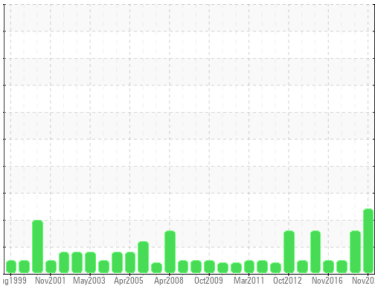
PROBLEM SUMMARY

Sample Rating Trend



WATER

Machine Id
HLK - TURBINE BEARING (S/N 61330)
Component
Bearing
Fluid
PETRO CANADA TURBOFLO R&O 46 (380 LTR)

COMPONENT CONDITION SUMMARY

No relevant graphs to display

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 follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. (Customer Sample Comment: Unsure date)

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	NORMAL
Appearance	scalar	Visual*	NORML	▲ **WGOIL**	NORML	NORML
Free Water	scalar	Visual*		▲ **1%**	NEG	NEG

Customer Id: NEWMIL
Sample No.: WC0827909
Lab Number: 02603211
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
Water Drain-off	MISSED	Dec 15 2023	?	We advise that you follow the water drain-off procedure for this component.
Resample	MISSED	Dec 15 2023	?	We recommend an early resample to monitor this condition.
Check Breathers	MISSED	Dec 15 2023	?	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	MISSED	Dec 15 2023	?	We advise that you check for the source of water entry.
Check Seals	MISSED	Dec 15 2023	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

23 Oct 2021 Diag: Kevin Marson

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 >4µm are abnormally high. Particles >6µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

11 Jul 2018 Diag: Kevin Marson

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. 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

01 Nov 2016 Diag: Kevin Marson

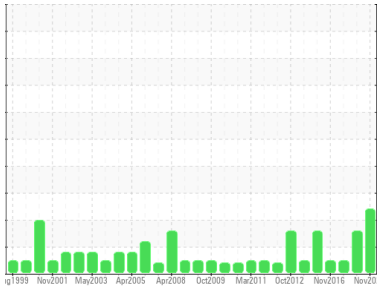
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. 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



WATER

Machine Id
HLK - TURBINE BEARING (S/N 61330)
Component
Bearing
Fluid
PETRO CANADA TURBOFLO R&O 46 (380 LTR)

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 follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. (Customer Sample Comment: Unsure date)

Wear

All component wear rates are normal.

Contamination

Free water present. The system cleanliness is acceptable for your 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		**WC0827909**	WC118599	WC965227
Sample Date		Client Info		**08 Nov 2023**	23 Oct 2021	11 Jul 2018
Machine Age	hrs	Client Info		**103437**	0	0
Oil Age	hrs	Client Info		**103437**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

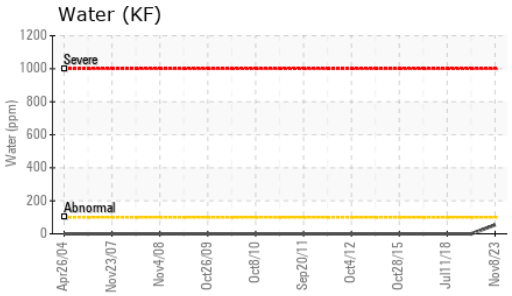
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	**<1**	2	<1
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**0**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**0**	0	0
Lead	ppm	ASTM D5185(m)	>20	**0**	<1	<1
Copper	ppm	ASTM D5185(m)	>20	**<1**	<1	0
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	<1

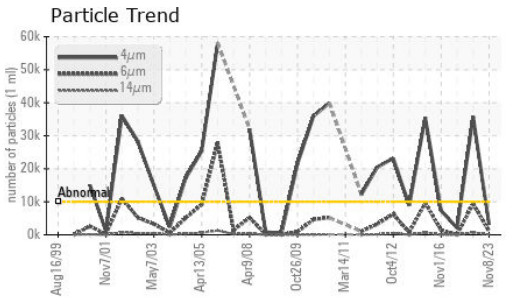
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	<1	0
Barium	ppm	ASTM D5185(m)		**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	<1
Magnesium	ppm	ASTM D5185(m)		**0**	0	<1
Calcium	ppm	ASTM D5185(m)	0	**0**	<1	<1
Phosphorus	ppm	ASTM D5185(m)	3	**3**	3	2
Zinc	ppm	ASTM D5185(m)	0	**<1**	1	1
Sulfur	ppm	ASTM D5185(m)		**132**	99	79
Lithium	ppm	ASTM D5185(m)		**<1**	<1	0

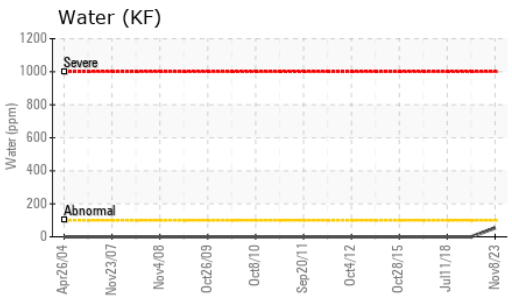
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**0**	<1	<1
Sodium	ppm	ASTM D5185(m)		**0**	<1	1
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	0
Water	%	ASTM D6304*	>2	**0.005**	---	---
ppm Water	ppm	ASTM D6304*		**54**	---	---

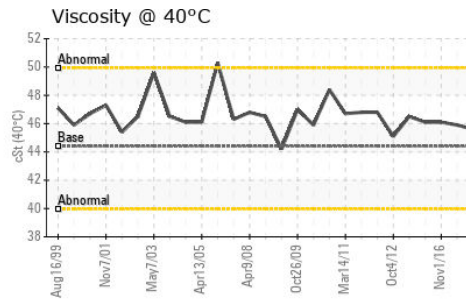
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**3162**	▲ 35769	2054
Particles >6µm		ASTM D7647	>2500	**1100**	▲ 9403	117
Particles >14µm		ASTM D7647	>160	**81**	▲ 710	4
Particles >21µm		ASTM D7647	>40	**18**	▲ 149	1
Particles >38µm		ASTM D7647	>10	**1**	5	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/14	**19/17/14**	▲ 22/20/17	18/14/9

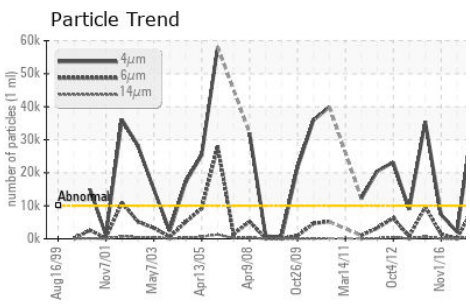
OIL ANALYSIS REPORT









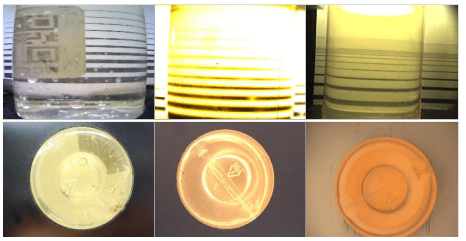


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.12	**0.06**	0.10	0.095

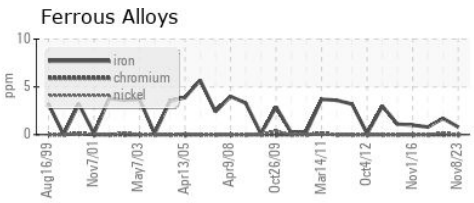
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	VLITE	NONE
Sand/Dirt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

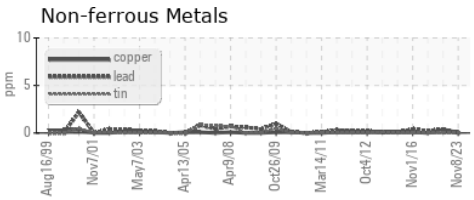
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	44.4	**44.8**	45.6	45.9

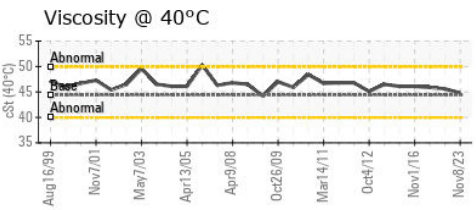
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

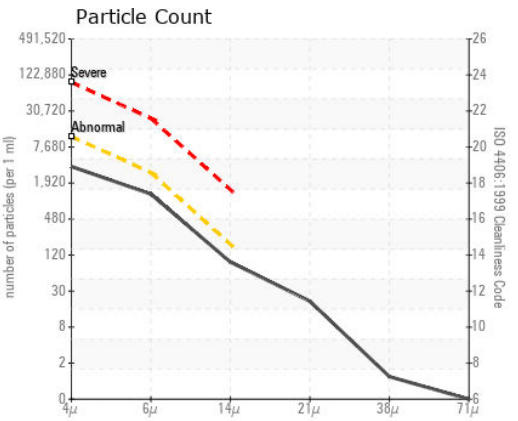


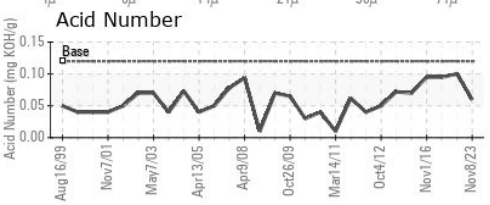
GRAPHS











ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **NEWFOUNDLAND & LABRADOR HYDRO**
Sample No. : WC0827909 **Recieved** : 14 Dec 2023 BAY D`ESPOIR WHSE,, 1 CAMP BOGGY RD., PO BOX 100
Lab Number : 02603211 **Diagnosed** : 15 Dec 2023 MILLTOWN, BAY D`ESPOIR, NL
Unique Number : 5696296 **Diagnostician** : Kevin Marson CA A0H 1W0
Test Package : IND 2 (Additional Tests: KF, TAN Man) Contact: Matthew Lambert
matthewlambert@nlh.nl.ca
T: (709)882-3126
F: (709)882-3161

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.