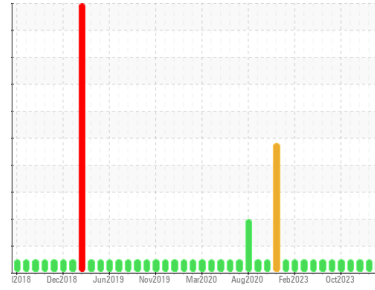


Area  
**Aft Machinery Space [450270725]**  
Machine Id  
**Thruster Aft Starboard - Steering System (S/N Sample Tag CL-06003-S2)**  
Component  
**Hydraulic System**  
Fluid  
**PETRO CANADA HYDREX MV 36 (200 LTR)**



**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 oil is suitable for further service.

**SAMPLE INFORMATION**

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PC</b>	PC0080537	PC
Sample Date	Client Info	<b>26 Feb 2024</b>	29 Jan 2024	04 Jan 2024
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>	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>4</b>	4	3
Chromium	ppm ASTM D5185(m) >10	<b>0</b>	0	0
Nickel	ppm ASTM D5185(m) >10	<b>&lt;1</b>	<1	<1
Titanium	ppm ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm ASTM D5185(m)	<b>&lt;1</b>	0	0
Aluminum	ppm ASTM D5185(m) >10	<b>&lt;1</b>	<1	<1
Lead	ppm ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Copper	ppm ASTM D5185(m) >20	<b>7</b>	7	7
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

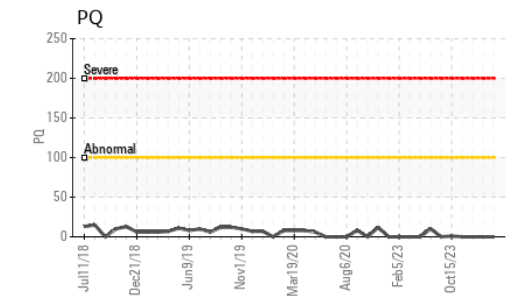
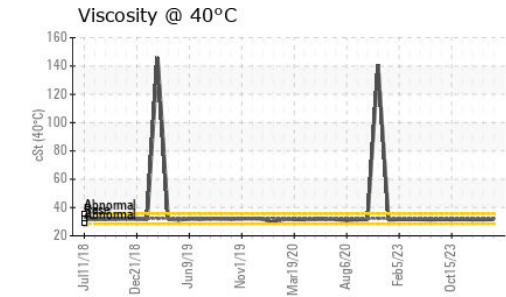
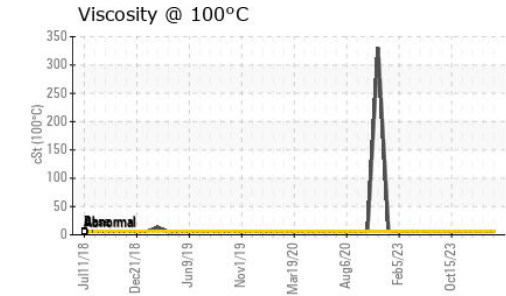
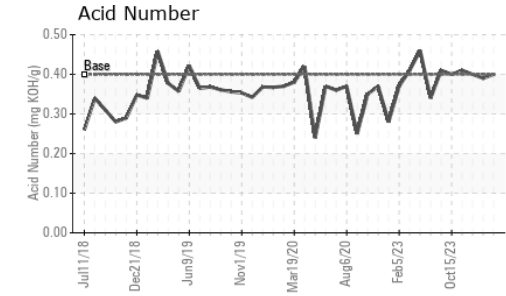
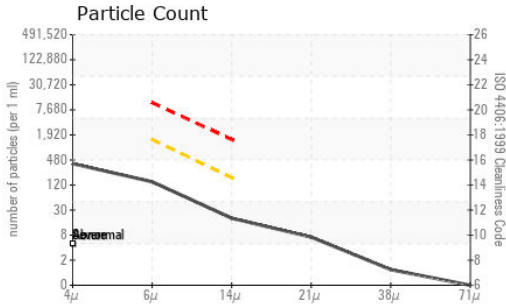
**ADDITIVES**

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 0	<b>0</b>	0	0
Barium	ppm ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185(m) 0	<b>0</b>	0	0
Manganese	ppm ASTM D5185(m) 1	<b>0</b>	0	0
Magnesium	ppm ASTM D5185(m) 0	<b>&lt;1</b>	<1	<1
Calcium	ppm ASTM D5185(m) 135	<b>72</b>	70	70
Phosphorus	ppm ASTM D5185(m) 236	<b>317</b>	311	310
Zinc	ppm ASTM D5185(m) 317	<b>360</b>	361	359
Sulfur	ppm ASTM D5185(m) 561	<b>919</b>	759	768
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	0
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.** : PC **Received** : 18 Mar 2024  
**Lab Number** : **02622802** **Tested** : 19 Mar 2024  
**Unique Number** : 5747921 **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.

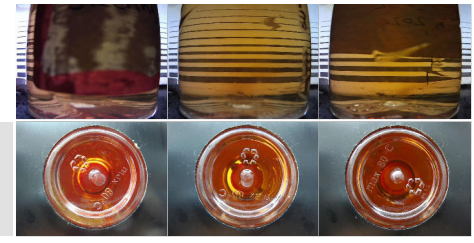
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647			<b>344</b>	214	497
Particles >6µm	ASTM D7647	>1300		<b>127</b>	72	147
Particles >14µm	ASTM D7647	>160		<b>17</b>	10	15
Particles >21µm	ASTM D7647	>40		<b>6</b>	4	5
Particles >38µm	ASTM D7647	>10		<b>1</b>	1	0
Particles >71µm	ASTM D7647	>3		<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14		<b>16/14/11</b>	15/13/10	16/14/11

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.40	<b>0.40</b>	0.39	0.40

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)	32.25	<b>31.5</b>	31.4	31.4
Visc @ 100°C	cSt	ASTM D7279(m)	6.3	<b>6.0</b>	6	6
Viscosity Index (VI)	Scale	ASTM D2270*	148	<b>139</b>	140	140

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