

OIL ANALYSIS REPORT

Sample Rating Trend





Starboard Main Engine

Fluid PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORM		method	limit/base	current	history1	history2
Sample Number		Client Info		WA0017758		
Sample Date	la va	Client Info		07 Jan 2023		
Machine Age	hrs	Client Info		683		
Oil Age	hrs	Client Info		268 Not Observed		
Oil Changed		Client Info		Not Changd NORMAL		
Sample Status				NORMAL		
CONTAMINATION	١	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	10		
Chromium	ppm	ASTM D5185(m)	>8	<1		
Nickel	ppm	ASTM D5185(m)	>2	<1		
Titanium	ppm	ASTM D5185(m)	>3	2		
Silver	ppm	ASTM D5185(m)	>2	0		
Aluminum	ppm	ASTM D5185(m)	>15	1		
Lead	ppm	ASTM D5185(m)	>18	<1		
Copper	ppm	ASTM D5185(m)	>80	8		
Tin	ppm	ASTM D5185(m)	>14	<1		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
oudinium	1-1			-		
ADDITIVES	h h	method	limit/base	current	history1	history2
	ppm		limit/base		history1	history2
ADDITIVES		method	0	current		
ADDITIVES Boron	ppm	method ASTM D5185(m)	0	current 38		
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185(m) ASTM D5185(m)	0 0 60	current 38 0		
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 60	current 38 0 42		
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 60 0	current 38 0 42 <1		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 60 0 1010	Current 38 0 42 <1 716		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 60 0 1010 1070	current 38 0 42 <1 716 1558	 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	0 0 60 0 1010 1070 1150	current 38 0 42 <1 716 1558 1073	 	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 60 0 1010 1070 1150 1270	current 38 0 42 <1 716 1558 1073 1204		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 60 0 1010 1070 1150 1270	current 38 0 42 <1 716 1558 1073 1204 2740		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 60 0 1010 1070 1150 1270 2060	Current 38 0 42 <1 716 1558 1073 1204 2740 <1		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 60 1010 1070 1150 1270 2060	38 0 42 <1 716 1558 1073 1204 2740 <1 current		
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm	method ASTM D5185(m)	0 0 60 0 1010 1070 1150 1270 2060	current 38 0 42 <1 716 1558 1073 1204 2740 <1 current	 history1 	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm	method ASTM D5185(m)	0 0 0 1010 1070 1150 1270 2060 limit/base >20 >75	Current 38 0 42 <1 716 1558 1073 1204 2740 <1 current 2 2 2 2 2 2 2 2	 history1	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 60 1010 1070 1150 1270 2060 imit/base >20 >75 >20	current 38 0 42 <1 716 1558 1073 1204 2740 <1 current 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	 history1 	 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	0 0 60 1010 1070 1150 1270 2060 imit/base >20 >75 >20	Current 38 0 42 <1 716 1558 1073 1204 2740 <1 current 2 2	 history1 history1	 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm 1 ppm 2 ppm 2 ppm 2 ppm 2 ppm 2 ppm 2 ppm 3 ppm 4 ppm 4	method ASTM D5185(m) ASTM D5185(m)	0 0 0 1010 1070 1150 1270 2060 Imit/base >20 >75 >20	current 38 0 42 <1 716 1558 1073 1204 2740 <1 current 2 <th> history1 history1 </th> <th> history2 history2 history2</th>	 history1 history1 	 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m)	0 0 0 1010 1070 1150 1270 2060 imit/base >20 >75 >20 imit/base	current 38 0 42 <1 716 1558 1073 1204 2740 <1 current 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 8.8	 history1 history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D7624* ASTM D7415*	0 0 0 1010 1070 1150 1270 2060 20 20 275 20 275 20 20 275 20 20 275 20 20 20 275 20 20 20 20 20 20 20 20 20 20 20 20 20	Current 38 0 42 <1 716 1558 1073 1204 2740 <1 Current 2 10.2 8.8 21.6	 history1 history1	 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D7415*	0 0 0 1010 1070 1150 1270 2060 imit/base >20 >75 >20 imit/base >20 imit/base	current 38 0 42 <1 716 1558 1073 1204 2740 <1 current 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 10.2 8.8 21.6 current 17.1	history1 history1 history1	 history2 history2 history2

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OIL ANALYSIS REPORT



14-Abnorma

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Jan7/23 -621 Jan7/23 L **CANADIAN COAST GUARD** Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 CALA Sample No. : WA0017758 Received : 17 Jan 2023 CCGS HARE BAY, 10 SAMBRO WHARF ROAD Lab Number : 02533627 Diagnosed : 17 Jan 2023 SAMBRO, NS ISO 17025:2017 Accredited Laboratory Unique Number : 5514626 Diagnostician : Bill Quesnel CA B3V 1M7 Test Package : MOB 1 Contact: Engineer To discuss this sample report, contact Customer Service at 1-800-268-2131. andrew.prince@dfo-mpo.gc.ca Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (902)868-2444 Validity of results and interpretation are based on the sample and information as supplied. F:

2.0

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Contact/Location: Engineer - CANSAM

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