



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINANTS	<b>NORMAL</b>
OIL CONDITION	<b>NORMAL</b>

Area

**Engine room**

Machine Id

**SSG #2 (S/N 1SS01191)**

Component

**2 Diesel Engine**

Fluid

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

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0896725</b>	WC0772115	WC0772101
Sample Date		Client Info		<b>07 Feb 2024</b>	07 May 2023	22 Mar 2023
Machine Age	hrs	Client Info		<b>56884</b>	54998	54467
Oil Age	hrs	Client Info		<b>500</b>	531	500
Filter Age	hrs	Client Info		<b>500</b>	531	500
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

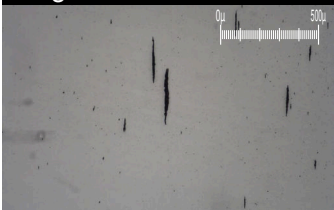
All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

PQ		ASTM D8184*		<b>0</b>	0	---
Iron	ppm	ASTM D5185(m)	>80	<b>16</b>	12	12
Chromium	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>10	<b>1</b>	<1	1
Lead	ppm	ASTM D5185(m)	>15	<b>4</b>	3	3
Copper	ppm	ASTM D5185(m)	>230	<b>9</b>	4	4
Tin	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Large Particles		DR-Ferr*		<b>9.1</b>	6.4	---
Small Particles		DR-Ferr*		<b>6.7</b>	4.0	---
Total Particles		DR-Ferr*	>---	<b>15.8</b>	10.4	---
Large Particles Percentage	%	DR-Ferr*		<b>15.2</b>	23.1	---
Severity Index		DR-Ferr*		<b>22</b>	15	---
Ferrous Rubbing	Scale 0-10	ASTM D7684*		<b>3</b>	2	
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	
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>		
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*		<b>1</b>	1	
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*				

Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



## CONTAMINANTS

There is no indication of any contamination in the oil.

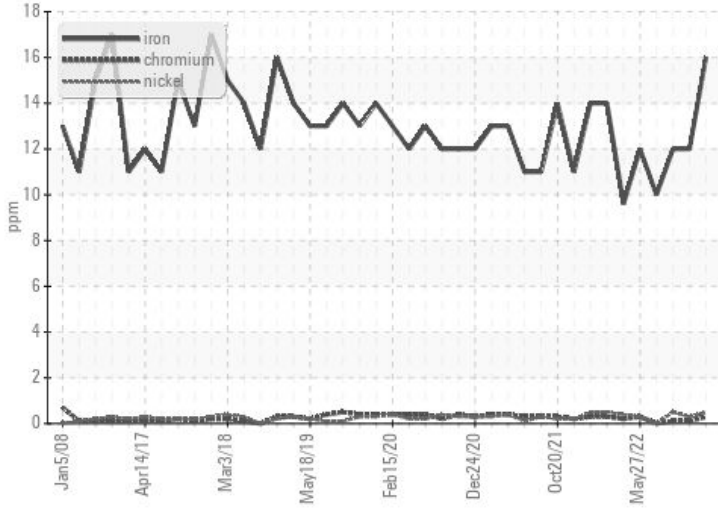
Silicon	ppm	ASTM D5185(m)	>25	<b>3</b>	2	3
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	<1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>3	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>10.5</b>	8.6	9.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>25.3</b>	21.9	24.7
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	

## OIL CONDITION

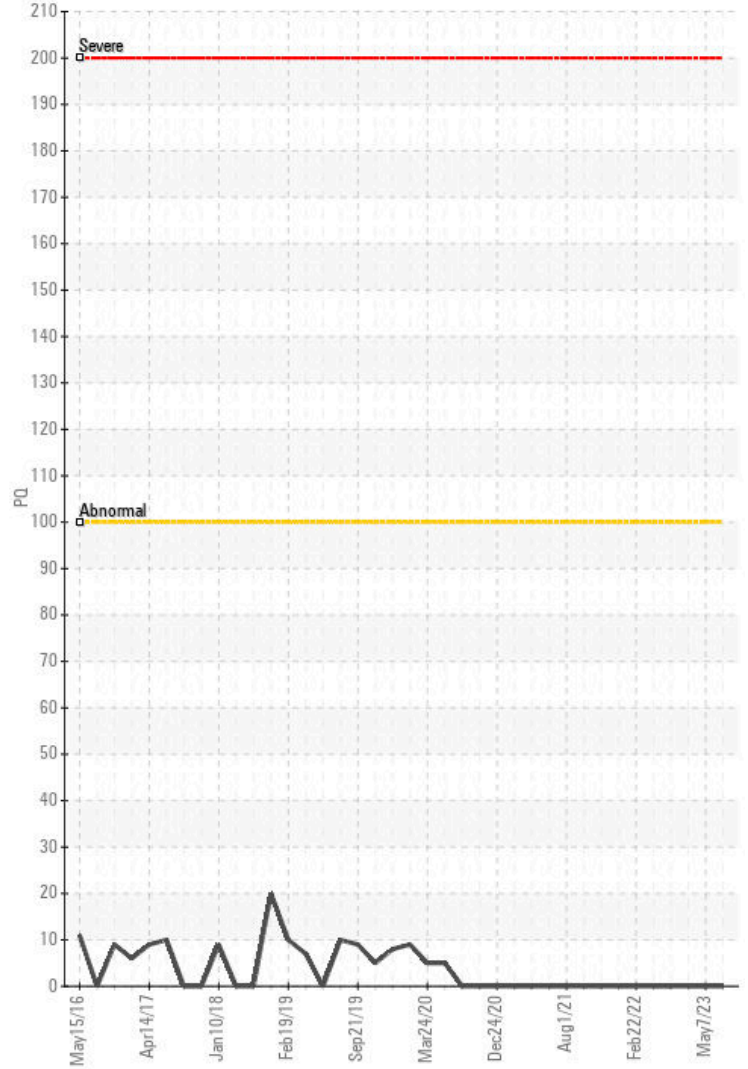
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	1
Boron	ppm	ASTM D5185(m)	0	<b>5</b>	2	2
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>68</b>	64	66
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>1108</b>	1059	1074
Calcium	ppm	ASTM D5185(m)	1070	<b>1204</b>	1187	1183
Phosphorus	ppm	ASTM D5185(m)	1150	<b>1100</b>	1171	1169
Zinc	ppm	ASTM D5185(m)	1270	<b>1351</b>	1306	1275
Sulfur	ppm	ASTM D5185(m)	2060	<b>2709</b>	2647	2733
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>26.5</b>	19.3	19.9
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	<b>9.69</b>	9.52	9.33
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	<b>16.0</b>	14.3	14.6
Lubricant Degradation	Scale 0-10	ASTM D7684*				

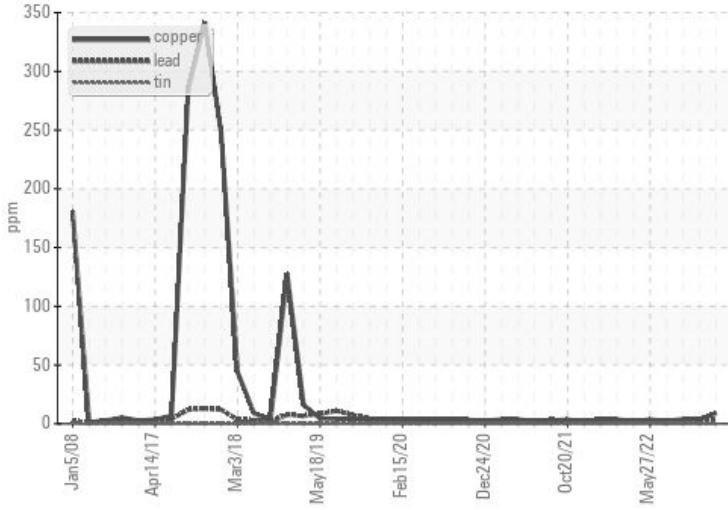
### Ferrous Alloys



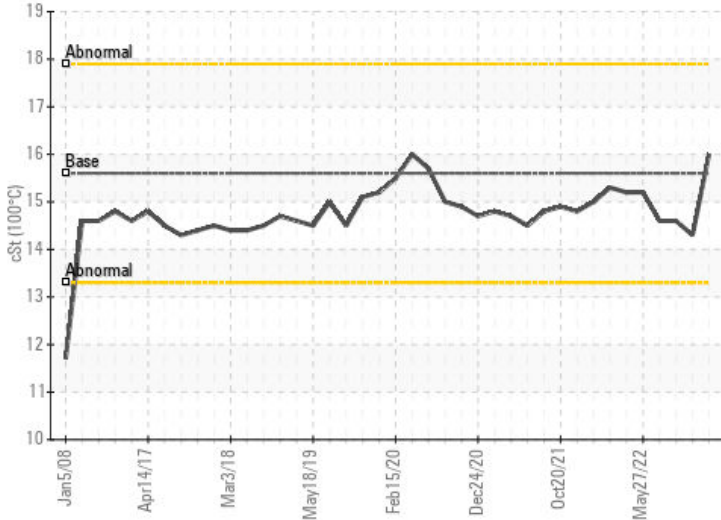
### PQ



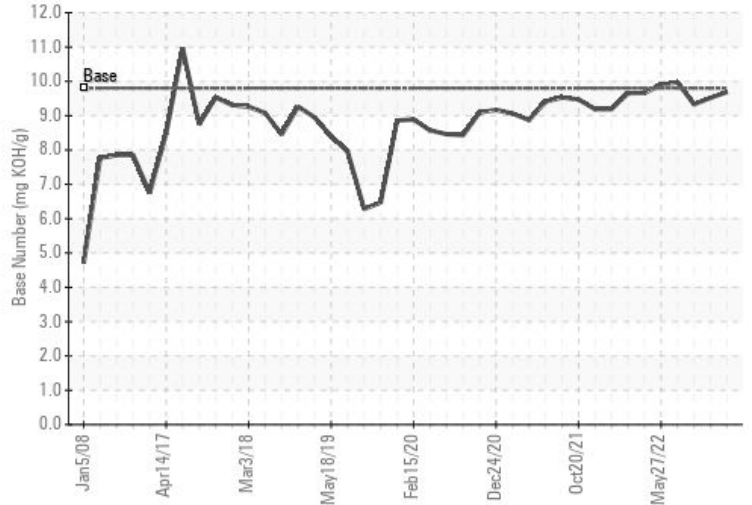
### Non-ferrous Metals



### Viscosity @ 100°C



### Base Number



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0896725  
**Lab Number** : 02619869  
**Unique Number** : 5736979  
**Test Package** : MAR 3

**CANADIAN COAST GUARD**  
 CCGS GRIFFON, PO BOX 1000, 401 KING ST.W  
 Prescott, ON  
 CA K6V 5T3  
 Contact: Laurie Bosley  
 Laurie.Bosley@dfo-mpo.gc.ca

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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