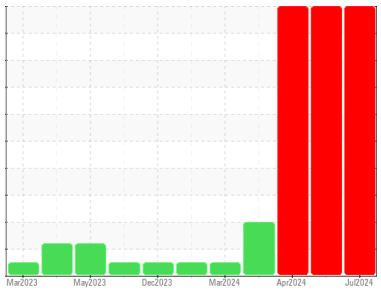
PROBLEM SUMMARY

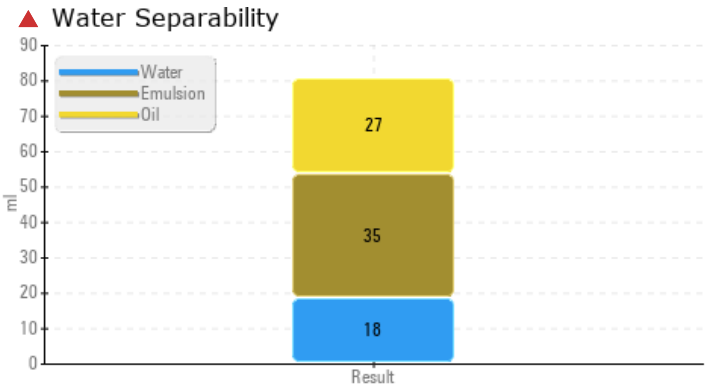
Sample Rating Trend



OFF SPEC

Machine Id
GE Unit # 4 Governor Sump
Component
Governor System
Fluid
PETRO CANADA TURBOFLO R&O 68 (1000 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend that you perform vacuum distillation and/or air drying to attempt to remove any residual water and/or entrained gases from this oil that may be contributing to abnormal foaming and/or poor water separability. We recommend that you investigate the system for introduction of a surfactant to the reservoir. Some potential surfactants include incorrect oil make-up with an oil containing emulsifying agents (engine oil, compressor oil, gear oil), or soaps entering the system after wash down. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Air Release, Foam Tendency, and Water Separability tests and evaluation performed at WearCheck Canada.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Separability	oil/h2o/em	*ASTM D1401	41/39/0	▲ **27/18/35 (30)**	▲ 38/34/8 (30)	▲ 25/19/36 (30)
Air Release Time	min	*ASTM D3427	8	▲ **9.50**	9.90	▲ 11.2
Foam Stability	I/II/III	*ASTM D892	0	▲ **30/0/30**	0/0/0	0/0/0

Customer Id: USAHEN
Sample No.: KFS0006621
Lab Number: 06234947
Test Package: PLANT

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	---	---	?	We recommend an early resample to monitor this condition.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Filter Fluid	---	---	?	We recommend that you perform vacuum distillation and/or air drying to attempt to remove any residual water and/or entrained gases from this oil that may be contributing to abnormal foaming and/or poor water separability.

HISTORICAL DIAGNOSIS

CONTAMINANT

31 May 2024 Diag: Doug Bogart
Recommend Varnish Potential testing (MPC). Air Release, Foam Tendency, and Water Separability tests and evaluation performed at WearCheck Canada.{not applicable} Separability (Emulsion) % is severely high. Separability (Water) % is severely low. Separability (Oil) % is marginally low. Separability % is severely low.

view report

CONTAMINANT

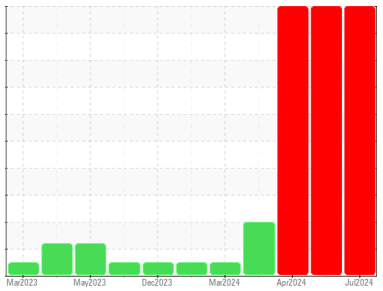
30 Apr 2024 Diag: Doug Bogart
This is a baseline read-out on the submitted sample. All tests and evaluation performed at WearCheck Canada.{not applicable} Separability (Emulsion) % is severely high. Separability (Oil) % is severely low. Separability (Water) % is severely low. Separability % is severely low. Air Release Time % is abnormal.

view report

KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

Sample Rating Trend



OFF SPEC

Machine Id
GE Unit # 4 Governor Sump
Component
Governor System
Fluid
PETRO CANADA TURBOFLO R&O 68 (1000 GAL)

DIAGNOSIS

Recommendation
We recommend that you perform vacuum distillation and/or air drying to attempt to remove any residual water and/or entrained gases from this oil that may be contributing to abnormal foaming and/or poor water separability. We recommend that you investigate the system for introduction of a surfactant to the reservoir. Some potential surfactants include incorrect oil make-up with an oil containing emulsifying agents (engine oil, compressor oil, gear oil), or soaps entering the system after wash down. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Air Release, Foam Tendency, and Water Separability tests and evaluation performed at WearCheck Canada.

Wear
All component wear rates are normal.

Contamination
Water Separability results (ASTM D1401) are poor and indicate that the oil will form emulsions with water. The system cleanliness is acceptable for your target ISO 4406 cleanliness code.

Fluid Condition
The Air Release Value (ASTM D3427) indicates the oil has poor deaeration properties. Foaming Stability (ASTM D892) results are abnormal indicating an oil foaming problem that could lead to erratic operation. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KFS0006621**	KFS0005997	KFS0005998
Sample Date		Client Info		**10 Jul 2024**	31 May 2024	30 Apr 2024
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	Not Changd	N/A
Sample Status				**SEVERE**	SEVERE	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		**0**	---	---
Iron	ppm	ASTM D5185m	>50	**<1**	<1	0
Chromium	ppm	ASTM D5185m	>10	**0**	<1	0
Nickel	ppm	ASTM D5185m	>10	**<1**	0	0
Titanium	ppm	ASTM D5185m		**0**	<1	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>3	**<1**	0	0
Lead	ppm	ASTM D5185m	>75	**1**	2	0
Copper	ppm	ASTM D5185m	>15	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>55	**0**	<1	0
Antimony	ppm	ASTM D5185m	>5	**0**	---	---
Vanadium	ppm	ASTM D5185m		**0**	0	0
Beryllium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**0**	0	0

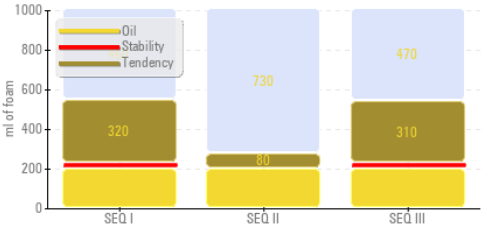
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**0**	0	<1
Magnesium	ppm	ASTM D5185m		**0**	<1	1
Calcium	ppm	ASTM D5185m	0	**<1**	0	5
Phosphorus	ppm	ASTM D5185m	4	**10**	5	15
Zinc	ppm	ASTM D5185m	0	**4**	0	5
Sulfur	ppm	ASTM D5185m		**176**	137	229
Lithium	ppm	ASTM D5185m		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>8	**2**	4	3
Sodium	ppm	ASTM D5185m		**0**	0	<1
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0
Water	%	ASTM D6304	>0.1	**0.004**	---	---
ppm Water	ppm	ASTM D6304	>1000	**45**	---	---

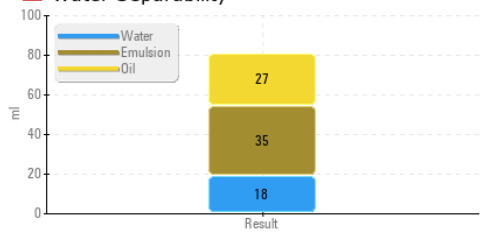
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>1300	**281**	361	156
Particles >6µm	ASTM D7647	>320	**79**	84	54
Particles >14µm	ASTM D7647	>40	**11**	4	9
Particles >21µm	ASTM D7647	>10	**2**	1	3
Particles >38µm	ASTM D7647	>3	**0**	0	0
Particles >71µm	ASTM D7647	>3	**0**	0	0
Oil Cleanliness	ISO 4406 (c)	>17/15/12	**15/13/11**	16/14/9	14/13/10

OIL ANALYSIS REPORT

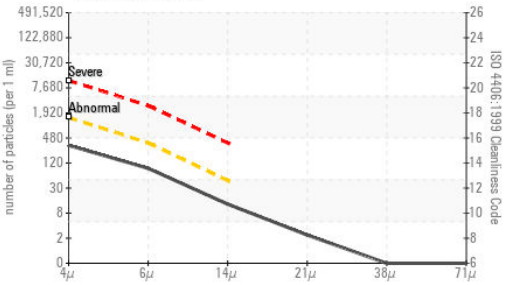
Foaming SEQ I/II/III



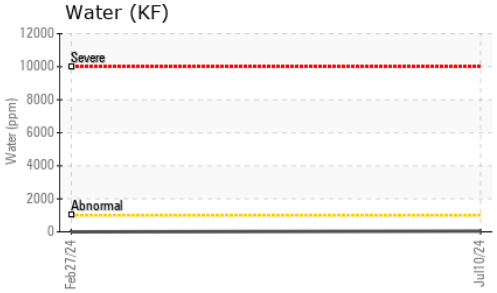
Water Separability



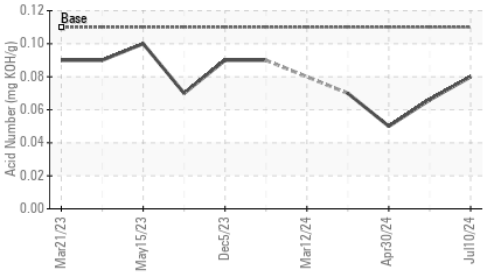
Particle Count



Water (KF)



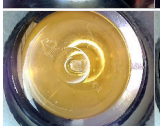
Acid Number



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.11	**0.08**	0.066	0.05

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**	NONE	NONE
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	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	64.9	**64.9**	65.0	64.63
Separability	oil/h2o/em	*ASTM D1401	41/39/0	▲ **27/18/35 (30)**	▲ 38/34/8 (30)	▲ 25/19/36 (30)
Air Release Time	min	*ASTM D3427	8	▲ **9.50**	9.90	▲ 11.2
Foam Tendency	I/II/III	*ASTM D892	10	**350/80/340**	260/70/270	10/70/10
Foam Stability	I/II/III	*ASTM D892	0	▲ **30/0/30**	0/0/0	0/0/0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0006621
Lab Number : 06234947
Unique Number : 11123781
Test Package : PLANT (Additional Tests: AirRelease, Foaming, H2OSeparability, KF, PrtCount)

Received : 12 Jul 2024
Tested : 24 Jul 2024
Diagnosed : 24 Jul 2024 - Doug Bogart

US ARMY CORPS OF ENGINEERS - OLD HICKORY
10 POWER PLANT RD
HENDERSONVILLE, TN
US 37075
Contact: Service Manager
T:
F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: USAHEN [WUSCAR] 06234947 (Generated: 07/24/2024 16:47:55) Rev: 1

Submitted By: JERRY BAILEY