



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
10G01A Zodiac 733
Component
Diesel Engine
Fluid
VALVOLINE PREMIUM BLUE EXTREME 5W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0751421	WC0751403	WC
Sample Date		Client Info		25 Oct 2023	14 Apr 2023	18 Oct 2022
Machine Age	hrs	Client Info		0	190	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>80	13	5	20
Chromium	ppm	ASTM D5185(m)	>6	<1	0	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	2	1	2
Lead	ppm	ASTM D5185(m)	>95	1	<1	<1
Copper	ppm	ASTM D5185(m)	>85	2	<1	2
Tin	ppm	ASTM D5185(m)	>9	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

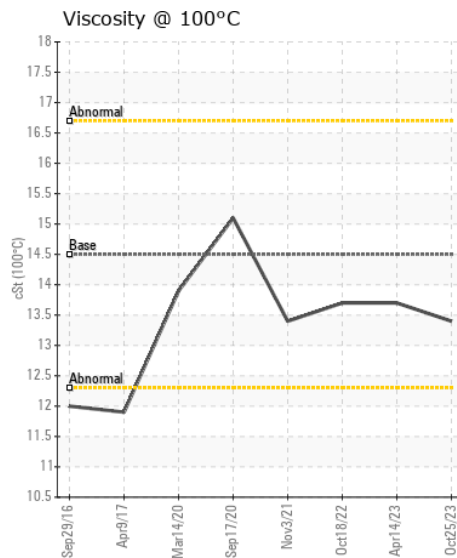
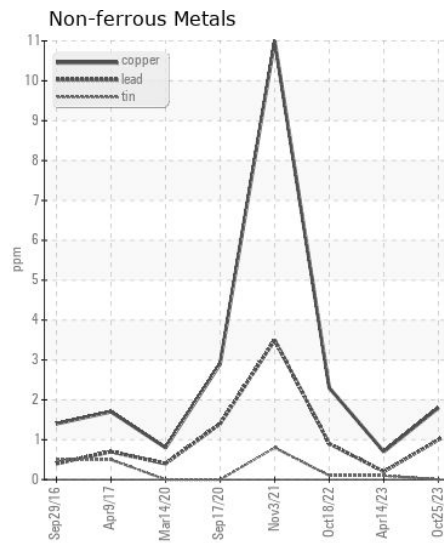
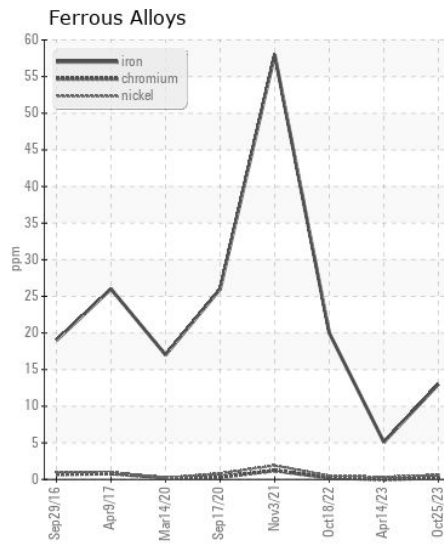
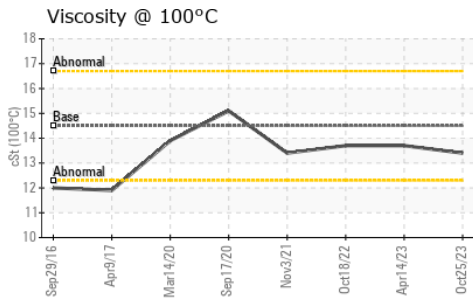
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	8	11	9
Potassium	ppm	ASTM D5185(m)	>20	0	0	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*		0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	5.1	4.3	5.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.8	18.6	19.9
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	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*	>0.1	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		9	3	11
Boron	ppm	ASTM D5185(m)		2	5	2
Barium	ppm	ASTM D5185(m)		<1	0	0
Molybdenum	ppm	ASTM D5185(m)		64	59	59
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		984	924	912
Calcium	ppm	ASTM D5185(m)		1055	1069	1050
Phosphorus	ppm	ASTM D5185(m)		1038	1051	1094
Zinc	ppm	ASTM D5185(m)		1203	1138	1165
Sulfur	ppm	ASTM D5185(m)		2768	2629	2796
Oxidation	Abs/.1mm	ASTM D7414*	>25	13.8	13.3	14.8
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	13.4	13.7	13.7



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0751421
Lab Number : 02593141
Unique Number : 5670220
Test Package : MAR 1
Received : 01 Nov 2023
Tested : 01 Nov 2023
Diagnosed : 01 Nov 2023 - Wes Davis

Canadian Coast Guard
 CCGS Amundsen, 101 Boul. Champlain
 Quebec, QC
 CA G1K 7Y7
 Contact: Chief Engineer
 amundsense@ccgs-ngcc.gc.ca
 T: (418)953-8233
 F: x:

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.