



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**HL27332 Bubbler - Stbd**

Component  
**Starboard Gearbox**

Fluid  
**PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL (620 LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0929743</b>	WC0807861	WC0709118
Sample Date		Client Info		<b>30 May 2024</b>	12 Dec 2023	21 Mar 2023
Machine Age	hrs	Client Info		<b>1799</b>	1605	1155
Oil Age	hrs	Client Info		<b>0</b>	0	615
Filter Age	hrs	Client Info		<b>0</b>	0	615
Oil Changed		Client Info		<b>Not Changed</b>	N/A	Not Changed
Filter Changed		Client Info		<b>Not Changed</b>	N/A	Not Changed
Sample Status				<b>NORMAL</b>	NORMAL	ATTENTION

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>150	<b>0</b>	0	<1
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>5	<b>0</b>	0	<1
Lead	ppm	ASTM D5185(m)	>65	<b>0</b>	<1	0
Copper	ppm	ASTM D5185(m)	>80	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>8	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

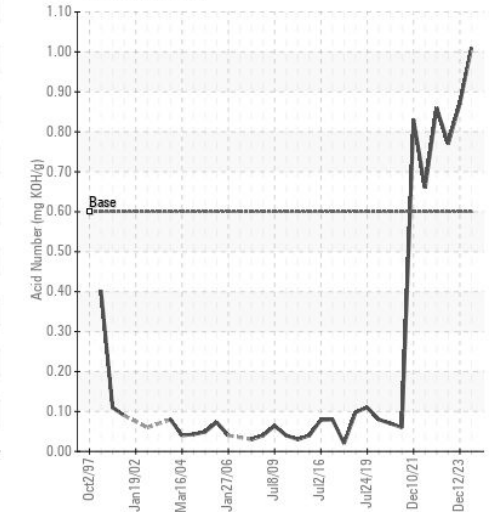
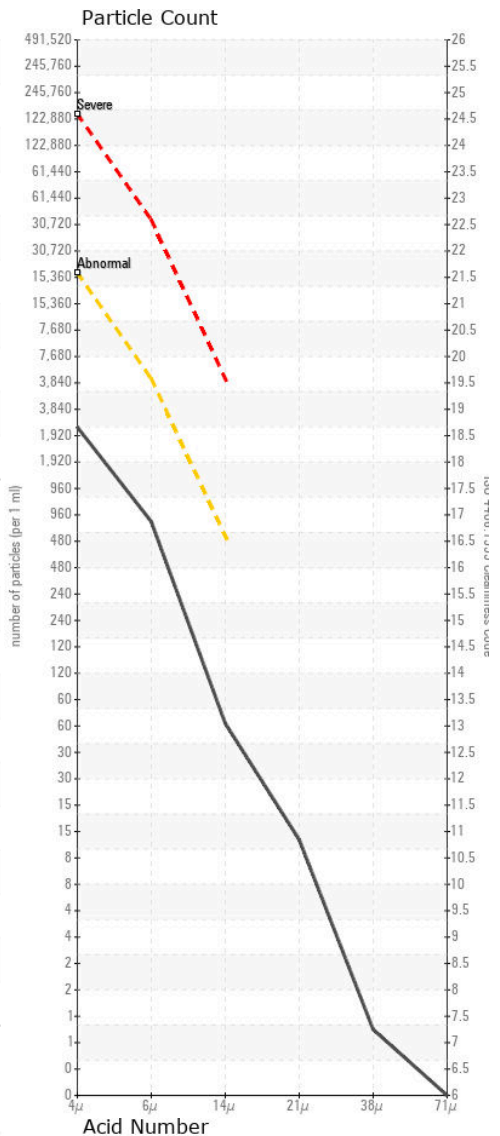
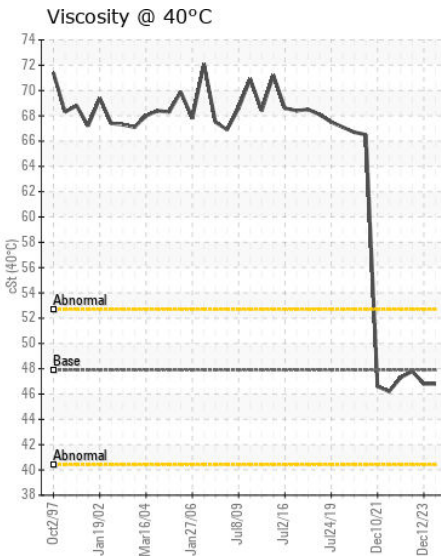
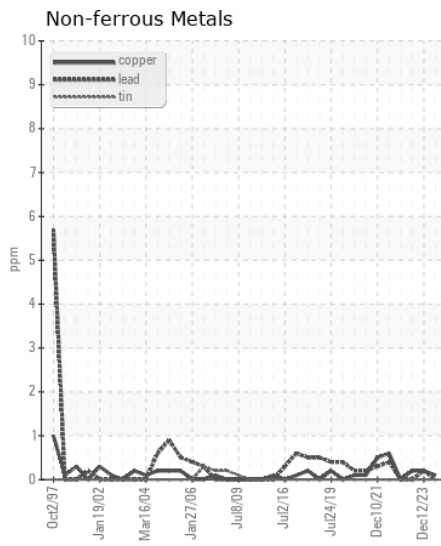
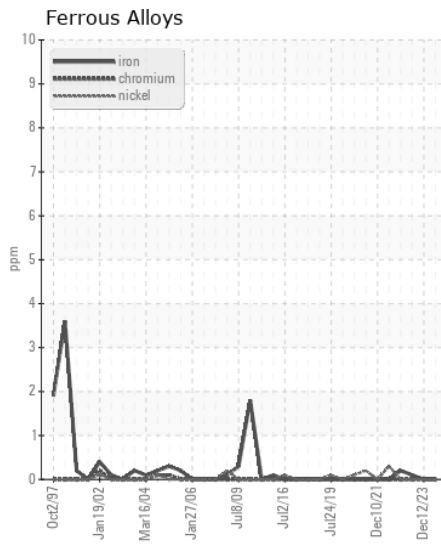
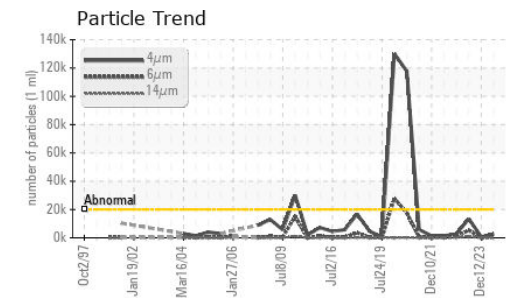
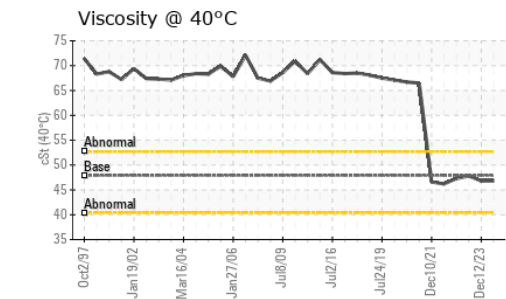
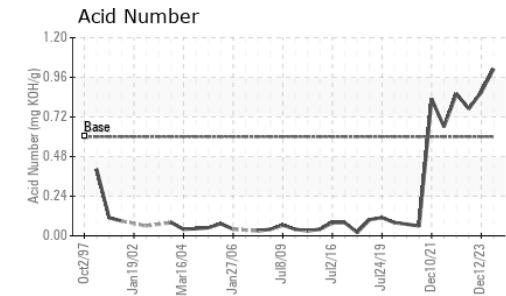
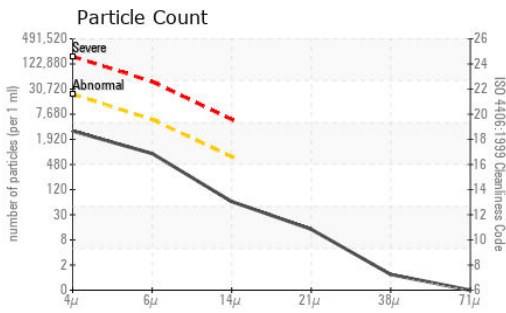
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	0
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>2653</b>	660	13463
Particles >6µm		ASTM D7647	>5000	<b>770</b>	211	5371
Particles >14µm		ASTM D7647	>640	<b>55</b>	17	651
Particles >21µm		ASTM D7647	>160	<b>12</b>	5	198
Particles >38µm		ASTM D7647	>40	<b>1</b>	0	9
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>19/17/13</b>	17/15/11	21/20/17
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*	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Boron	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	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>2</b>	<1	<1
Calcium	ppm	ASTM D5185(m)	100	<b>104</b>	102	105
Phosphorus	ppm	ASTM D5185(m)	670	<b>659</b>	635	681
Zinc	ppm	ASTM D5185(m)	850	<b>828</b>	846	820
Sulfur	ppm	ASTM D5185(m)	1600	<b>1505</b>	1557	1545
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	<b>1.01</b>	0.87	0.77
Visc @ 40°C	cSt	ASTM D7279(m)	47.9	<b>46.8</b>	46.8	47.8



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0929743  
**Lab Number** : 02639996  
**Unique Number** : 5789158  
**Test Package** : MAR 2 ( Additional Tests: TAN Man )

**Received** : 05 Jun 2024  
**Tested** : 06 Jun 2024  
**Diagnosed** : 06 Jun 2024 - Kevin Marson

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.

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