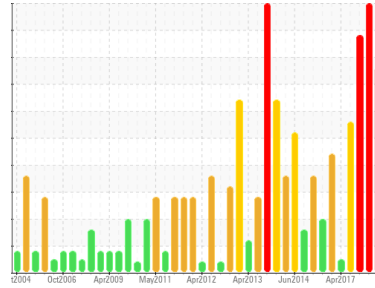




PROBLEM SUMMARY

Sample Rating Trend



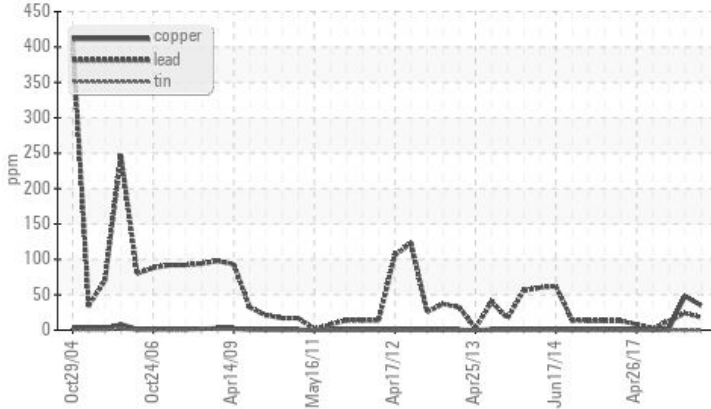
WEAR



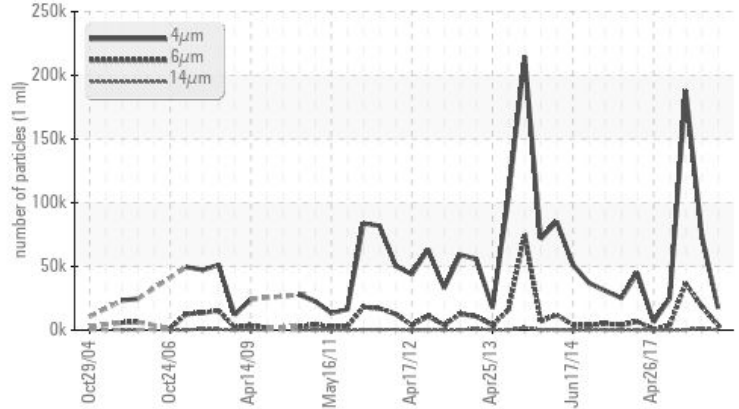
Area
[192038]
Machine Id
HCP G1 TUBR
Component
Turbine
Fluid
MOBIL DTE OIL HVY MEDIUM (27 LTR)

COMPONENT CONDITION SUMMARY

Non-ferrous Metals



Particle Trend



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	SEVERE	SEVERE	
Copper	ppm	ASTM D5185(m)	>5	35	48	1
Particles >6µm		ASTM D7647	>640	3843	18464	36642
Particles >14µm		ASTM D7647	>80	231	1126	367
Particles >21µm		ASTM D7647	>20	61	267	34
Oil Cleanliness		ISO 4406 (c)	>--/16/13	21/19/15	23/21/17	25/22/16

Customer Id: NEWSTJ
Sample No.: WC0445386
Lab Number: 02517622
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
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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	MISSED	Jun 12 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	MISSED	Jun 12 2023	?	We recommend an early resample to monitor this condition.
Alert	MISSED	Jun 12 2023	?	NOTE: We recommend using IND 3 test kits,
Filter Fluid	MISSED	Jun 12 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

WEAR



21 Oct 2021 Diag: Kevin Marson

We advise that you check all areas where contaminants can enter the system. We recommend that you drain the oil from the component if this has not already been done. 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. Copper ppm levels are severe. Lead ppm levels are abnormal. A sharp increase in the copper level is noted. An increase in the lead level is noted. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Particles >38µm are abnormally high. 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



WATER



27 Feb 2020 Diag: Kevin Marson

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. We advise that you follow the water drain-off procedure for this component. 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 recommend that you change the oil. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. All component wear rates are normal. Water Water and ppm water contamination levels are severe. Particles >6µm are severely high. Particles >6µm are severely high.. Particles >14µm are abnormally high. Particles >21µm are notably high. There is a high 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 white residue present in the sample is oil additive precipitate. 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



WATER



13 Jan 2020 Diag: Bill Quesnel

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. We advise that you follow the water drain-off procedure for this component. We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was specified as MOBIL DTE OIL HVY MEDIUM, however, a fluid match indicates that this fluid is ISO 68 R&O Hydraulic Oil. Please confirm the oil type and grade on your next sample. All component wear rates are normal. Water Water and ppm water and ppm water contamination levels are severe. Particles >6µm are abnormally high. There is a high concentration of water present in the oil. Free water present. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. Additive levels indicate the addition of a different brand, or type 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.

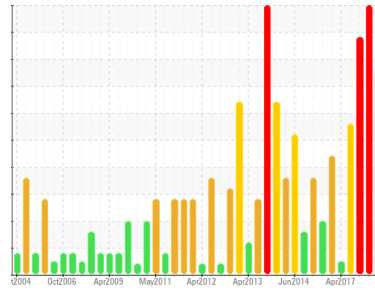
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
[192038]
 Machine Id
HCP G1 TUBR
 Component
Turbine
 Fluid
MOBIL DTE OIL HVY MEDIUM (27 LTR)

DIAGNOSIS

Recommendation

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.

Wear

Copper ppm levels are severe.

Contamination

Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >6µm and oil cleanliness are abnormally high. The water content is negligible. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0445386	WC0445210	WC0316839
Sample Date	Client Info		27 May 2022	21 Oct 2021	27 Feb 2020
Machine Age	hrs	Client Info	80	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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >15	1	1	4
Chromium	ppm	ASTM D5185(m) >4	0	0	0
Nickel	ppm	ASTM D5185(m) >2	0	<1	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	<1	<1
Aluminum	ppm	ASTM D5185(m) >10	0	<1	<1
Lead	ppm	ASTM D5185(m)	18	▲ 24	13
Copper	ppm	ASTM D5185(m) >5	● 35	● 48	1
Tin	ppm	ASTM D5185(m) >5	0	0	0
Antimony	ppm	ASTM D5185(m)	<1	<1	<1
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

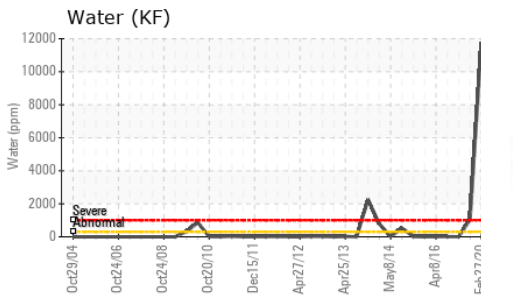
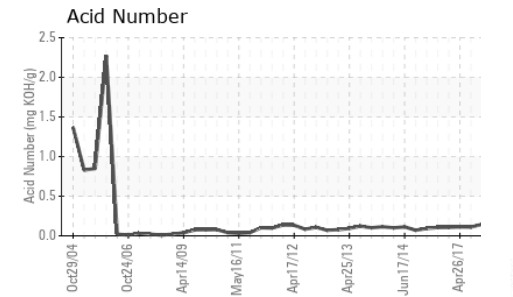
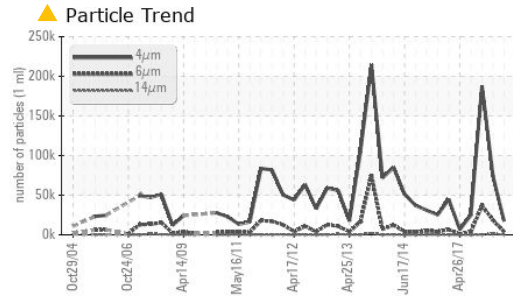
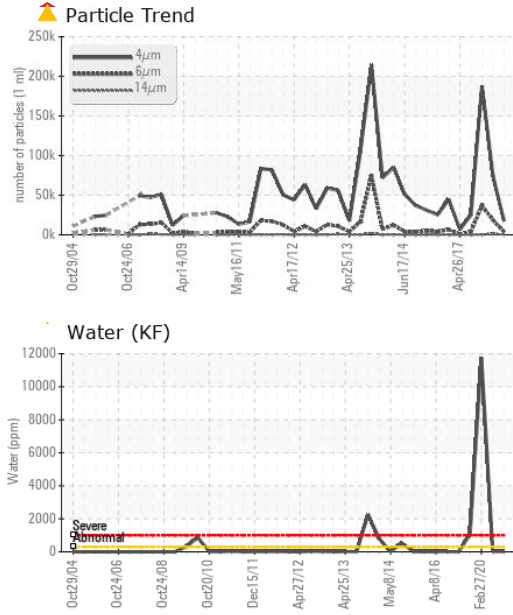
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	0	0	0
Calcium	ppm	ASTM D5185(m)	0	<1	<1
Phosphorus	ppm	ASTM D5185(m)	134	129	130
Zinc	ppm	ASTM D5185(m)	40	35	70
Sulfur	ppm	ASTM D5185(m)	649	1821	1817
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	<1	2	1
Sodium	ppm	ASTM D5185(m)	<1	<1	0
Potassium	ppm	ASTM D5185(m) >20	<1	<1	<1
Water	%	ASTM D6304* >0.03	0.001	0.001	● 1.174
ppm Water	ppm	ASTM D6304* >300	14.1	14.3	● 11744.3

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		17409	74063	188012
Particles >6µm	ASTM D7647	>640	▲ 3843	● 18464	● 36642
Particles >14µm	ASTM D7647	>80	▲ 231	● 1126	▲ 367
Particles >21µm	ASTM D7647	>20	▲ 61	● 267	▲ 34
Particles >38µm	ASTM D7647	>4	2	▲ 15	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/16/13	▲ 21/19/15	● 23/21/17	● 25/22/16



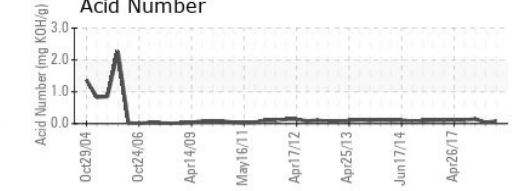
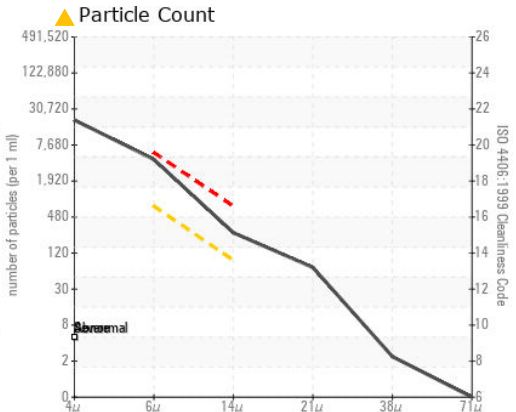
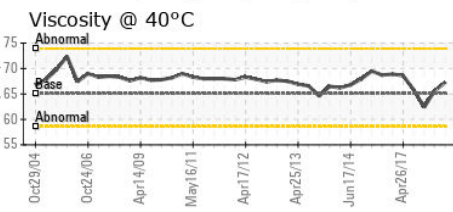
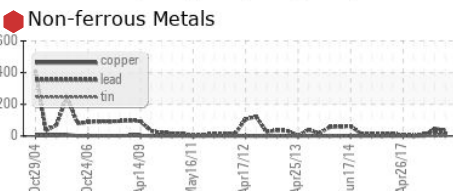
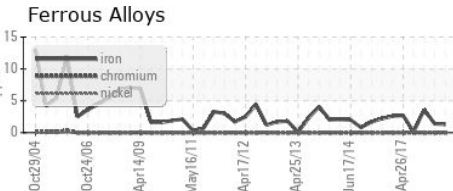
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.08	0.04	0.145

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	▲ LTMOD
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	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.03	NEG	NEG	● >10%
Free Water	scalar	Visual*		NEG	NEG	▲ .2%

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	65.1	67.3	65.6	62.4

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0445386
Lab Number : 02517622
Unique Number : 5474602
Test Package : IND 2

NEWFOUNDLAND POWER INC.
 50 DUFFY PLACE, PO BOX 8910
 ST. JOHNS, NL
 CA A1B 3P6
 Contact: Paul Martin
 pmartin@newfoundlandpower.com
 T:
 F: (709)737-2926

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.