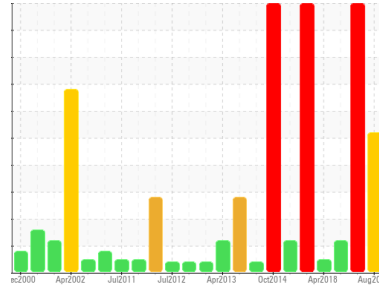




PROBLEM SUMMARY

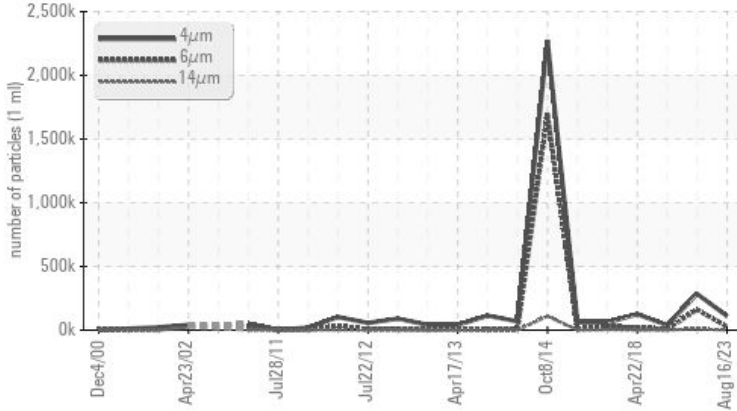
Area
PUMPHOUSE/CASTER SPRAY WATER PUMPS
 Machine Id
C - Caster Spray Water Turbine Pump IB
 Component
Lube System
 Fluid
PETRO CANADA HYDREX AW 100 (1 GAL)

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 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	SEVERE	ABNORMAL
Particles >6µm	ASTM D7647	>1300	27245	161743	7438
Particles >14µm	ASTM D7647	>160	1199	9739	567
Particles >21µm	ASTM D7647	>40	322	1346	141
Oil Cleanliness	ISO 4406 (c)	>--/17/14	24/22/17	25/25/20	22/20/16

Customer Id: LEWBOSC
 Sample No.: WC0850123
 Lab Number: 02576242
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
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.
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

VISUAL METAL



30 May 2023 Diag: Bill Quesnel

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. Wear particles and/or ppm levels are abnormally high indicating the need to review OEM limits with attention to components that may generate this type of wear. Include all test results and maintenance activities that have been performed since the abnormal condition was first detected in this review. 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. An inspection for the source(s) of wear may be warranted at this time. Resample in 30-45 days to monitor this situation. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Copper, iron and lead ppm levels are abnormal. High concentration of visible metal present. Bearing and/or bushing wear is indicated. Moderate concentration of visible metal present. Cylinder wear is indicated. Oil cooler core leaching or motor piston wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is a high amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible. 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 no longer serviceable as a result of the abnormal and/or severe wear.

view report



21 Apr 2019 Diag: Bill Quesnel

ISO



We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. All component wear rates are normal. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >6µm are abnormally high. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



NORMAL



22 Apr 2018 Diag: Kevin Marson

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

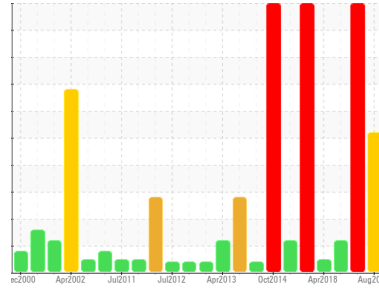
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
PUMPHOUSE/CASTER SPRAY WATER PUMPS
 Machine Id
C - Caster Spray Water Turbine Pump IB

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 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

All component wear rates are normal.

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 still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0850123	WC0824406	WC02273725
Sample Date	Client Info		16 Aug 2023	30 May 2023	21 Apr 2019
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			SEVERE	SEVERE	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>DFLT	3	7	14
Iron	ppm	ASTM D5185(m) >20	13	▲ 58	<1
Chromium	ppm	ASTM D5185(m) >20	<1	<1	0
Nickel	ppm	ASTM D5185(m) >20	<1	<1	0
Titanium	ppm	ASTM D5185(m)	0	<1	0
Silver	ppm	ASTM D5185(m)	2	0	0
Aluminum	ppm	ASTM D5185(m) >20	<1	<1	0
Lead	ppm	ASTM D5185(m) >20	<1	▲ 31	3
Copper	ppm	ASTM D5185(m) >20	<1	▲ 280	12
Tin	ppm	ASTM D5185(m) >20	0	5	<1
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	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<1	<1	<1
Barium	ppm	ASTM D5185(m) 0	<1	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	0	<1	<1
Magnesium	ppm	ASTM D5185(m) 0	<1	<1	<1
Calcium	ppm	ASTM D5185(m) 50	51	30	55
Phosphorus	ppm	ASTM D5185(m) 330	348	336	326
Zinc	ppm	ASTM D5185(m) 430	428	248	382
Sulfur	ppm	ASTM D5185(m) 760	2566	2586	7039
Lithium	ppm	ASTM D5185(m)	<1	<1	0

CONTAMINANTS

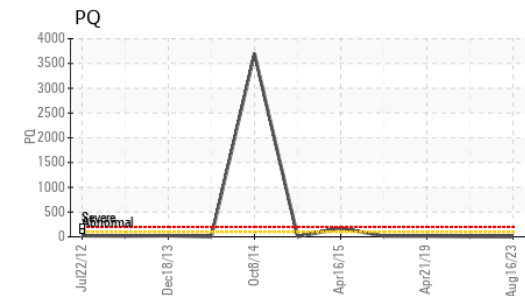
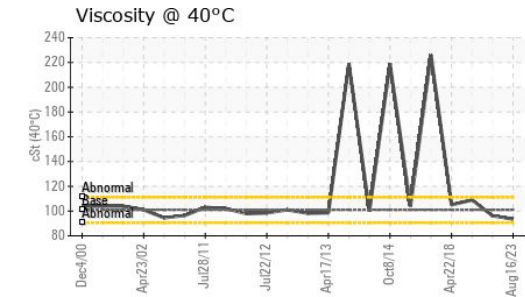
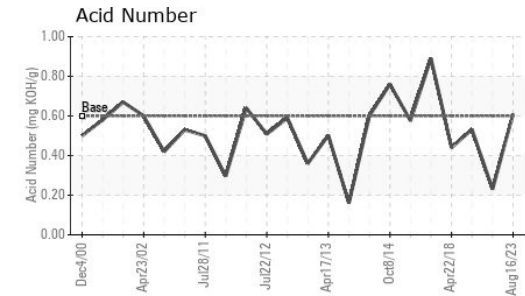
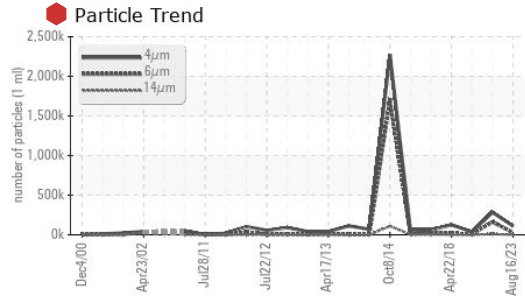
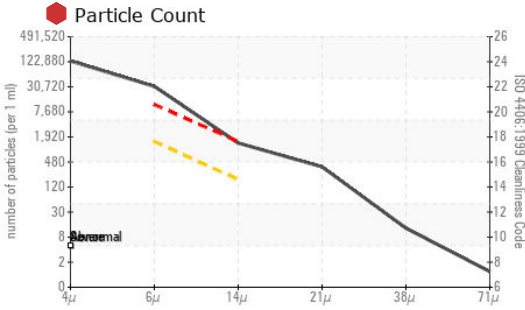
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	5	8	<1
Sodium	ppm	ASTM D5185(m)	<1	4	<1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	0

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		110703	284157	38009
Particles >6µm	ASTM D7647	>1300	● 27245	● 161743	▲ 7438
Particles >14µm	ASTM D7647	>160	▲ 1199	● 9739	▲ 567
Particles >21µm	ASTM D7647	>40	● 322	● 1346	▲ 141
Particles >38µm	ASTM D7647	>10	11	4	2
Particles >71µm	ASTM D7647	>3	1	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14	● 24/22/17	● 25/25/20	▲ 22/20/16



OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **STELCO - BOSC - Basic Oxygen Slab Caster**
Sample No. : WC0850123 **Received** : 16 Aug 2023 2330 Regional Road #3, Door: BOSC8
Lab Number : 02576242 **Diagnosed** : 16 Aug 2023 NANTICOKE, ON
Unique Number : 5629302 **Diagnostician** : Wes Davis CA N0A 1L0
Test Package : IND 2 (Additional Tests: PQ, TAN Man)

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 DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	0.61	0.23	0.532

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	▲ VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	● LIGHT	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>1	NEG	.2%	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	101	93.5	96.2	109

SAMPLE IMAGES		method	limit/base	current	history1	history2
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