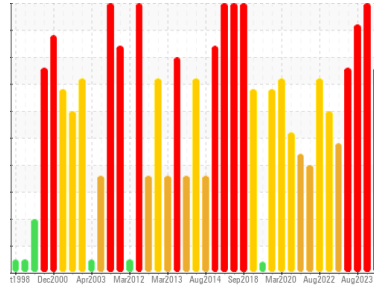




PROBLEM SUMMARY

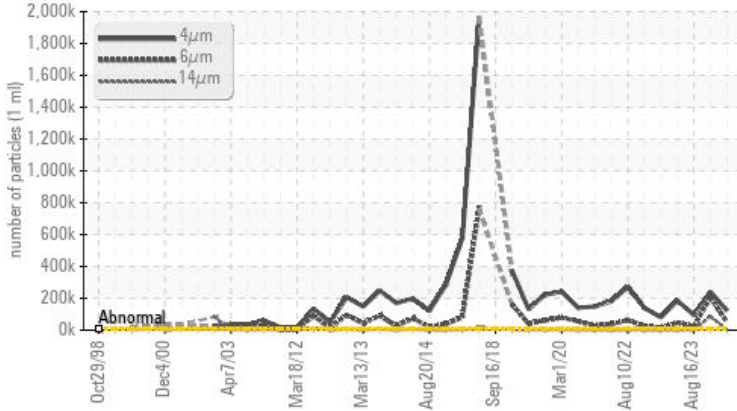
Area
PUMPHOUSE/HOOD COOLING PUMPS
 Machine Id
C - Hood Cooling 2 Electric Pump IB
 Component
Lube System
 Fluid
PETRO CANADA HYDREX AW 100 (1 GAL)

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	SEVERE
Particles >4µm	ASTM D7647	>5000	▲ 124539	▲ 239928	▲ 95253
Particles >6µm	ASTM D7647	>1300	▲ 49624	▲ 206511	▲ 23382
Particles >14µm	ASTM D7647	>160	▲ 2835	▲ 86020	▲ 1655
Particles >21µm	ASTM D7647	>40	▲ 391	▲ 32309	▲ 427
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 24/23/19	▲ 25/25/24	▲ 24/22/18

Customer Id: LEWBOSC
 Sample No.: WC0968451
 Lab Number: 02648441
 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


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

ISO




10 Jan 2024 Diag: Kevin Marson
 Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. 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. We advise that you follow the water drain-off procedure for this component. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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 water present in the oil. Free water present. 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




ISO




16 Aug 2023 Diag: Kevin Marson
 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. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified. Light concentration of visible metal present. There is a high amount of particulates (2 to 100 microns in size) present in the oil. Light concentration of visible dirt/debris 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 no longer serviceable as a result of the abnormal and/or severe wear.

view report




ISO



31 May 2023 Diag: Bill Quesnel
 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. 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.

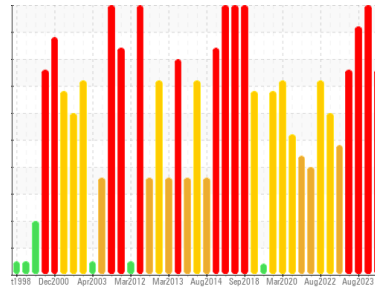
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
PUMPHOUSE/HOOD COOLING PUMPS
 Machine Id
C - Hood Cooling 2 Electric 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		WC0968451	WC0898658	WC0850127
Sample Date	Client Info		17 Jul 2024	10 Jan 2024	16 Aug 2023
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	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>5	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>DFLT	0	0	0
Iron	ppm	ASTM D5185(m) >20	28	14	19
Chromium	ppm	ASTM D5185(m) >20	<1	0	<1
Nickel	ppm	ASTM D5185(m) >20	0	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >20	<1	<1	<1
Lead	ppm	ASTM D5185(m) >20	0	<1	0
Copper	ppm	ASTM D5185(m) >20	<1	<1	<1
Tin	ppm	ASTM D5185(m) >20	0	0	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	0	0

ADDITIVES

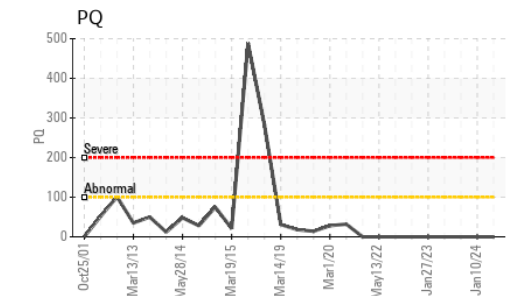
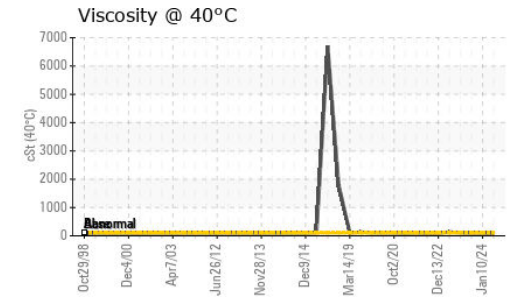
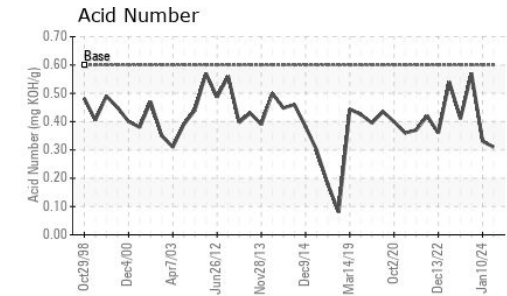
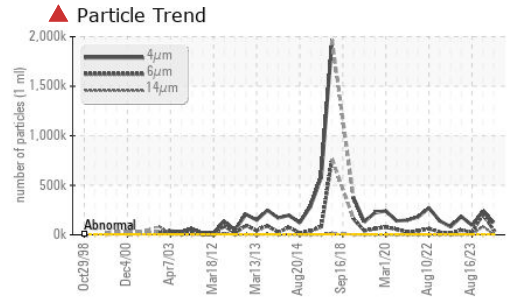
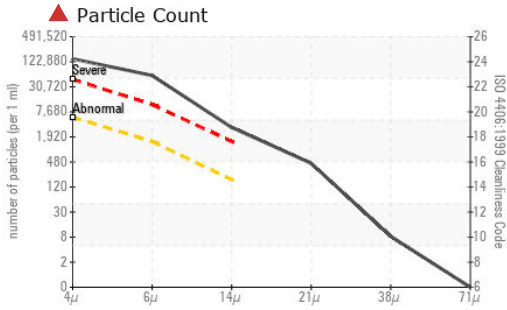
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	0	<1	<1
Barium	ppm	ASTM D5185(m) 0	<1	<1	<1
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	<1	0	<1
Magnesium	ppm	ASTM D5185(m) 0	<1	1	1
Calcium	ppm	ASTM D5185(m) 50	55	51	52
Phosphorus	ppm	ASTM D5185(m) 330	337	339	351
Zinc	ppm	ASTM D5185(m) 430	419	423	412
Sulfur	ppm	ASTM D5185(m) 760	2581	2731	2584
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	4	6	4
Sodium	ppm	ASTM D5185(m)	16	80	5
Potassium	ppm	ASTM D5185(m) >20	<1	1	<1



OIL ANALYSIS REPORT



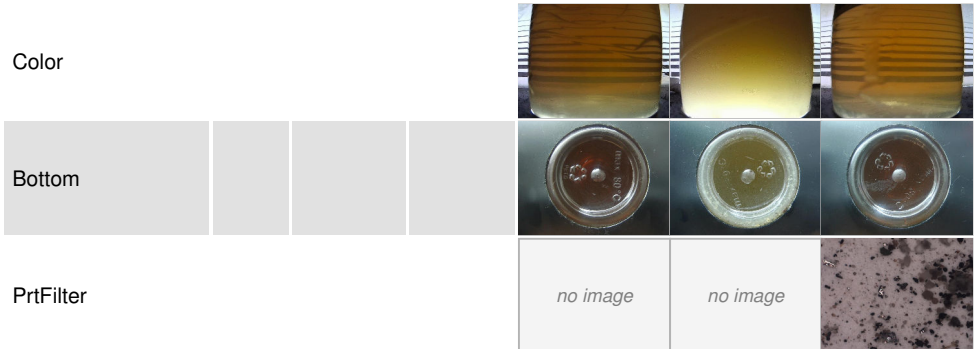
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4μm	ASTM D7647	>5000	▲ 124539	▲ 239928	▲ 95253
Particles >6μm	ASTM D7647	>1300	▲ 49624	▲ 206511	▲ 23382
Particles >14μm	ASTM D7647	>160	▲ 2835	▲ 86020	▲ 1655
Particles >21μm	ASTM D7647	>40	▲ 391	▲ 32309	▲ 427
Particles >38μm	ASTM D7647	>10	7	▲ 1757	11
Particles >71μm	ASTM D7647	>3	0	▲ 47	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 24/23/19	▲ 25/25/24	▲ 24/22/18

FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D974*	0.60	0.31	0.33	0.57

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar Visual*	NONE	VLITE	NONE	▲ LIGHT
Yellow Metal	scalar Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar Visual*	NONE	NONE	VLITE	NONE
Silt	scalar Visual*	NONE	NONE	NONE	NONE
Debris	scalar Visual*	NONE	VLITE	NONE	▲ LIGHT
Sand/Dirt	scalar Visual*	NONE	NONE	LIGHT	NONE
Appearance	scalar Visual*	NORML	NORML	▲ HAZY	NORML
Odor	scalar Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar Visual*	>5	NEG	.5%	NEG
Free Water	scalar Visual*		NEG	▲ 1%	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m)	101	93.8	94.9	98.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0968451
Lab Number : 02648441
Unique Number : 5813993
Test Package : IND 2 (Additional Tests: Bottom, PQ)
Received : 17 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 18 Jul 2024 - Kevin Marson

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.