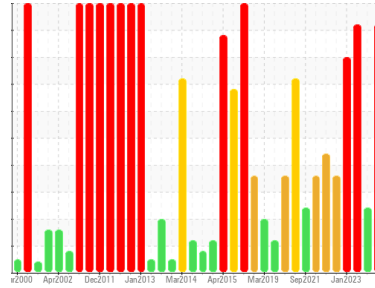




# PROBLEM SUMMARY

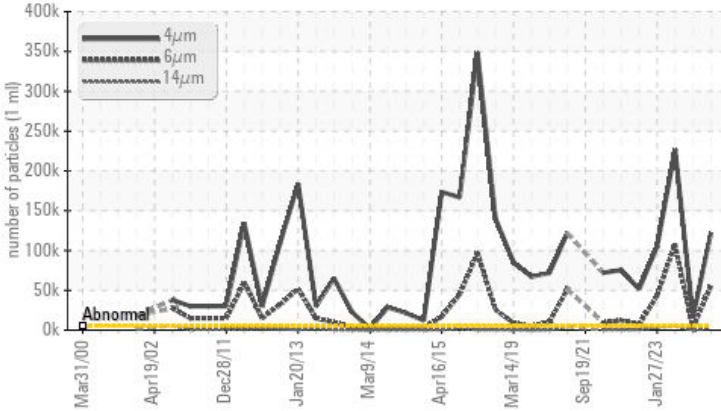
Area  
**PUMPHOUSE/CASTER SPRAY WATER PUMPS**  
 Machine Id  
**C - Caster Spray Water Electric Pump OB**  
 Component  
**Lube System**  
 Fluid  
**PETRO CANADA HYDREX AW 100 (1 GAL)**

Sample Rating Trend



## COMPONENT CONDITION SUMMARY

Particle Trend



## RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you check for visible metal particles in the oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Particles >4µm	ASTM D7647	>5000		122281	16442	226848
Particles >6µm	ASTM D7647	>1300		56171	2661	107771
Particles >14µm	ASTM D7647	>160		2896	174	4779
Particles >21µm	ASTM D7647	>40		464	48	697
Oil Cleanliness	ISO 4406 (c)	>19/17/14		24/23/19	21/19/15	25/24/19
White Metal	scalar	Visual*	NONE	VLITE	NONE	NONE
PrtFilter					no image	no image

Customer Id: LEWBOSC  
 Sample No.: WC0898665  
 Lab Number: 02608066  
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Kevin Marson +1 (289)291-4644 x4644  
[Kevin.Marson@wearcheck.com](mailto:Kevin.Marson@wearcheck.com)

To change component or sample information:  
 Gloria Gonzalez +1 (289)291-4643 x4643  
[gloria.gonzalez@wearcheck.com](mailto:gloria.gonzalez@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Check For Visual Metal	---	---	?	We advise that you check for visible metal particles in the oil.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

## HISTORICAL DIAGNOSIS

### 16 Aug 2023 Diag: Kevin Marson

#### WEAR



We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Iron ppm levels are abnormal. A sharp increase in the iron level is noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

[view report](#)



### 31 May 2023 Diag: Bill Quesnel

#### ISO



We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. All component wear rates are normal. There is a high amount of particulates (2 to 100 microns in size) present in the oil. There is a moderate concentration of dirt present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

[view report](#)



### 27 Jan 2023 Diag: Kevin Marson

#### ISO



We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. All component wear rates are normal. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Oil Cleanliness are severely high. Particles >4µm are severely high. Particles >38µm are notably high. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

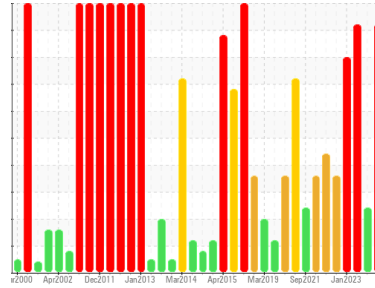
[view report](#)





# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**PUMPHOUSE/CASTER SPRAY WATER PUMPS**  
Machine Id  
**C - Caster Spray Water Electric Pump OB**

Component  
**Lube System**

Fluid  
**PETRO CANADA HYDREX AW 100 (1 GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check all areas where contaminants can enter the system. We advise that you check for visible metal particles in the oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

### Wear

Light concentration of visible metal present.

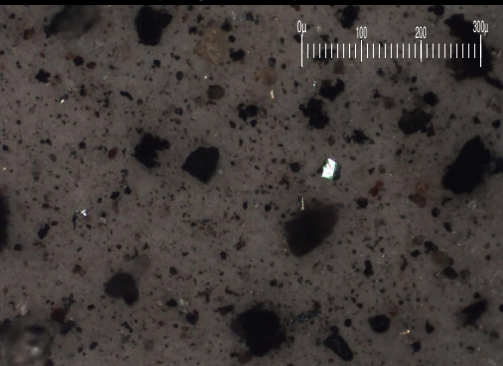
### Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

### Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Particle Filter (Magn: 100 x)



## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0898665</b>	WC0850119	WC0824402
Sample Date	Client Info		<b>10 Jan 2024</b>	16 Aug 2023	31 May 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>SEVERE</b>	ABNORMAL	SEVERE

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>1	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>DFLT	<b>0</b>	0	4
Iron	ppm	ASTM D5185(m) >20	<b>6</b>	▲ 35	21
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185(m) >20	<b>0</b>	<1	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) >20	<b>1</b>	<1	<1
Lead	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	1
Copper	ppm	ASTM D5185(m) >20	<b>6</b>	4	2
Tin	ppm	ASTM D5185(m) >20	<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	<1

## ADDITIVES

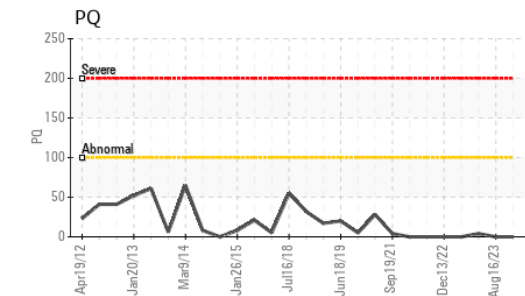
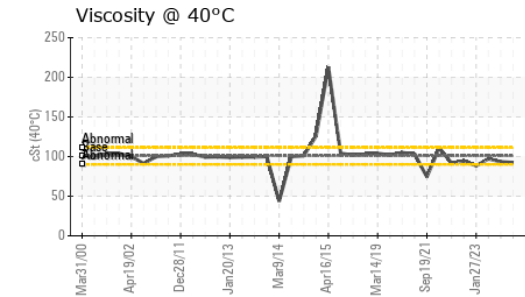
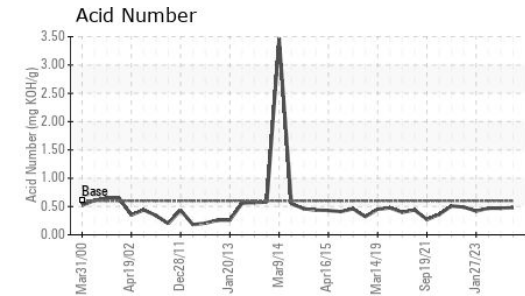
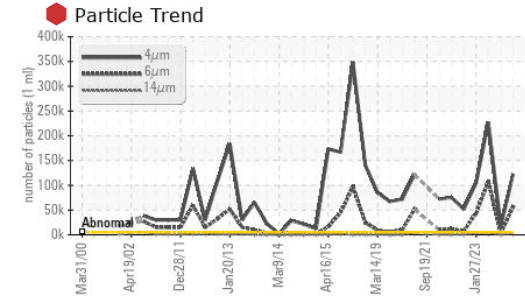
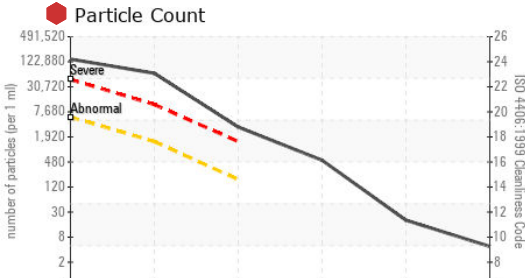
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<b>0</b>	0	<1
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	<1	22
Molybdenum	ppm	ASTM D5185(m) 0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185(m) 0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1	4
Calcium	ppm	ASTM D5185(m) 50	<b>48</b>	47	60
Phosphorus	ppm	ASTM D5185(m) 330	<b>336</b>	347	352
Zinc	ppm	ASTM D5185(m) 430	<b>426</b>	404	402
Sulfur	ppm	ASTM D5185(m) 760	<b>2625</b>	2509	2593
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>6</b>	3	▲ 15
Sodium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	1
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	0	0



# OIL ANALYSIS REPORT



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0898665  
**Lab Number** : 02608066  
**Unique Number** : 5709152  
**Test Package** : IND 2 ( Additional Tests: Bottom, BottomAnalysis, FilterPatch, PQ, PrtFilter )

STELCO - BOSC - Basic Oxygen Slab Caster  
 2330 Regional Road #3, Door: BOSC8  
 NANTICOKE, ON  
 CA N0A 1L0  
 Contact: Tom Walden  
 Thomas.Walden@stelco.com  
 T: (519)587-4541  
 F: (519)587-7702

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	122281	16442	226848
Particles >6μm	ASTM D7647	>1300	56171	2661	107771
Particles >14μm	ASTM D7647	>160	2896	174	4779
Particles >21μm	ASTM D7647	>40	464	48	697
Particles >38μm	ASTM D7647	>10	17	2	8
Particles >71μm	ASTM D7647	>3	4	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	24/23/19	21/19/15	25/24/19

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	0.48	0.47

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	LIGHT
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>1	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	101	92.5	93.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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