



# OIL ANALYSIS REPORT

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

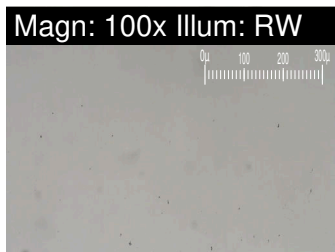
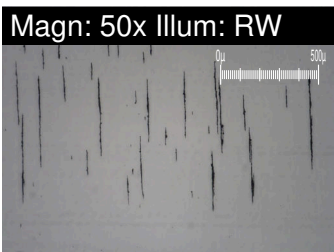
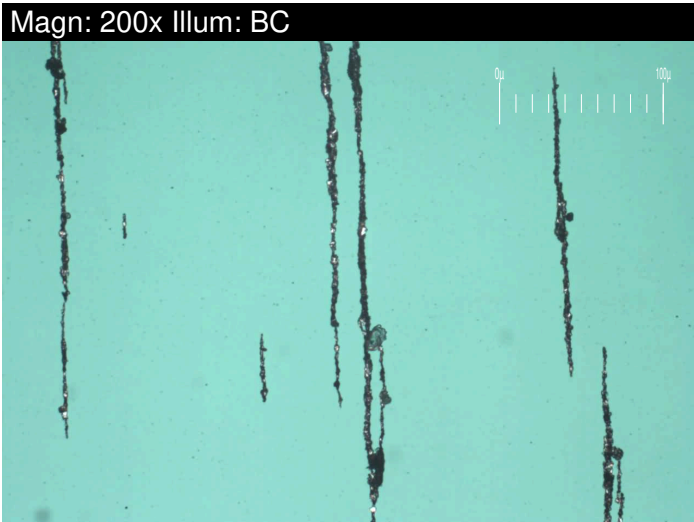
Area  
**Engine room**  
Machine Id  
**G5-2111 Main Engine #1 (S/N C481)**  
Component  
**Diesel Engine**  
Fluid  
**SHELL ROTELLA T 30 (810 LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## 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>WC0896730</b>	WC0855489	WC0855482
Sample Date		Client Info		<b>18 May 2024</b>	04 Jan 2024	10 Dec 2023
Machine Age		Client Info		<b>75795</b>	75332	75240
Oil Age		Client Info		<b>5654</b>	5191	5099
Filter Age		Client Info		<b>5654</b>	5191	5099
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	ATTENTION

PQ		ASTM D8184*		<b>0</b>	0	0
Iron	ppm	ASTM D5185(m)	>75	<b>5</b>	5	5
Chromium	ppm	ASTM D5185(m)	>8	<b>1</b>	2	1
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	2	1
Lead	ppm	ASTM D5185(m)	>18	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>80	<b>2</b>	3	4
Tin	ppm	ASTM D5185(m)	>14	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	VLITE	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	---
Large Particles		DR-Ferr*		<b>8.9</b>	38.3	1.3
Small Particles		DR-Ferr*		<b>3.9</b>	16.5	0.9
Total Particles		DR-Ferr*	>---	<b>12.8</b>	54.8	2.2
Large Particles Percentage	%	DR-Ferr*		<b>39.1</b>	39.8	18.2
Severity Index		DR-Ferr*		<b>45</b>	835	1
Ferrous Rubbing	Scale 0-10	ASTM D7684*		<b>3</b>	3	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	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	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.

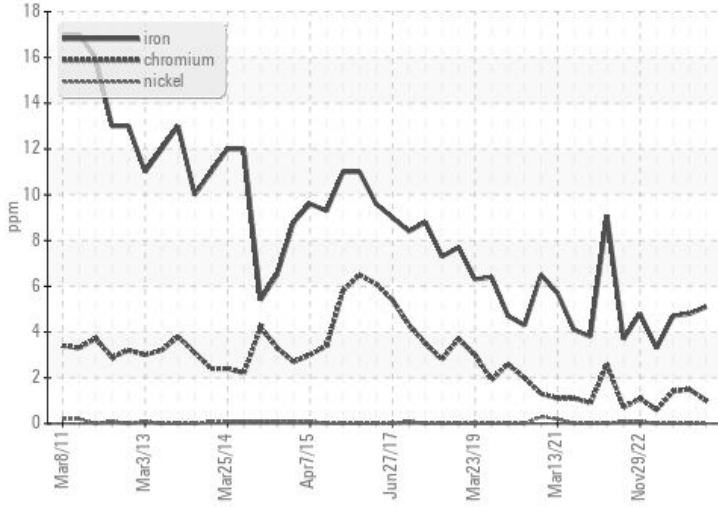
Silicon	ppm	ASTM D5185(m)	>20	<b>1</b>	3	3
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	0
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*		<b>0.3</b>	0.3	0.3
Nitration	Abs/cm	ASTM D7624*	>20	<b>4.1</b>	4.2	4.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>14.5</b>	14.7	14.7
Silt	scalar	Visual*	NONE	<b>VLITE</b>	NONE	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	NEG	NEG
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		<b>1</b>	1	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

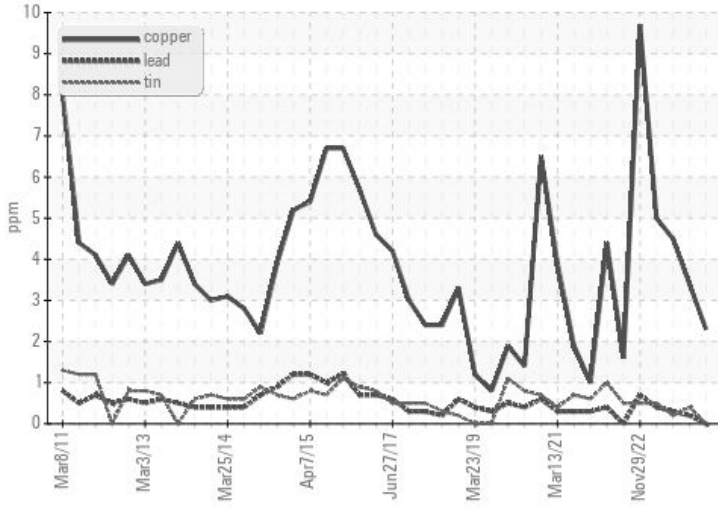
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)	>75	<b>7</b>	17	21
Boron	ppm	ASTM D5185(m)	0	<b>5</b>	8	9
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0	<b>124</b>	121	126
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>22</b>	20	20
Calcium	ppm	ASTM D5185(m)	1890	<b>2872</b>	2807	2826
Phosphorus	ppm	ASTM D5185(m)	680	<b>1070</b>	1092	1074
Zinc	ppm	ASTM D5185(m)	750	<b>1216</b>	1226	1245
Sulfur	ppm	ASTM D5185(m)		<b>2679</b>	2927	2744
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>6.6</b>	7.2	7.3
Base Number (BN)	mg KOH/g	ASTM D2896*	6.0	<b>9.47</b>	9.12	9.60
Visc @ 100°C	cSt	ASTM D7279(m)	11.5	<b>11.5</b>	11.5	11.5
Lubricant Degradation	Scale 0-10	ASTM D7684*				

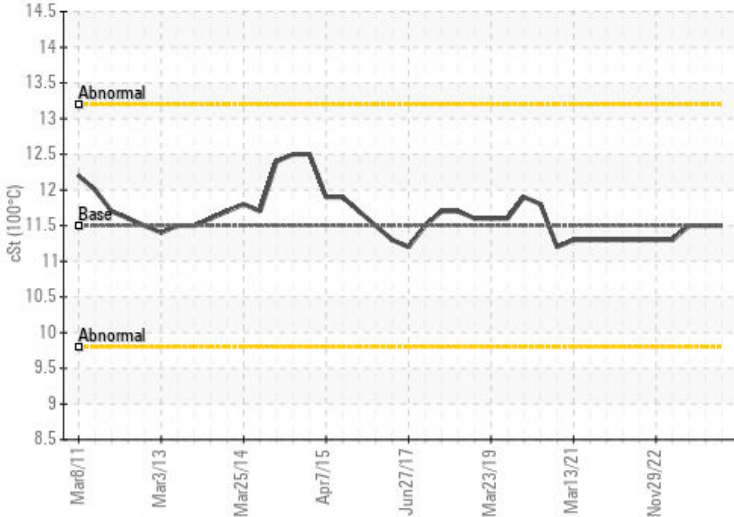
### Ferrous Alloys



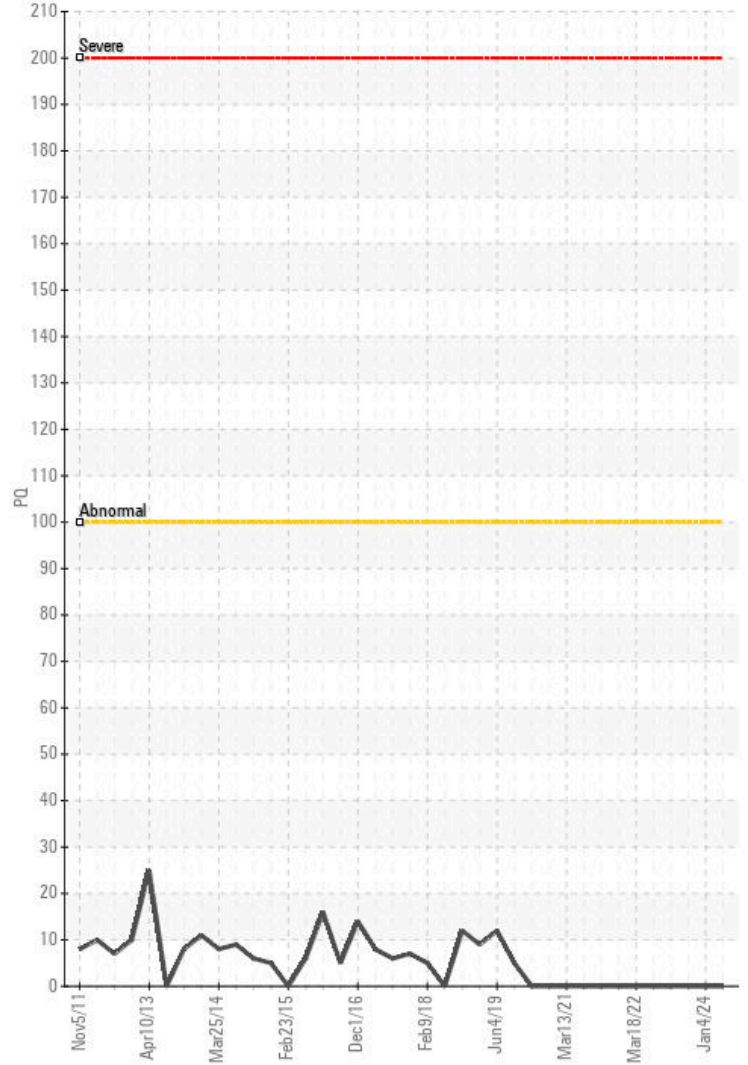
### Non-ferrous Metals



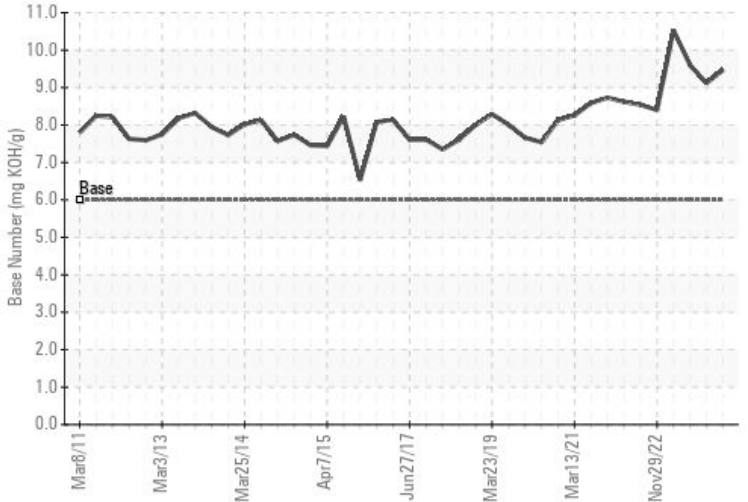
### Viscosity @ 100°C



### PQ



### Base Number



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0896730  
**Lab Number** : 02637354  
**Unique Number** : 5786516  
**Test Package** : MAR 3 ( Additional Tests: Visual )

**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  
 T:  
 F: (519)383-1994

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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