

Area

**Aft Machinery Space**

Machine Id

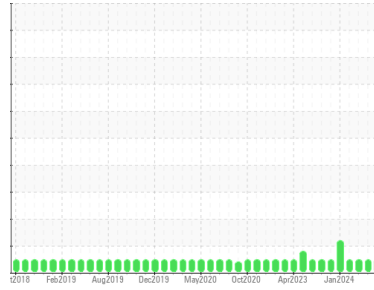
**Thruster Aft Starboard - Lubrication System (S/N Sample Tag CL-06003-S1)**

Component

**Lube System**

Fluid

**PETRO CANADA ENERGOL GR-XP ISO 150 (5000 LTR)**



**DIAGNOSIS**

**Recommendation**

Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

**Wear**

Component wear rates appear to be normal (unconfirmed).

**Contamination**

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

**Fluid Condition**

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

**SAMPLE INFORMATION** method limit/base current history1 history2

Sample Number	Client Info	<b>PC</b>	PC	PC0082723
Sample Date	Client Info	<b>21 Apr 2024</b>	21 Apr 2024	26 Feb 2024
Machine Age	hrs	Client Info	<b>0</b>	0
Oil Age	hrs	Client Info	<b>0</b>	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

**CONTAMINATION** method limit/base current history1 history2

Water	WC Method	>0.05	<b>NEG</b>	NEG	NEG
-------	-----------	-------	------------	-----	-----

**WEAR METALS** method limit/base current history1 history2

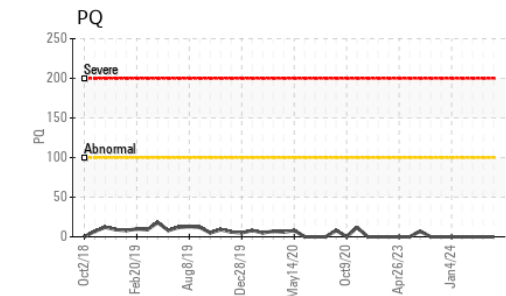
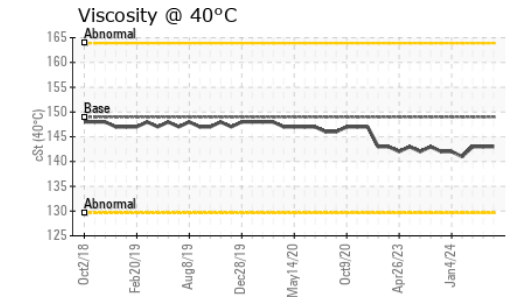
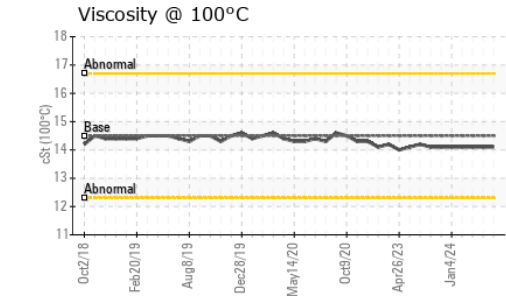
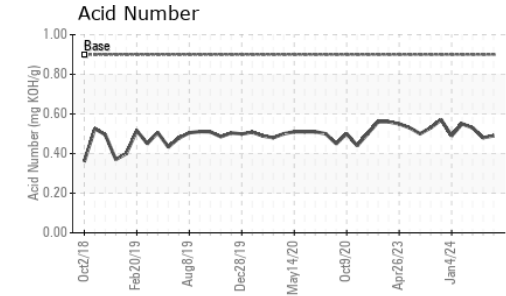
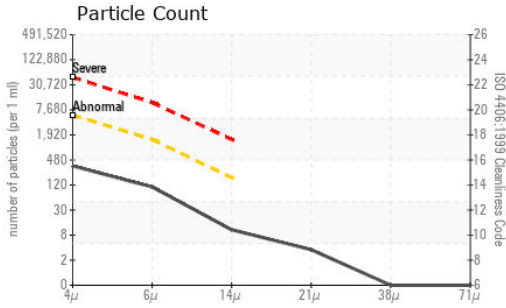
PQ		ASTM D8184*		<b>0</b>	0	0
Iron	ppm	ASTM D5185(m)	>20	<b>1</b>	1	1
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>10	<b>0</b>	0	<1
Lead	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

**ADDITIVES** method limit/base current history1 history2

Boron	ppm	ASTM D5185(m)		<b>2</b>	2	2
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Calcium	ppm	ASTM D5185(m)		<b>2</b>	2	2
Phosphorus	ppm	ASTM D5185(m)		<b>252</b>	250	270
Zinc	ppm	ASTM D5185(m)		<b>4</b>	4	5
Sulfur	ppm	ASTM D5185(m)		<b>10242</b>	10160	11159
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

**CONTAMINANTS** method limit/base current history1 history2

Silicon	ppm	ASTM D5185(m)	>15	<b>0</b>	0	1
Sodium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC  
**Lab Number** : 02634778  
**Unique Number** : 5775931  
**Test Package** : MAR 2 ( Additional Tests: KV100, PQ, VI )  
**Received** : 10 May 2024  
**Tested** : 13 May 2024  
**Diagnosed** : 13 May 2024 - Kevin Marson

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.

**Suncor - Terra Nova Projects**  
 Scotia Centre, 235 Water Street  
 St. John's, NL  
 CA A1C 1B6  
 Contact: Josh Hynes  
 joshynes@suncor.com  
 T: (709)778-3575  
 F: (709)724-2835

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>305</b>	569	427	
Particles >6µm	ASTM D7647	>1300	<b>95</b>	149	113	
Particles >14µm	ASTM D7647	>160	<b>9</b>	10	11	
Particles >21µm	ASTM D7647	>40	<b>3</b>	3	4	
Particles >38µm	ASTM D7647	>10	<b>0</b>	0	1	
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	1	
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>15/14/10</b>	16/14/10	16/14/11	

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	<b>0.49</b>	0.48	0.53

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
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*	>0.05	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	149	<b>143</b>	143	143
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	<b>14.1</b>	14.1	14.1
Viscosity Index (VI)	Scale	ASTM D2270*		<b>95</b>	95	95

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						