



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Machine Id
WARTSILLA

Component
Bow Thruster

Fluid
PETRO CANADA ENDURATEX EP 100 (185 LTR)

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0855638	WC0740111	WC0672520
Sample Date		Client Info		07 Jan 2024	29 Sep 2022	22 Jun 2022
Machine Age	hrs	Client Info		2437	1341	2059
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Filter Changed		Client Info		N/A	Not Changd	Not Changd
Sample Status				ATTENTION	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	1	<1	<1
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	0
Aluminum	ppm	ASTM D5185(m)	>10	<1	0	0
Lead	ppm	ASTM D5185(m)	>20	0	<1	<1
Copper	ppm	ASTM D5185(m)	>20	<1	<1	0
Tin	ppm	ASTM D5185(m)	>15	0	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

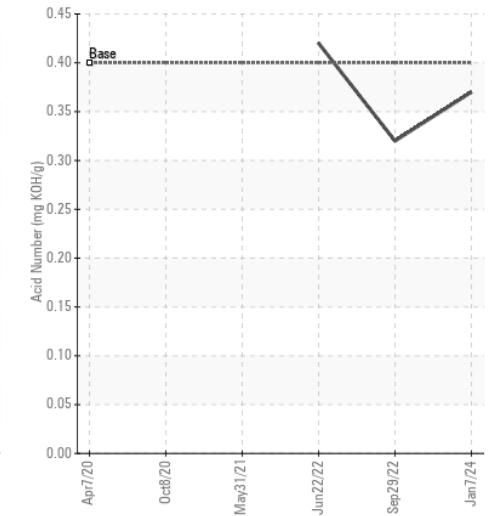
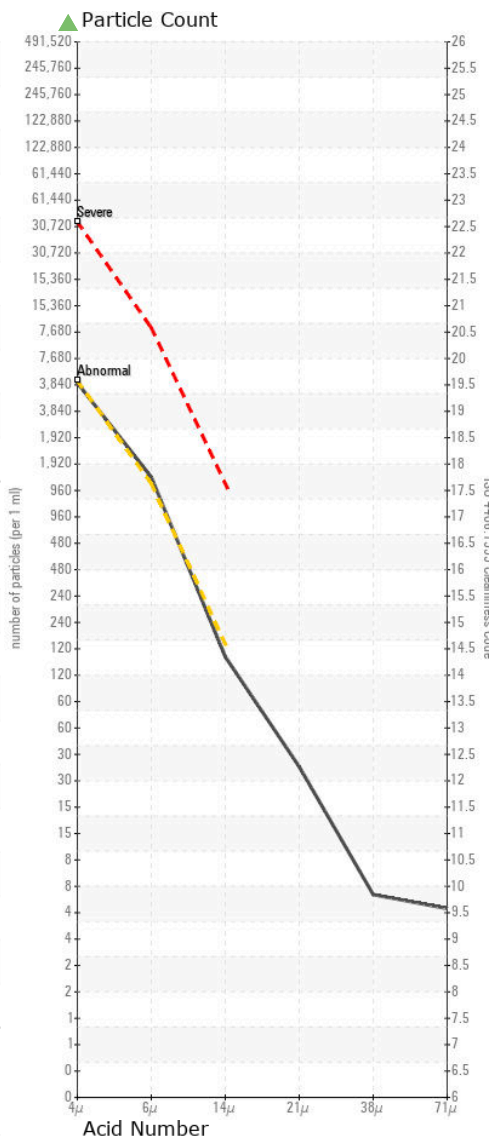
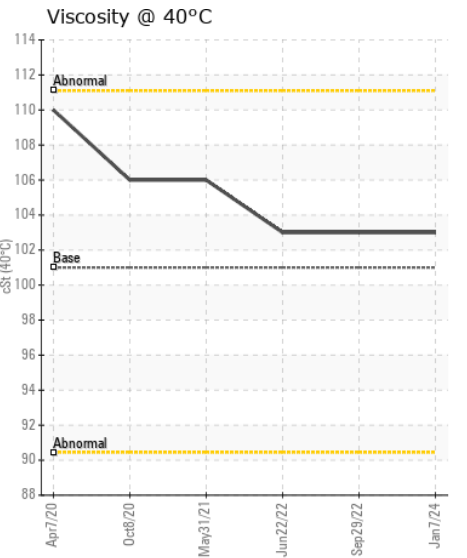
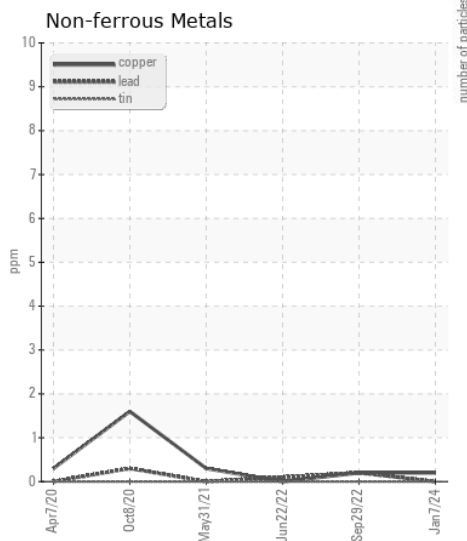
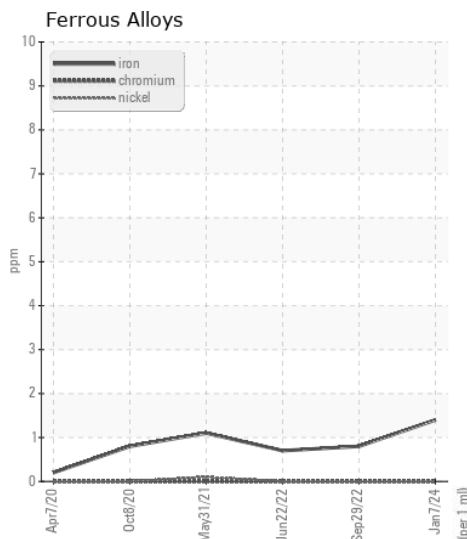
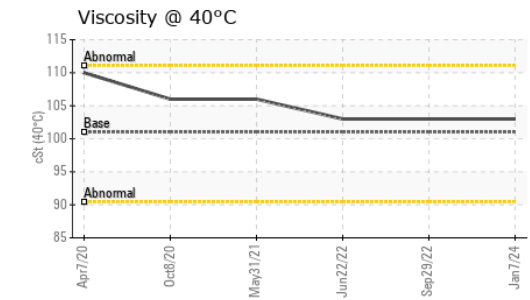
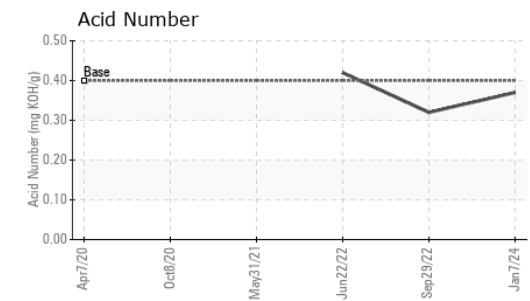
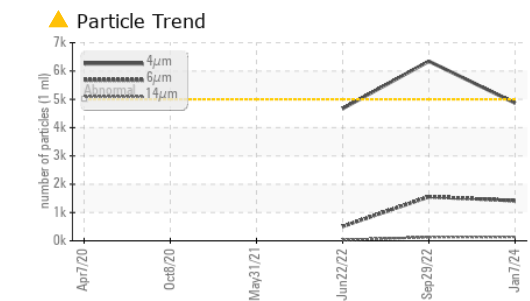
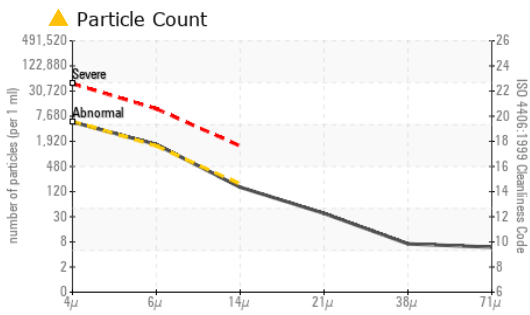
There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>7	2	4	4
Potassium	ppm	ASTM D5185(m)	>20	4	<1	0
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	4867	▲ 6345	4673
Particles >6µm		ASTM D7647	>1300	▲ 1417	▲ 1559	510
Particles >14µm		ASTM D7647	>160	135	128	33
Particles >21µm		ASTM D7647	>40	32	48	9
Particles >38µm		ASTM D7647	>10	6	6	1
Particles >71µm		ASTM D7647	>3	5	1	1
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 19/18/14	▲ 20/18/14	19/16/12
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*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		3	1	<1
Boron	ppm	ASTM D5185(m)	50	60	63	60
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0	0
Magnesium	ppm	ASTM D5185(m)	0	<1	<1	<1
Calcium	ppm	ASTM D5185(m)	0	1	2	<1
Phosphorus	ppm	ASTM D5185(m)	270	246	261	238
Zinc	ppm	ASTM D5185(m)	0	6	7	5
Sulfur	ppm	ASTM D5185(m)	4500	4216	4102	4304
Acid Number (AN)	mg KOH/g	ASTM D974*	0.4	0.37	0.32	0.42
Visc @ 40°C	cSt	ASTM D7279(m)	101	103	103	103



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0855638
Lab Number : 02608162
Unique Number : 5709248
Test Package : MAR 2

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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.