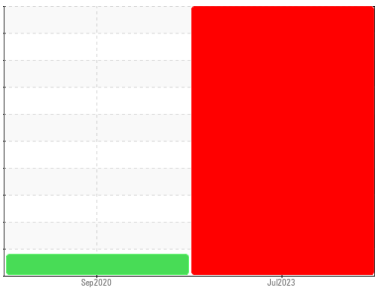
PROBLEM SUMMARY

Sample Rating Trend

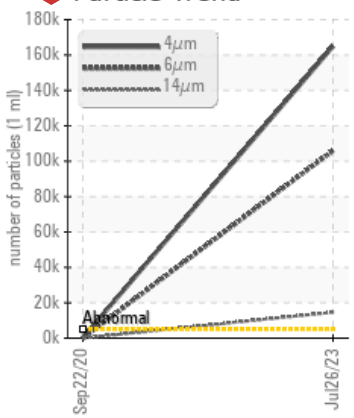


WEAR

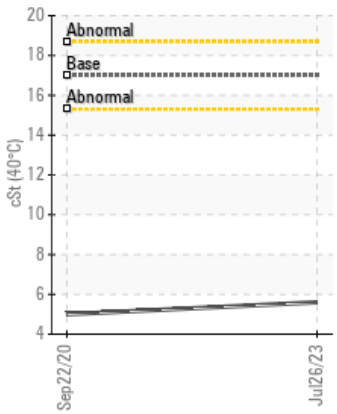
Machine Id
MOFFMAN HFM002
Component
Hydraulic System
Fluid
HOUGHTON DASCOLENE 598 DBR (--- GAL)

COMPONENT CONDITION SUMMARY

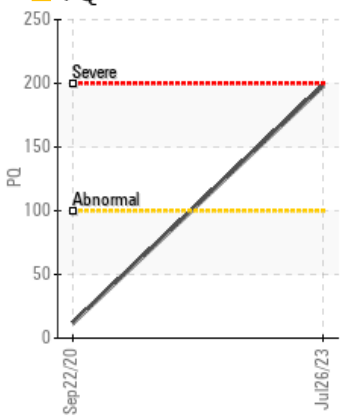
Particle Trend



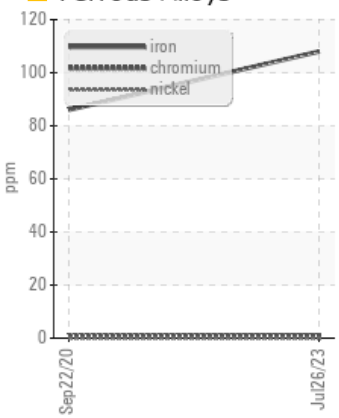
Viscosity @ 40°C



PQ



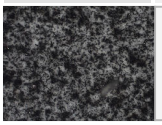
Ferrous Alloys



RECOMMENDATION

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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ATTENTION	---
PQ		ASTM D8184*		▲ **198**	12	---
Iron	ppm	ASTM D5185(m)	>20	▲ **108**	▲ 86	---
Particles >4µm		ASTM D7647	>5000	⬢ **164951**	256	---
Particles >6µm		ASTM D7647	>1300	⬢ **106004**	73	---
Particles >14µm		ASTM D7647	>160	⬢ **14644**	10	---
Particles >21µm		ASTM D7647	>40	⬢ **3945**	4	---
Particles >38µm		ASTM D7647	>10	⬢ **104**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	⬢ **25/24/21**	15/13/10	---
White Metal	scalar	Visual*	NONE	▲ **VLITE**	NONE	---
Debris	scalar	Visual*	NONE	▲ **LIGHT**	NONE	---
Visc @ 40°C	cSt	ASTM D7279(m)	17	▲ **5.6**	5.0	---
PrtFilter					*no image*	*no image*

Customer Id: CAM148GUE
Sample No.: PC0076477
Lab Number: 02572949
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
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Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Alert	---	---	?	We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
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 Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

22 Sep 2020 Diag: Kevin Marson

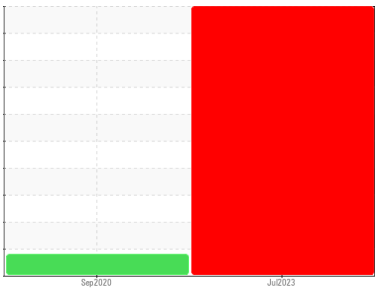
WEAR

Resample at the next service interval to monitor. Please submit a sample of the new (unused) oil to establish a baseline. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.Iron ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. All other 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



WEAR

Machine Id
MOFFMAN HFM002
Component
Hydraulic System
Fluid
HOUGHTON DASCOLENE 598 DBR (--- GAL)

DIAGNOSIS

Recommendation

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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

Wear

Light concentration of visible metal present. The high ferrous density (PQ) index indicates that abnormal wear is occurring.

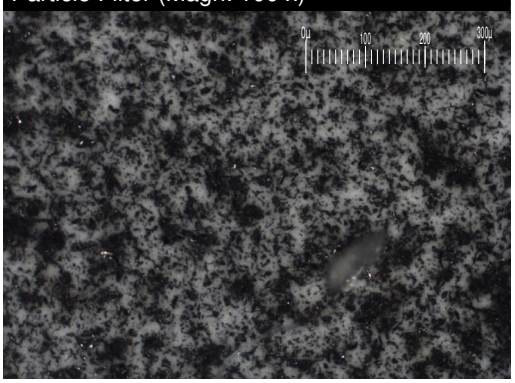
Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil. Moderate concentration of visible dirt/debris present in the oil.

Fluid Condition

Viscosity of sample indicates oil is within ISO 5 range, advise investigate. The AN level is acceptable for this fluid.

Particle Filter (Magn: 100 x)



SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0076477**	PC0022865	---
Sample Date		Client Info		**26 Jul 2023**	22 Sep 2020	---
Machine Age	hrs	Client Info		**0**	0	---
Oil Age	hrs	Client Info		**1440**	0	---
Oil Changed		Client Info		**Filtered**	N/A	---
Sample Status				**SEVERE**	ATTENTION	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		▲ **198**	12	---
Iron	ppm	ASTM D5185(m)	>20	▲ **108**	▲ 86	---
Chromium	ppm	ASTM D5185(m)	>10	**1**	<1	---
Nickel	ppm	ASTM D5185(m)	>10	**0**	0	---
Titanium	ppm	ASTM D5185(m)		**0**	0	---
Silver	ppm	ASTM D5185(m)		**<1**	<1	---
Aluminum	ppm	ASTM D5185(m)	>10	**<1**	<1	---
Lead	ppm	ASTM D5185(m)	>10	**<1**	<1	---
Copper	ppm	ASTM D5185(m)	>75	**8**	10	---
Tin	ppm	ASTM D5185(m)	>10	**<1**	<1	---
Antimony	ppm	ASTM D5185(m)		**0**	<1	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**0**	0	---

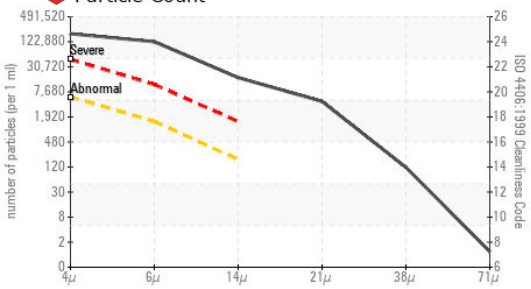
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**6**	4	---
Barium	ppm	ASTM D5185(m)		**0**	0	---
Molybdenum	ppm	ASTM D5185(m)		**0**	0	---
Manganese	ppm	ASTM D5185(m)		**12**	15	---
Magnesium	ppm	ASTM D5185(m)		**<1**	<1	---
Calcium	ppm	ASTM D5185(m)		**2**	6	---
Phosphorus	ppm	ASTM D5185(m)		**537**	405	---
Zinc	ppm	ASTM D5185(m)		**13**	15	---
Sulfur	ppm	ASTM D5185(m)		**340**	224	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**3**	<1	---
Sodium	ppm	ASTM D5185(m)		**<1**	0	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	1	---

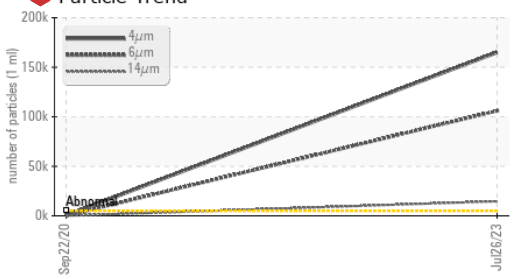
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	● **164951**	256	---
Particles >6µm		ASTM D7647	>1300	● **106004**	73	---
Particles >14µm		ASTM D7647	>160	● **14644**	10	---
Particles >21µm		ASTM D7647	>40	● **3945**	4	---
Particles >38µm		ASTM D7647	>10	● **104**	0	---
Particles >71µm		ASTM D7647	>3	**1**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	● **25/24/21**	15/13/10	---

OIL ANALYSIS REPORT

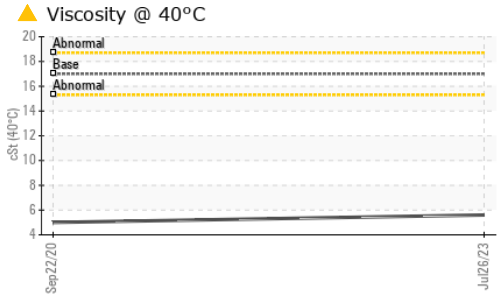
Particle Count



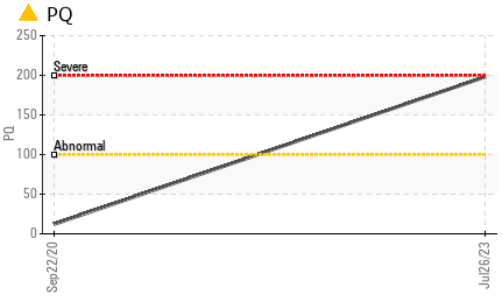
Particle Trend



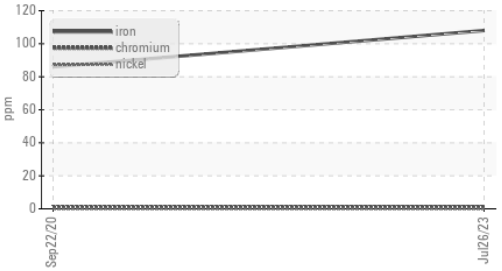
Viscosity @ 40°C



PQ



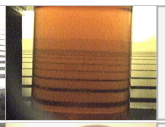
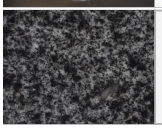
Ferrous Alloys



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.14**	0.10	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	▲ **VLITE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**VLITE**	NONE	---
Debris	scalar	Visual*	NONE	▲ **LIGHT**	NONE	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	---
Appearance	scalar	Visual*	NORML	**NORML**	NORML	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	---
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	---
Free Water	scalar	Visual*		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	17	▲ **5.6**	5.0	---
Visc @ 100°C	cSt	ASTM D7279(m)		**1.9**	1.7	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*
PrtFilter				*no image*	*no image*

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076477 **Received** : 28 Jul 2023
Lab Number : 02572949 **Diagnosed** : 01 Aug 2023
Unique Number : 5618000 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, KV100, PQ, PrtFilter, VI)

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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