosity @ 100°C



### Base Number



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0772124  
**Lab Number** : 02595517  
**Unique Number** : 5672596  
**Test Package** : MAR 3

**CANADIAN COAST GUARD**  
 CCGS GRIFFON, PO BOX 1000, 401 KING ST.W  
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 CA K6V 5T3  
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 T: (519)312-1045  
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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.

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