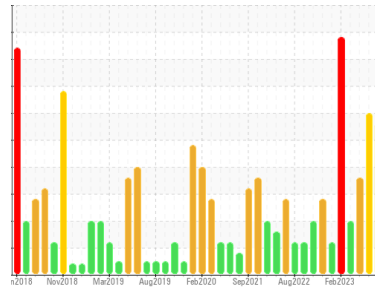




PROBLEM SUMMARY

Sample Rating Trend



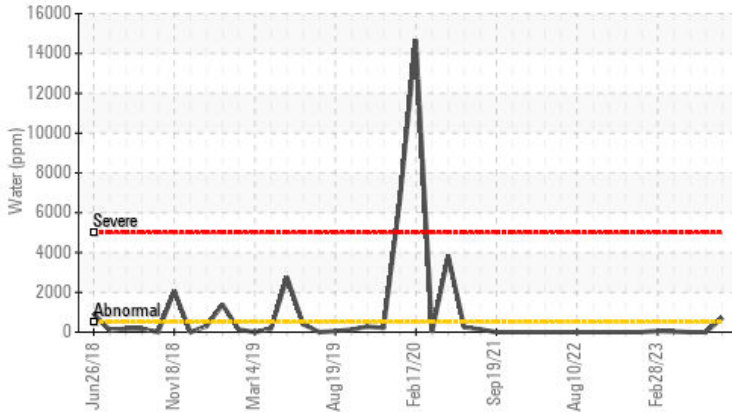
WATER



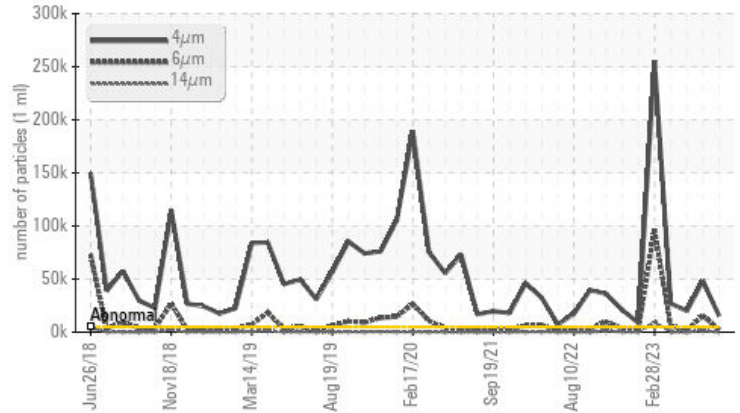
Area
BOF/OG SYSTEM
 Machine Id
D - O.G. Fan Lube System # 8
 Component
Lube System
 Fluid
PETRO CANADA HYDREX AW 100 (135 GAL)

COMPONENT CONDITION SUMMARY

▲ Water (KF)



▲ Particle Trend



RECOMMENDATION

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. 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 use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	SEVERE	ABNORMAL
Water	%	ASTM D6304*	>0.05	▲ 0.072	---	---
ppm Water	ppm	ASTM D6304*	>500	▲ 720	---	---
Particles >4µm		ASTM D7647	>5000	▲ 15475	● 48216	▲ 19957
Particles >6µm		ASTM D7647	>1300	▲ 2452	● 15529	▲ 1711
Particles >14µm		ASTM D7647	>160	▲ 165	▲ 1274	38
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 21/18/15	● 23/21/17	▲ 21/18/12
Appearance	scalar	Visual*	NORML	▲ WGOIL	NORML	▲ WGOIL
Emulsified Water	scalar	Visual*	>0.05	▲ .2%	NEG	.2%
Free Water	scalar	Visual*		▲ 5%	NEG	▲ 1%

Customer Id: LEWBOSC
 Sample No.: WC0871207
 Lab Number: 02589636
 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 recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
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 Water Access	---	---	?	We advise that you check for the source of water entry.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.
Filter Fluid	---	---	?	We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil.

HISTORICAL DIAGNOSIS

16 Aug 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. There is a high amount of particulates (2 to 100 microns in size) present in the oil. 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



20 Jun 2023 Diag: Kevin Marson

WATER



We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. 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 recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. Free water present. The oil viscosity is lower than typical, possibly indicating the addition of lighter grade oil. 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



30 May 2023 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. There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible. The viscosity of the oil is lower than normal, possibly indicating the addition of a lighter grade of oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

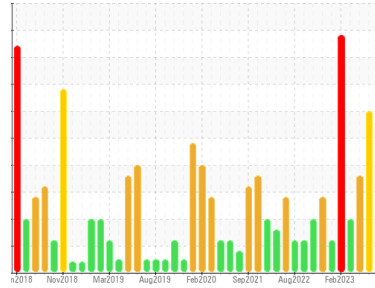
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Area
BOF/OG SYSTEM
 Machine Id
D - O.G. Fan Lube System # 8
 Component
Lube System
 Fluid
PETRO CANADA HYDREX AW 100 (135 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. 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 use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a moderate concentration of water present in the oil. The sample contained a visible layer of foreign fluid contaminant, the origin and/or type of fluid is unknown. NOTE: Contaminant present displays similar properties/color to fire resistant fluid, advise investigate.

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	WC0871207	WC0850092	WC0832563
Sample Date	Client Info	16 Oct 2023	16 Aug 2023	20 Jun 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	SEVERE	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2		
PQ	ASTM D8184*	>99999	0	0	0	
Iron	ppm	ASTM D5185(m)	>20	<1	4	1
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	0	<1	0
Lead	ppm	ASTM D5185(m)	>20	<1	0	5
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	<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	0	0
Magnesium	ppm	ASTM D5185(m)	0	0	<1	0
Calcium	ppm	ASTM D5185(m)	50	47	49	49
Phosphorus	ppm	ASTM D5185(m)	330	331	353	359
Zinc	ppm	ASTM D5185(m)	430	428	433	424
Sulfur	ppm	ASTM D5185(m)	760	2613	2799	2932
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

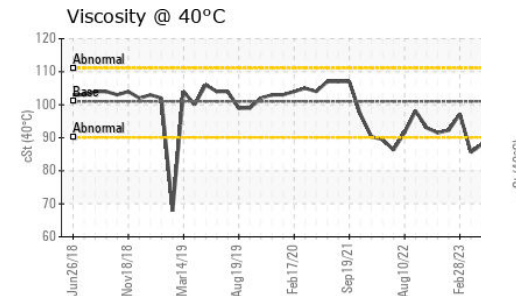
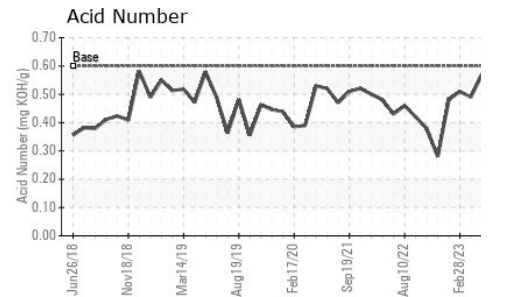
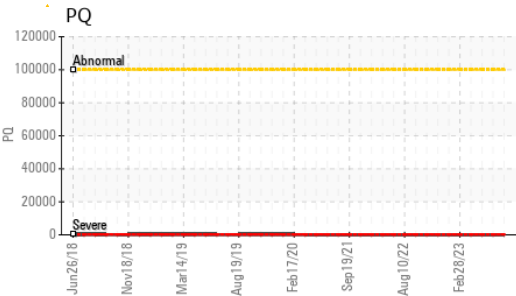
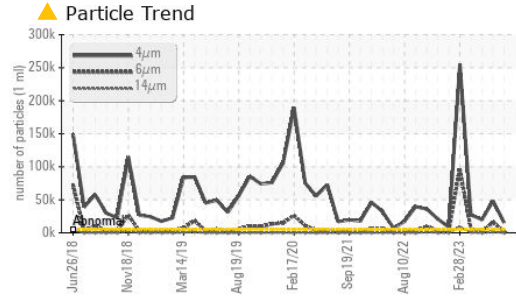
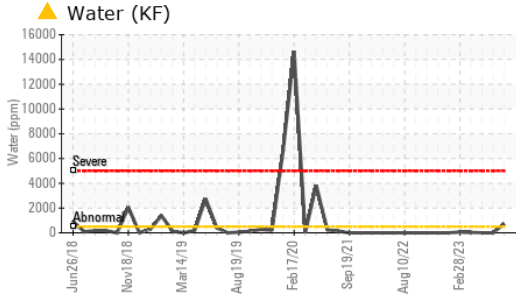
CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185(m)	>15	4	5	4
Sodium	ppm	ASTM D5185(m)		<1	<1	0
Potassium	ppm	ASTM D5185(m)	>20	0	0	0
Water	%	ASTM D6304*	>0.05	▲ 0.072	---	---
ppm Water	ppm	ASTM D6304*	>500	▲ 720	---	---

FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>5000	▲ 15475	48216	▲ 19957
Particles >6µm	ASTM D7647	>1300	▲ 2452	15529	▲ 1711
Particles >14µm	ASTM D7647	>160	▲ 165	1274	38
Particles >21µm	ASTM D7647	>40	31	329	12
Particles >38µm	ASTM D7647	>10	0	7	2
Particles >71µm	ASTM D7647	>3	0	1	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 21/18/15	23/21/17	▲ 21/18/12

OIL ANALYSIS REPORT

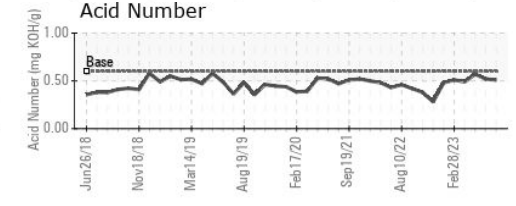
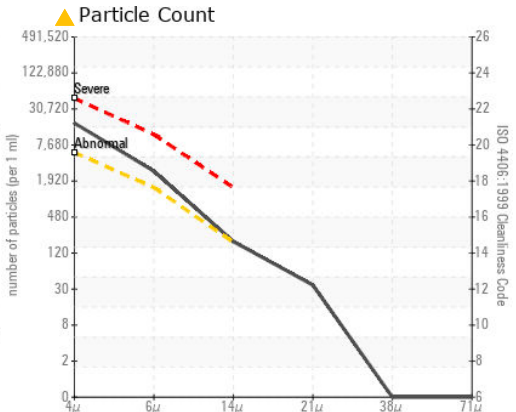
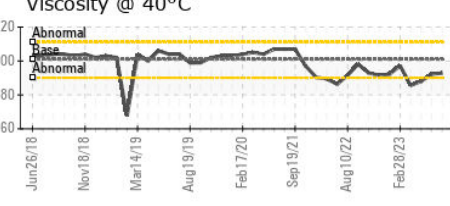
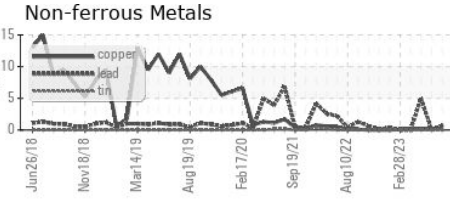
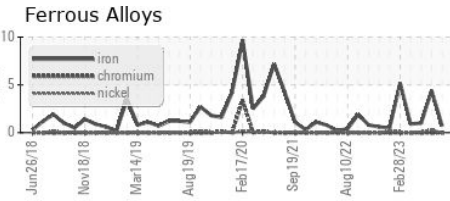


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.60	0.51	0.52	0.57
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	▲ WGOIL	NORML	▲ WGOIL
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	▲ .2%	NEG	.2%
Free Water	scalar	Visual*		▲ 5%	NEG	▲ 1%

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	101	92.9	92.3	88.0

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **STELCO - BOSC - Basic Oxygen Slab Caster**
Sample No. : WC0871207 **Received** : 17 Oct 2023 2330 Regional Road #3, Door: BOSC8
Lab Number : 02589636 **Diagnosed** : 20 Oct 2023 NANTICOKE, ON
Unique Number : 5658702 **Diagnostician** : Kevin Marson CA N0A 1L0
Test Package : IND 2 (Additional Tests: KF, PQ)
 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.

Contact: Tom Walden
 Thomas.Walden@stelco.com
 T: (519)587-4541
 F: (519)587-7702