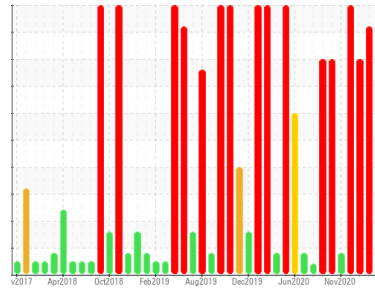


Area  
**Aft Machinery Space [450175848]**  
Machine Id  
**Thruster Aft Starboard - Seal Oil System (S/N Sample Tag CL-06003-S3)**  
Component  
**Sealing System**  
Fluid  
**PETRO CANADA ENERGOL GR-XP ISO 150 (65 LTR)**



**DIAGNOSIS**

**Recommendation**  
Resample at the next service interval to monitor.

**Wear**  
All component wear rates are normal.

**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 fluid is suitable for further service.

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

Sample Number	Client Info	<b>PC</b>	PC0040122	PC
Sample Date	Client Info	<b>19 Jul 2023</b>	11 Jun 2023	31 Mar 2023
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>	SEVERE	SEVERE

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

PQ	ASTM D8184*		<b>8</b>	0	0
Iron	ppm ASTM D5185(m)	>100	<b>16</b>	16	16
Chromium	ppm ASTM D5185(m)	>3	<b>&lt;1</b>	0	0
Nickel	ppm ASTM D5185(m)	>8	<b>&lt;1</b>	<1	<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)	>3	<b>&lt;1</b>	<1	<1
Lead	ppm ASTM D5185(m)		<b>0</b>	0	0
Copper	ppm ASTM D5185(m)	>3	<b>&lt;1</b>	<1	<1
Tin	ppm ASTM D5185(m)		<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>&lt;1</b>	2	3
Barium	ppm ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Manganese	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Magnesium	ppm ASTM D5185(m)		<b>2</b>	2	<1
Calcium	ppm ASTM D5185(m)		<b>3</b>	2	2
Phosphorus	ppm ASTM D5185(m)		<b>278</b>	294	337
Zinc	ppm ASTM D5185(m)		<b>11</b>	11	11
Sulfur	ppm ASTM D5185(m)		<b>8850</b>	8920	9148
Lithium	ppm ASTM D5185(m)		<b>&lt;1</b>	<1	<1

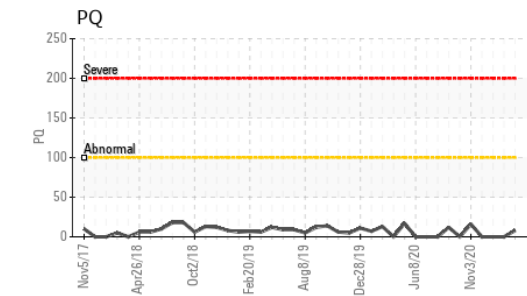
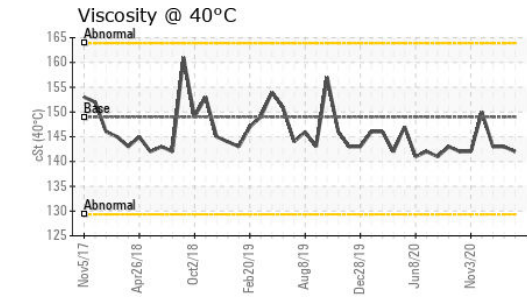
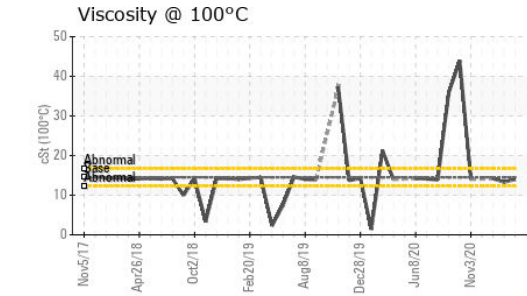
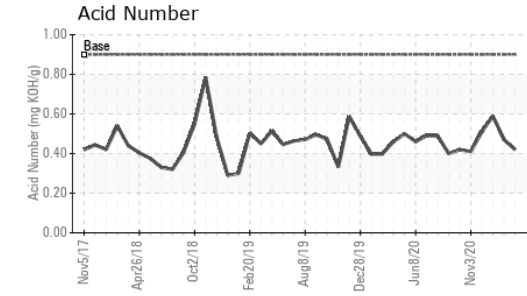
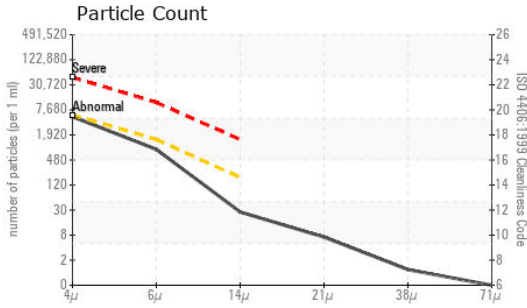
**CONTAMINANTS** method limit/base current history1 history2

Silicon	ppm ASTM D5185(m)	>25	<b>5</b>	8	2
Sodium	ppm ASTM D5185(m)		<b>2</b>	8	1
Potassium	ppm ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1

**FLUID CLEANLINESS** method limit/base current history1 history2

Particles >4µm	ASTM D7647	>5000	<b>4589</b>	110306	51452
Particles >6µm	ASTM D7647	>1300	<b>756</b>	44433	17295
Particles >14µm	ASTM D7647	>160	<b>24</b>	6195	1399
Particles >21µm	ASTM D7647	>40	<b>6</b>	1756	404
Particles >38µm	ASTM D7647	>10	<b>1</b>	7	17
Particles >71µm	ASTM D7647	>3	<b>0</b>	1	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>19/17/12</b>	24/23/20	23/21/18

# OIL ANALYSIS REPORT

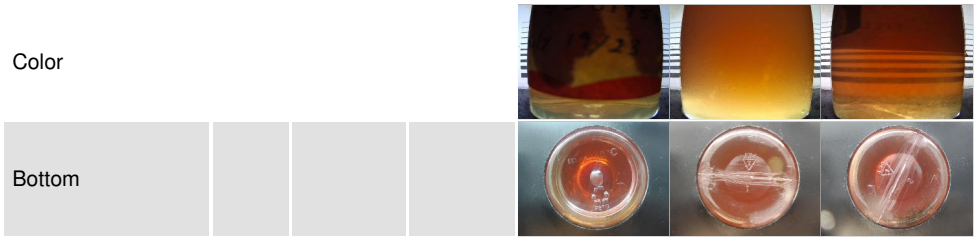


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	<b>0.42</b>	0.47	0.59

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	VLITE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	LIGHT
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*		<b>NEG</b>	▲ .5%	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	143
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	<b>14.0</b>	13.3	14.2
Viscosity Index (VI)	Scale	ASTM D2270*		<b>94</b>	84	96

## SAMPLE IMAGES



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC  
**Lab Number** : **02573743** **Received** : 02 Aug 2023  
**Unique Number** : 5618794 **Diagnosed** : 03 Aug 2023  
**Test Package** : MAR 2 ( Additional Tests: KV100, PQ, PrtCount, 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.