



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
SAMUEL RIS
Machine Id
S30-3111 Port Ship Service CAT
Component
Port Diesel Engine
Fluid
PETRO CANADA DURON-E 15W40 (60 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0759150	WC0759138	WC0638085
Sample Date		Client Info		30 Jun 2024	11 May 2024	26 Mar 2024
Machine Age	hrs	Client Info		58021	52521	52010
Oil Age	hrs	Client Info		500	511	497
Filter Age	hrs	Client Info		500	511	497
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	5	6	6
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	0	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>40	2	2	2
Copper	ppm	ASTM D5185(m)	>330	15	15	6
Tin	ppm	ASTM D5185(m)	>15	<1	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

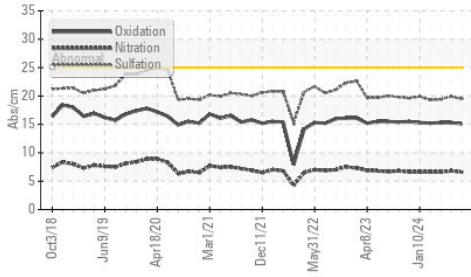
Silicon	ppm	ASTM D5185(m)	>25	1	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	0	0	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	6.6	6.8	6.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.5	19.9	19.4
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

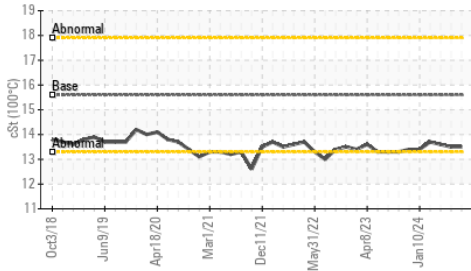
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		1	1	1
Boron	ppm	ASTM D5185(m)	1	5	5	5
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	57	60	59
Manganese	ppm	ASTM D5185(m)	0	<1	0	0
Magnesium	ppm	ASTM D5185(m)	1010	954	994	980
Calcium	ppm	ASTM D5185(m)	1070	1034	1075	1087
Phosphorus	ppm	ASTM D5185(m)	1150	980	1040	998
Zinc	ppm	ASTM D5185(m)	1270	1200	1208	1204
Sulfur	ppm	ASTM D5185(m)	2060	2579	2560	2468
Oxidation	Abs/.1mm	ASTM D7414*	>25	15.1	15.3	15.3
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	13.5	13.5	13.6

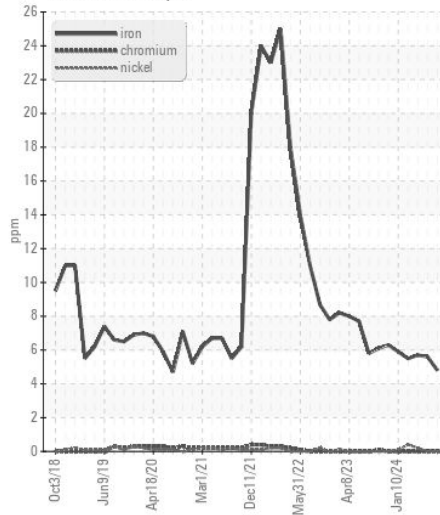
FT-IR (Direct Trend)



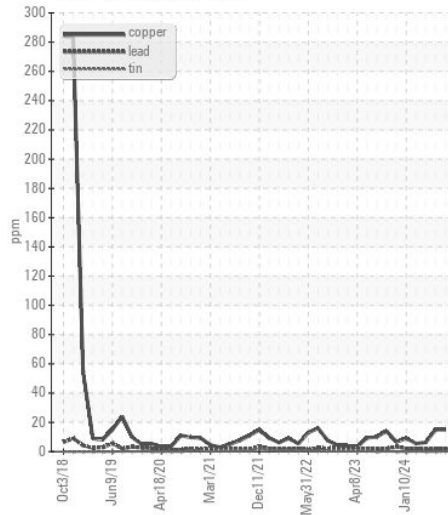
Viscosity @ 100°C



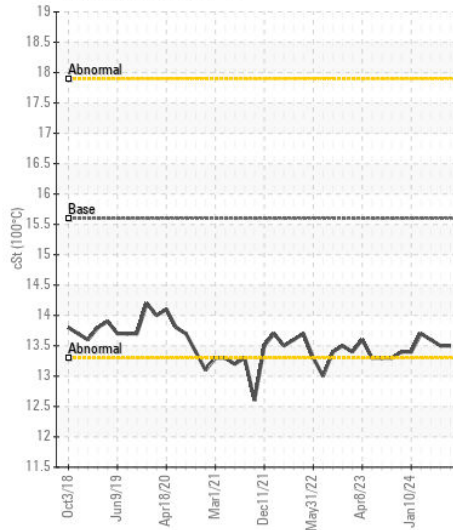
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0759150
Lab Number : 02645370
Unique Number : 5802909
Test Package : MAR 1

CANADIAN COAST GUARD
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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.