



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Area  
**SAMUELRIS**  
Machine Id  
**S30-3111 Port Ship Service CAT**  
Component  
**Port Diesel Engine**  
Fluid  
**PETRO CANADA DURON HP 15W40 (60 LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0759151</b>	WC0759136	WC0638080
Sample Date		Client Info		<b>10 Jan 2024</b>	02 Dec 2023	20 Aug 2023
Machine Age	hrs	Client Info		<b>51007</b>	50508	49983
Oil Age	hrs	Client Info		<b>499</b>	525	502
Filter Age	hrs	Client Info		<b>499</b>	525	502
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.

Iron	ppm	ASTM D5185(m)	>100	<b>6</b>	6	6
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>1</b>	1	<1
Lead	ppm	ASTM D5185(m)	>40	<b>2</b>	3	2
Copper	ppm	ASTM D5185(m)	>330	<b>9</b>	7	14
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

There is no indication of any contamination in the oil.

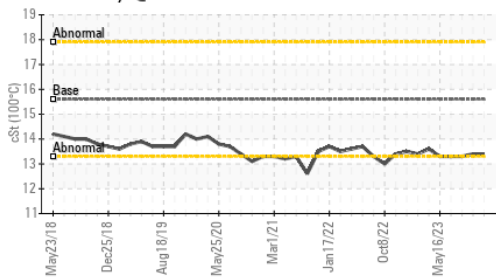
Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	ASTM D7624*	>20	<b>6.6</b>	6.6	6.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>19.9</b>	19.6	19.8
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

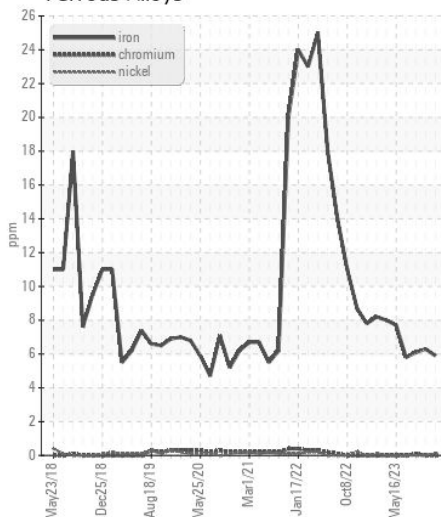
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>1</b>	2	2
Boron	ppm	ASTM D5185(m)	0	<b>6</b>	6	6
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>57</b>	61	60
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	<b>952</b>	1005	1018
Calcium	ppm	ASTM D5185(m)	1070	<b>1071</b>	1082	1093
Phosphorus	ppm	ASTM D5185(m)	1150	<b>996</b>	1031	1090
Zinc	ppm	ASTM D5185(m)	1270	<b>1179</b>	1225	1246
Sulfur	ppm	ASTM D5185(m)	2060	<b>2626</b>	2607	2630
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>15.3</b>	15.5	15.4
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	<b>13.4</b>	13.4	13.3

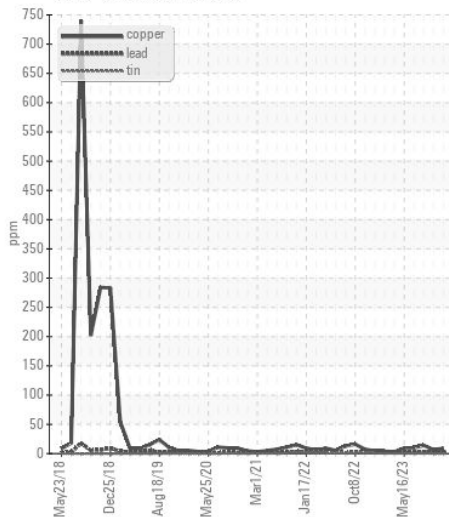
Viscosity @ 100°C



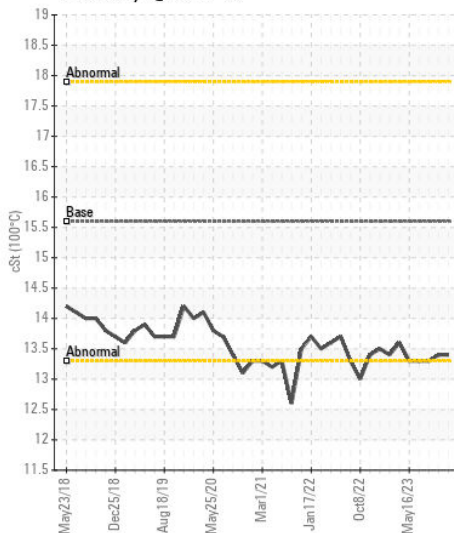
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0759151  
**Lab Number** : 02608906  
**Unique Number** : 5709992  
**Test Package** : MAR 1

**CANADIAN COAST GUARD**  
 CCGS SAMUEL RISLEY, 28 WAUBEK STREET  
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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.