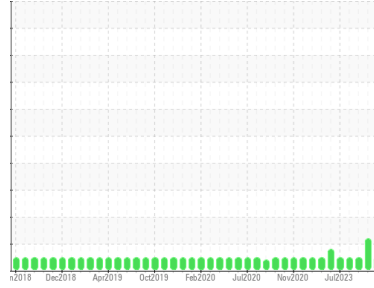


Area  
**Aft Machinery Space [450258432]**  
Machine Id  
**Thruster Aft Starboard - Lubrication System (S/N Sample Tag CL-06003-S1)**  
Component  
**Lube System**  
Fluid  
**PETRO CANADA ENERGOL GR-XP ISO 150 (5000 LTR)**



**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>PC0080539</b>	PC	PC0076625
Sample Date	Client Info	<b>29 Jan 2024</b>	04 Jan 2024	04 Nov 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

**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	<1
Aluminum	ppm ASTM D5185(m) >10	<b>&lt;1</b>	<1	0
Lead	ppm ASTM D5185(m) >20	<b>&lt;1</b>	0	<1
Copper	ppm ASTM D5185(m) >20	<b>0</b>	<1	<1
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

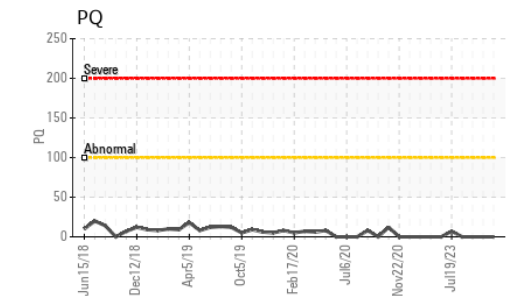
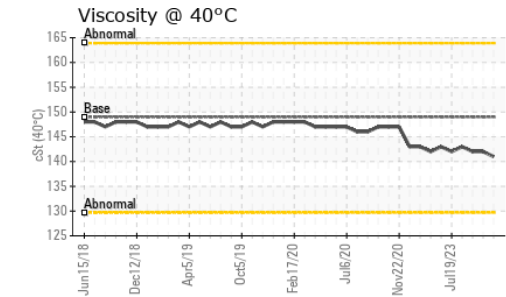
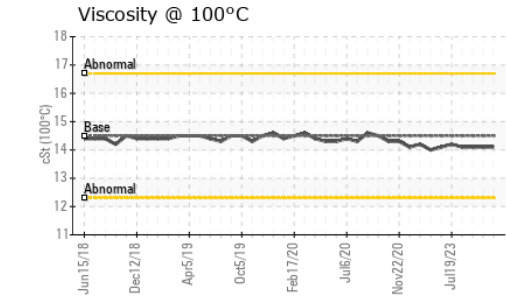
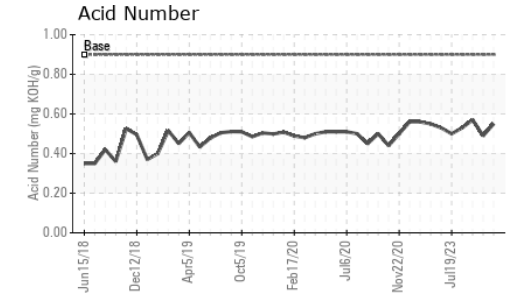
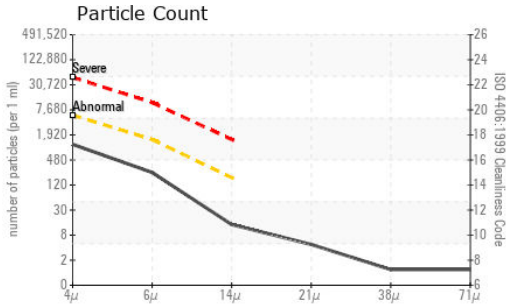
**ADDITIVES**

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m)	<b>2</b>	2	4
Barium	ppm ASTM D5185(m)	<b>0</b>	0	<1
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	0
Calcium	ppm ASTM D5185(m)	<b>2</b>	3	2
Phosphorus	ppm ASTM D5185(m)	<b>268</b>	262	262
Zinc	ppm ASTM D5185(m)	<b>4</b>	6	3
Sulfur	ppm ASTM D5185(m)	<b>10979</b>	10746	10604
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>3</b>	1	1
Sodium	ppm ASTM D5185(m)	<b>0</b>	0	0
Potassium	ppm ASTM D5185(m) >20	<b>&lt;1</b>	<1	0

# OIL ANALYSIS REPORT



FLUID CLEANLINESS						
	method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>5000	<b>1000</b>	▲ 5259	433	
Particles >6µm	ASTM D7647	>1300	<b>212</b>	▲ 1420	86	
Particles >14µm	ASTM D7647	>160	<b>12</b>	93	11	
Particles >21µm	ASTM D7647	>40	<b>4</b>	21	3	
Particles >38µm	ASTM D7647	>10	<b>1</b>	1	1	
Particles >71µm	ASTM D7647	>3	<b>1</b>	0	1	
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>17/15/11</b>	▲ 20/18/14	16/14/11	

FLUID DEGRADATION						
	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	<b>0.55</b>	0.49	0.57

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>141</b>	142	142
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	<b>14.1</b>	14.1	14.1
Viscosity Index (VI)	Scale	ASTM D2270*		<b>96</b>	95	95

SAMPLE IMAGES						
	method	limit/base	current	history1	history2	
Color						
Bottom						



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0080539 **Received** : 16 Feb 2024  
**Lab Number** : **02616445** **Tested** : 20 Feb 2024  
**Unique Number** : 5733555 **Diagnosed** : 20 Feb 2024 - Kevin Marson  
**Test Package** : MAR 2 ( Additional Tests: KV100, PQ, TAN Man, VI )

**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

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.