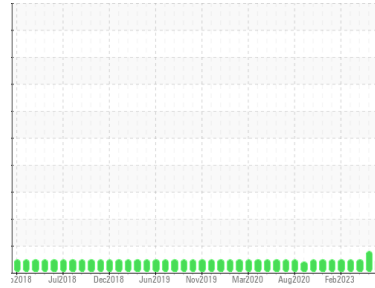


Area  
**Aft Machinery Space [450175848]**  
Machine Id  
**Thruster Aft Starboard - Lubrication System (S/N Sample Tag CL-06003-S1)**  
Component  
**Lube System**  
Fluid  
**PETRO CANADA ENERGOL GR-XP ISO 150 (5000 LTR)**



**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>	PC0040121	PC0052441
Sample Date	Client Info	<b>19 Jul 2023</b>	11 Jun 2023	26 Apr 2023
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	ATTENTION	NORMAL

**WEAR METALS**

method	limit/base	current	history1	history2
PQ	ASTM D8184*	<b>7</b>	0	0
Iron	ppm	<b>1</b>	1	<1
Chromium	ppm	<b>0</b>	0	0
Nickel	ppm	<b>0</b>	0	0
Titanium	ppm	<b>0</b>	0	0
Silver	ppm	<b>0</b>	0	0
Aluminum	ppm	<b>&lt;1</b>	0	<1
Lead	ppm	<b>0</b>	0	0
Copper	ppm	<b>&lt;1</b>	0	0
Tin	ppm	<b>0</b>	0	0
Antimony	ppm	<b>0</b>	0	0
Vanadium	ppm	<b>0</b>	0	0
Beryllium	ppm	<b>0</b>	0	0
Cadmium	ppm	<b>0</b>	0	0

**ADDITIVES**

method	limit/base	current	history1	history2
Boron	ppm	<b>4</b>	4	4
Barium	ppm	<b>0</b>	0	0
Molybdenum	ppm	<b>0</b>	0	0
Manganese	ppm	<b>0</b>	0	0
Magnesium	ppm	<b>&lt;1</b>	<1	0
Calcium	ppm	<b>2</b>	0	0
Phosphorus	ppm	<b>291</b>	297	294
Zinc	ppm	<b>5</b>	4	4
Sulfur	ppm	<b>10687</b>	11245	10799
Lithium	ppm	<b>&lt;1</b>	<1	<1

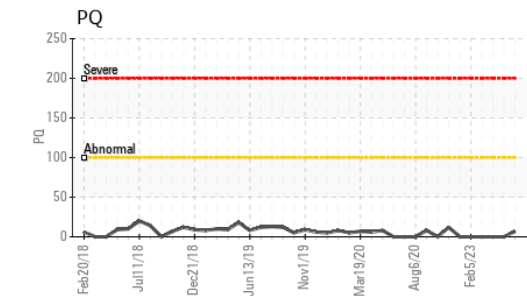
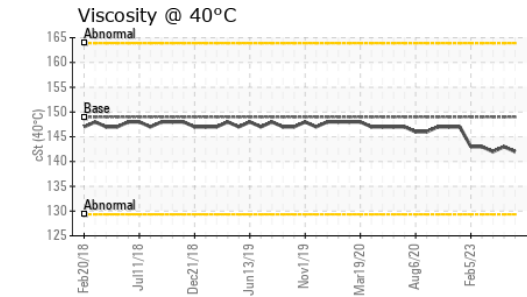
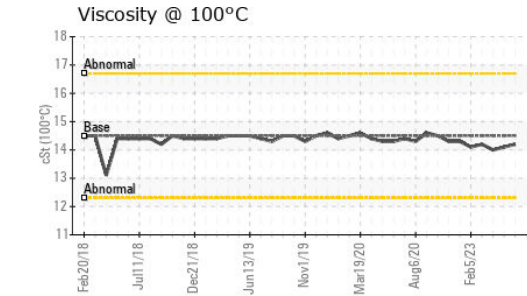
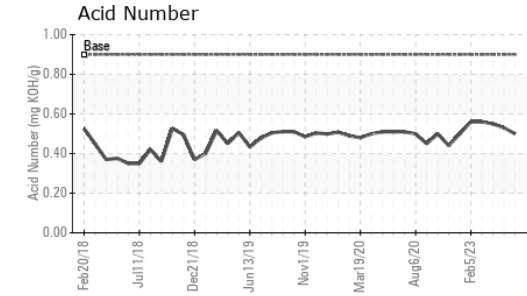
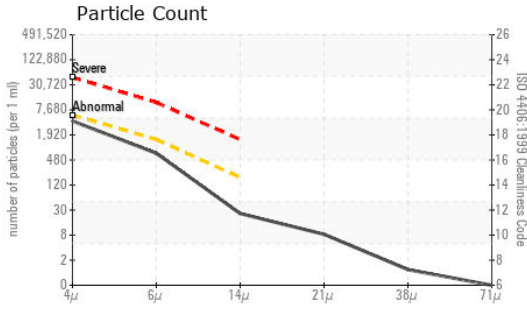
**CONTAMINANTS**

method	limit/base	current	history1	history2
Silicon	ppm	<b>1</b>	1	1
Sodium	ppm	<b>0</b>	0	0
Potassium	ppm	<b>&lt;1</b>	<1	0

**FLUID CLEANLINESS**

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	<b>3615</b>	▲ 5827	2527
Particles >6µm	ASTM D7647	<b>610</b>	1158	539
Particles >14µm	ASTM D7647	<b>22</b>	42	40
Particles >21µm	ASTM D7647	<b>7</b>	11	10
Particles >38µm	ASTM D7647	<b>1</b>	1	0
Particles >71µm	ASTM D7647	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	<b>19/16/12</b>	▲ 20/17/13	19/16/12

# OIL ANALYSIS REPORT

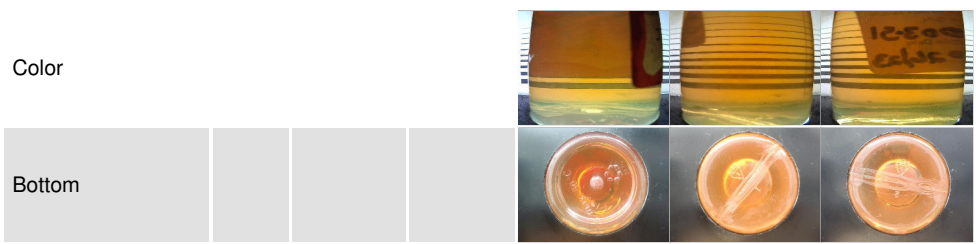


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	<b>0.50</b>	0.53	0.55

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>142</b>	143	142
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	<b>14.2</b>	14.1	14.0
Viscosity Index (VI)	Scale	ASTM D2270*		<b>97</b>	95	94

## SAMPLE IMAGES



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC  
**Lab Number** : **02573745** **Received** : 02 Aug 2023  
**Unique Number** : 5618796 **Diagnosed** : 03 Aug 2023  
**Test Package** : MAR 2 ( Additional Tests: KV100, PQ, VI ) **Diagnostician** : Kevin Marson

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

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.