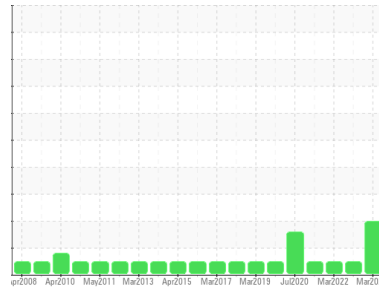




# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id  
**17A02D02 - Anchor Windlass Power Pack**

Component  
**Hydraulic System**

Fluid  
**PETRO CANADA HYDREX MV 32 (260 LTR)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

### Wear

Copper ppm levels are noted. All other component wear rates are normal.

### Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

### 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>WC0747563</b>	WC0747567	WC0602847
Sample Date	Client Info		<b>29 Mar 2024</b>	01 Apr 2023	27 Mar 2022
Machine Age	hrs	Client Info	<b>0</b>	1469	1428
Oil Age	hrs	Client Info	<b>0</b>	76	0
Oil Changed	Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Sample Status			<b>ATTENTION</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	<1	<1	0
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>10	0	<1	0
Lead	ppm	ASTM D5185(m)	>20	2	<1	2
Copper	ppm	ASTM D5185(m)	>20	<b>41</b>	16	10
Tin	ppm	ASTM D5185(m)	>10	0	<1	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	0	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0	0
Manganese	ppm	ASTM D5185(m)	1	0	0	0
Magnesium	ppm	ASTM D5185(m)	0	<1	<1	<1
Calcium	ppm	ASTM D5185(m)	50	30	53	50
Phosphorus	ppm	ASTM D5185(m)	330	294	328	307
Zinc	ppm	ASTM D5185(m)	430	359	376	380
Sulfur	ppm	ASTM D5185(m)	760	733	792	730
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

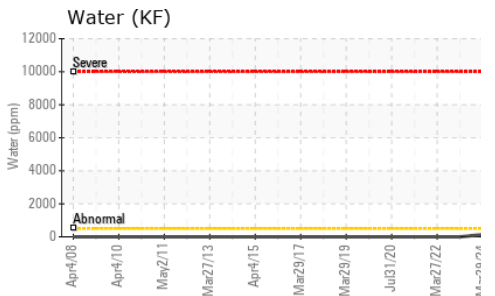
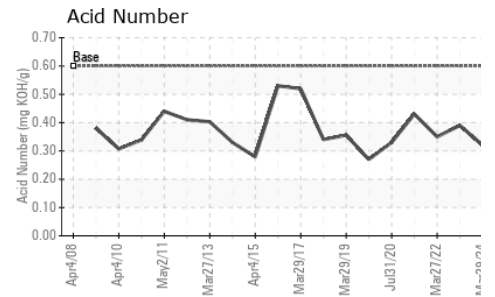
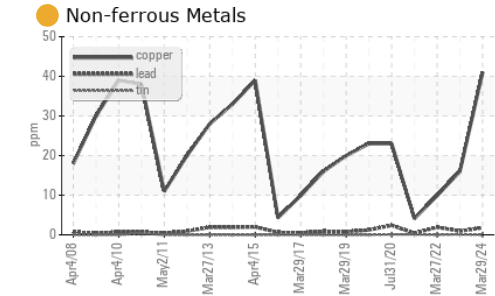
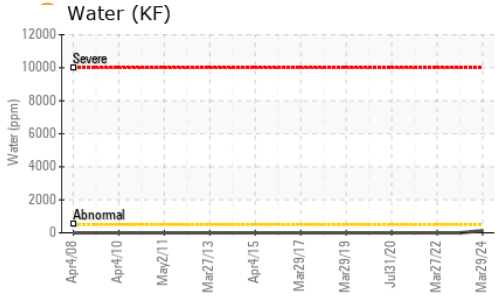
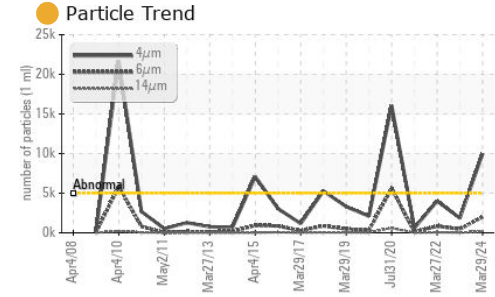
## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	0	<1	<1
Sodium	ppm	ASTM D5185(m)		<1	<1	0
Potassium	ppm	ASTM D5185(m)	>20	0	0	<1
Water	%	ASTM D6304*	>0.05	<b>0.013</b>	---	---
ppm Water	ppm	ASTM D6304*	>500	<b>134</b>	---	---

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>9974</b>	1863	4009
Particles >6µm	ASTM D7647	>1300	<b>2016</b>	468	846
Particles >14µm	ASTM D7647	>160	<b>147</b>	35	64
Particles >21µm	ASTM D7647	>40	<b>42</b>	7	14
Particles >38µm	ASTM D7647	>10	<b>3</b>	0	1
Particles >71µm	ASTM D7647	>3	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>20/18/14</b>	18/16/12	19/17/13

# OIL ANALYSIS REPORT

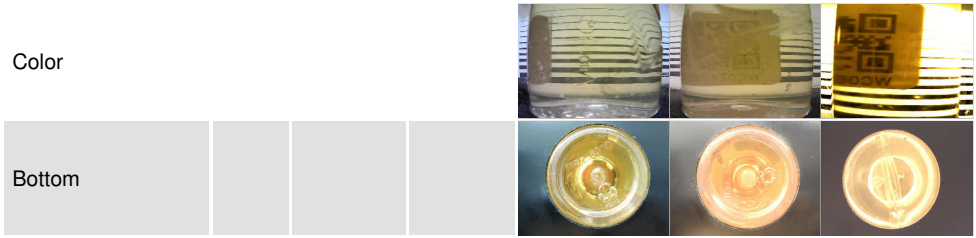


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	<b>0.32</b>	0.39	0.35

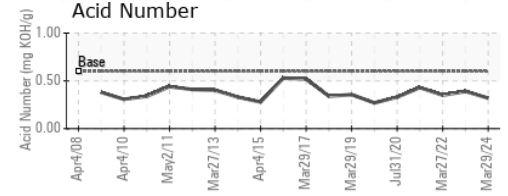
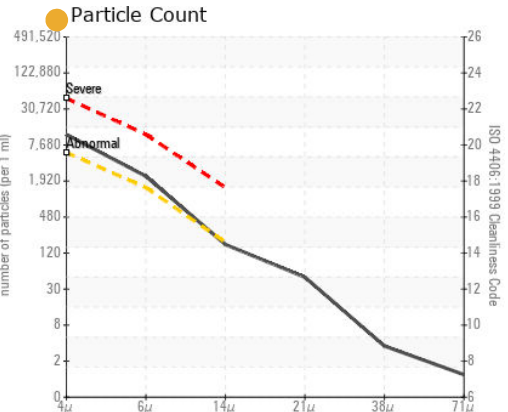
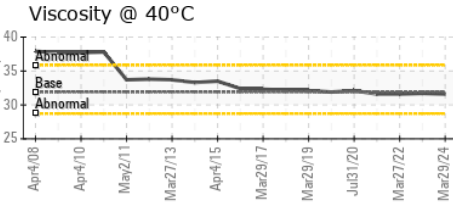
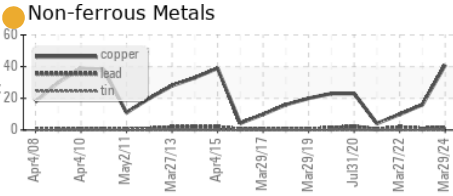
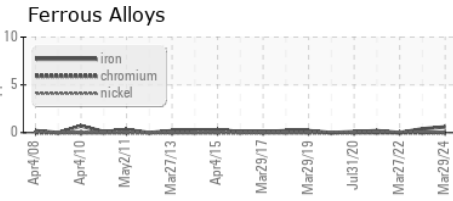
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	<b>VLITE</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>.2%</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)	31.9	<b>31.6</b>	31.7	31.6

SAMPLE IMAGES		method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0747563  
**Lab Number** : 02628171  
**Unique Number** : 5761303  
**Test Package** : MAR 2 ( Additional Tests: K F )

**CANADIAN COAST GUARD**  
 CCGS SIR WILLIAM ALEXANDER, 13 AKERLEY BLVD. DOOR 1A  
 DARTMOUTH, NS  
 CA B3B 1J6  
 Contact: Chief Engineer Senior Engineer  
 sirwilliamalexanderse@nwa.ccgcs-ngcc.gc.ca  
 T: (902)456-9281  
 F: (902)701-0593

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.