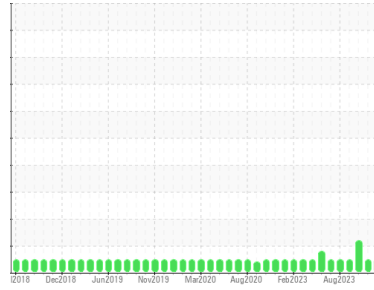


Area  
**Aft Machinery Space [450270725]**  
Machine Id  
**Thruster Aft Starboard - Lubrication System (S/N Sample Tag CL-06003-S1)**  
Component  
**Lube System**  
Fluid  
**PETRO CANADA ENERGOL GR-XP ISO 150 (5000 LTR)**



**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>PC0082723</b>	PC0080539	PC
Sample Date	Client Info		<b>26 Feb 2024</b>	29 Jan 2024	04 Jan 2024
Machine Age	hrs	Client Info	<b>0</b>	0	0
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	ATTENTION

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

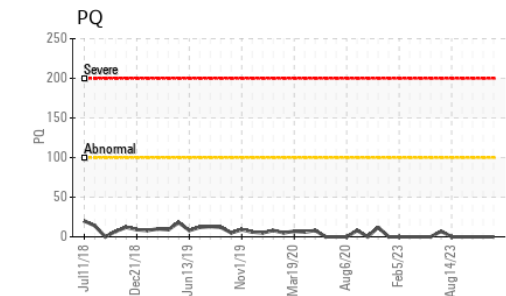
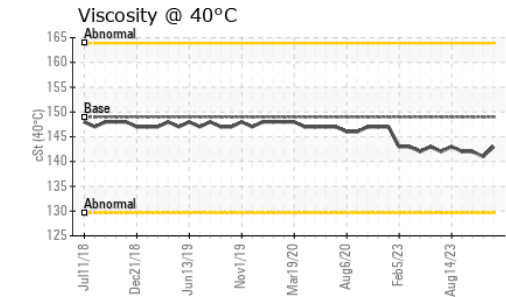
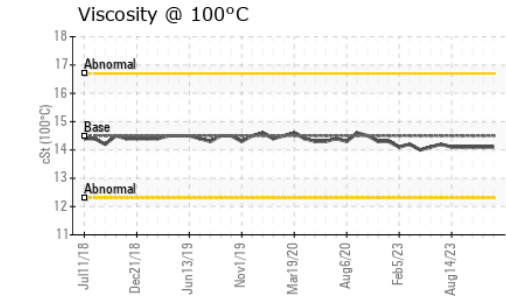
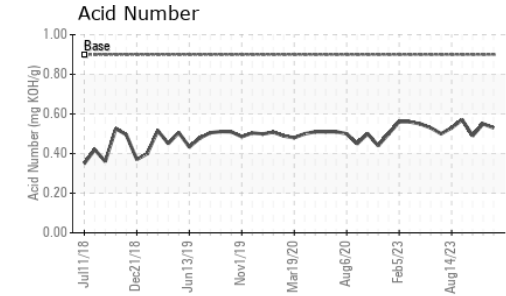
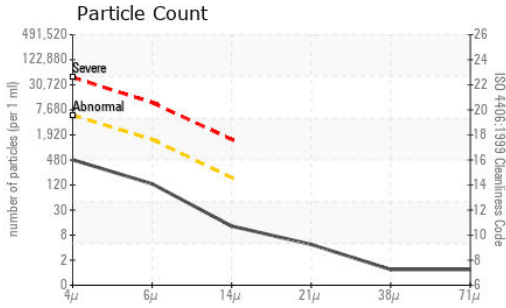
**ADDITIVES**

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	<b>2</b>	2	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	3
Phosphorus	ppm	ASTM D5185(m)	<b>270</b>	268	262
Zinc	ppm	ASTM D5185(m)	<b>5</b>	4	6
Sulfur	ppm	ASTM D5185(m)	<b>11159</b>	10979	10746
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>1</b>	3	1
Sodium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1

# OIL ANALYSIS REPORT



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0082723 **Received** : 18 Mar 2024  
**Lab Number** : 02622843 **Tested** : 19 Mar 2024  
**Unique Number** : 5747962 **Diagnosed** : 19 Mar 2024 - Kevin Marson  
**Test Package** : MAR 2 ( Additional Tests: KV100, PQ, TAN Man, VI )

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.

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>427</b>	1000	5259	1420
Particles >6µm	ASTM D7647	>1300	<b>113</b>	212	93	21
Particles >14µm	ASTM D7647	>160	<b>11</b>	4	1	1
Particles >21µm	ASTM D7647	>40	<b>4</b>	1	1	0
Particles >38µm	ASTM D7647	>10	<b>1</b>	1	1	0
Particles >71µm	ASTM D7647	>3	<b>1</b>	1	1	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>16/14/11</b>	17/15/11	20/18/14	

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	<b>0.53</b>	0.55	0.49

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>	141	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>95</b>	96	95

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

**Suncor - Terra Nova Projects**  
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 St. John's, NL  
 CA A1C 1B6  
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 joshhynes@suncor.com  
 T: (709)778-3575  
 F: (709)724-2835