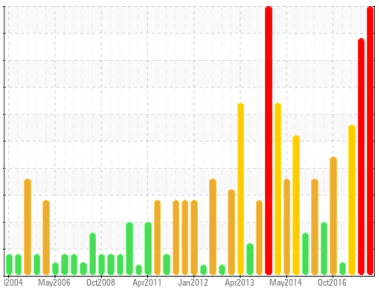
PROBLEM SUMMARY

Sample Rating Trend

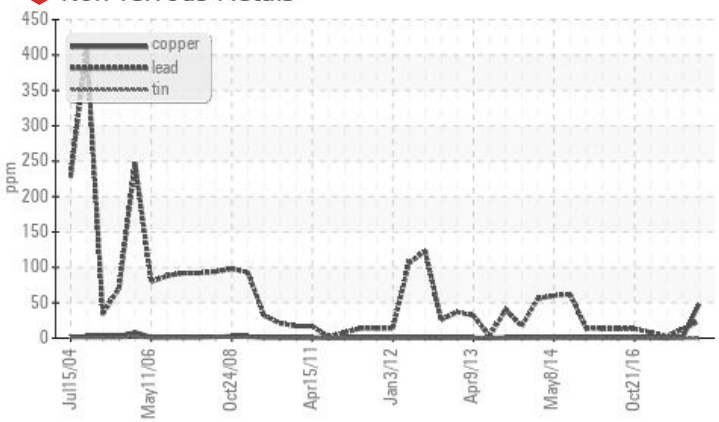


WEAR

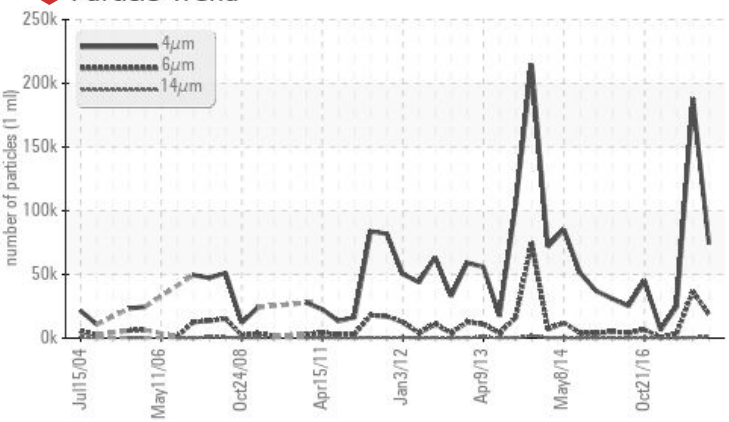
Area
[188532]
Machine Id
HCP G1 TUBR
Component
Turbine
Fluid
MOBIL DTE OIL HVY MEDIUM (27 LTR)

COMPONENT CONDITION SUMMARY

Non-ferrous Metals



Particle Trend



RECOMMENDATION

We advise that you 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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Lead	ppm	ASTM D5185(m)		▲ **24**	13	2
Copper	ppm	ASTM D5185(m)	>5	⬢ **48**	1	<1
Particles >6µm		ASTM D7647	>640	⬢ **18464**	⬢ 36642	▲ 3584
Particles >14µm		ASTM D7647	>80	⬢ **1126**	▲ 367	45
Particles >21µm		ASTM D7647	>20	⬢ **267**	▲ 34	10
Particles >38µm		ASTM D7647	>4	▲ **15**	1	0
Oil Cleanliness		ISO 4406 (c)	>--/16/13	⬢ **23/21/17**	⬢ 25/22/16	▲ 22/19/13

Customer Id: NEWSTJ
Sample No.: WC0445210
Lab Number: 02467380
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 Fluid	MISSED	Oct 21 2022	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	MISSED	Oct 21 2022	?	Resample in 30-45 days to monitor this situation.
Check Breathers	MISSED	Oct 21 2022	?	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	MISSED	Oct 21 2022	?	We advise that you check all areas where contaminants can enter the system.

HISTORICAL DIAGNOSIS

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

26 Apr 2017 Diag: Kevin Marson

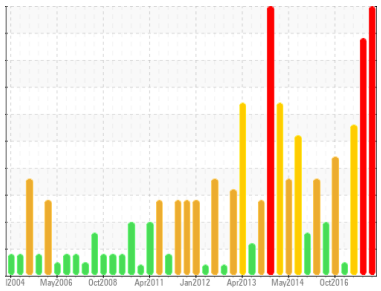
NORMAL

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 water content is negligible. 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



WEAR

Area
[188532]
Machine Id
HCP G1 TUBR
Component
Turbine
Fluid
MOBIL DTE OIL HVY MEDIUM (27 LTR)

DIAGNOSIS

Recommendation

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.

Wear

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.

Contamination

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.

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		**WC0445210**	WC0316839	WC0316866
Sample Date		Client Info		**21 Oct 2021**	27 Feb 2020	13 Jan 2020
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

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

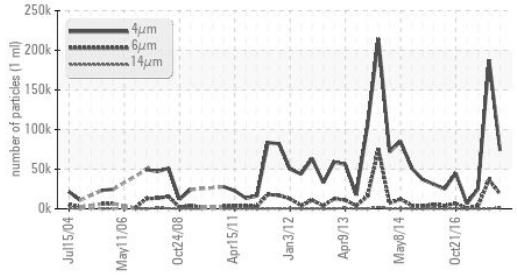
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	<1	<1
Barium	ppm	ASTM D5185(m)		**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**0**	0	0
Calcium	ppm	ASTM D5185(m)		**<1**	<1	<1
Phosphorus	ppm	ASTM D5185(m)		**129**	130	3
Zinc	ppm	ASTM D5185(m)		**35**	70	<1
Sulfur	ppm	ASTM D5185(m)		**1821**	1817	▲ 128
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**2**	1	0
Sodium	ppm	ASTM D5185(m)		**<1**	0	0
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Water	%	ASTM D6304*	>0.03	**0.001**	● 1.174	● 0.105
ppm Water	ppm	ASTM D6304*	>300	**14.3**	● 11744.3	● 1052.2

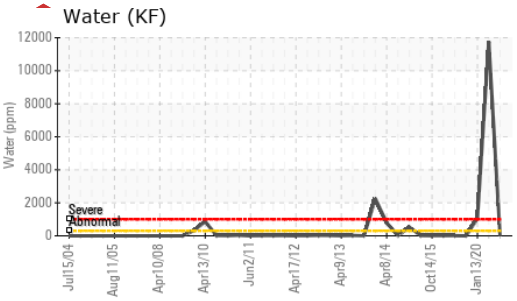
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**74063**	188012	24954
Particles >6µm		ASTM D7647	>640	● **18464**	● 36642	▲ 3584
Particles >14µm		ASTM D7647	>80	● **1126**	▲ 367	45
Particles >21µm		ASTM D7647	>20	● **267**	▲ 34	10
Particles >38µm		ASTM D7647	>4	▲ **15**	1	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>--/16/13	● **23/21/17**	● 25/22/16	▲ 22/19/13

OIL ANALYSIS REPORT

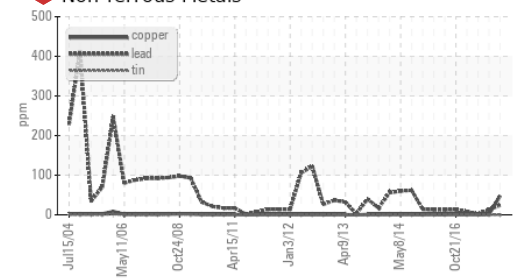
Particle Trend



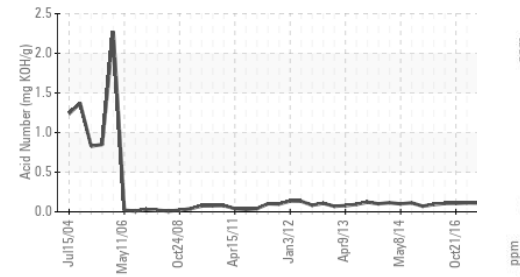
Water (KF)



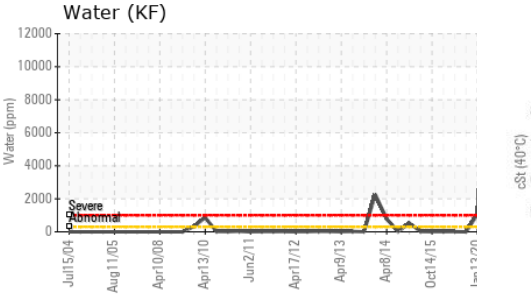
Non-ferrous Metals



Acid Number



Water (KF)

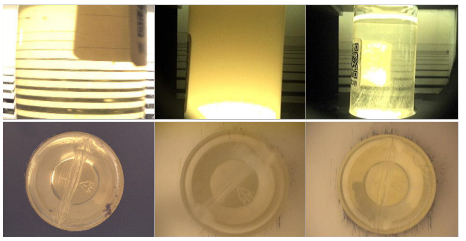


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.04**	0.145	0.111

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**	▲ LTMOD	VLITE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**VLITE**	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*	>0.03	**NEG**	⬢ >10%	⬢ .5%
Free Water	scalar	Visual*		**NEG**	▲ .2%	▲ .5%

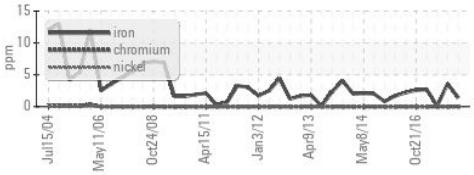
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	65.1	**65.6**	62.4	65.8

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

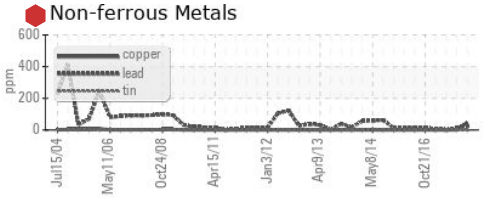


GRAPHS

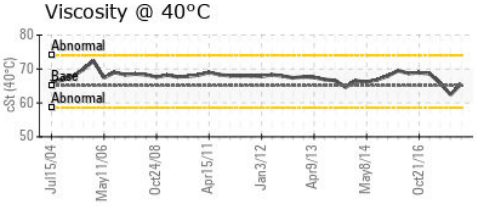
Ferrous Alloys



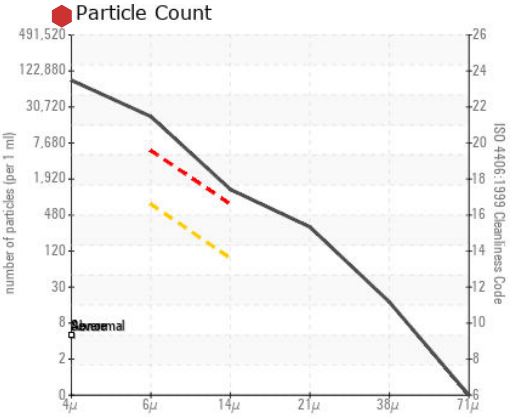
Non-ferrous Metals



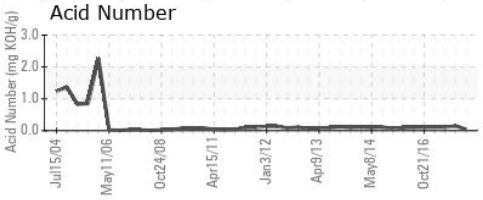
Viscosity @ 40°C



Particle Count



Acid Number



CALA
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0445210
Lab Number : 02467380
Unique Number : 5344298
Test Package : IND 2

Received : 20 Jan 2022
Diagnosed : 21 Jan 2022
Diagnostician : Kevin Marson

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.

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