

PROBLEM SUMMARY

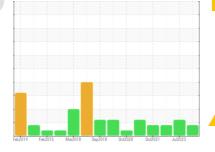
Sample Rating Trend

ISO

Lockring Roughing Mori Seiki Lock Ring Roughing # 294 - cc4031

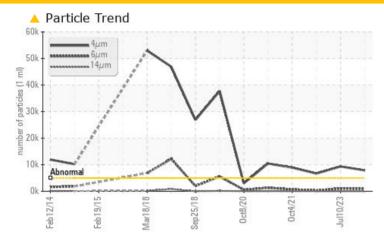
Hydraulic System

FUCHS RENOLIN AW ISO 32 (2 LTR)





COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

PROBLEMATIC T	EST RESULTS				
Sample Status			ATTENTION	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>5000	<u> </u>	△ 9348	<u>▲</u> 6676
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<u>^ 20/17/11</u>	▲ 20/17/12	<u>20/15/11</u>

Customer Id: HUSBOLED Sample No.: WC0888624 Lab Number: 02602280 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
Change Filter			?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

10 Jul 2023 Diag: Kevin Marson

VISCOSITY



We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for topup/fill. Resample at the next service interval to monitor. The fluid was specified as FUCHS RENOLIN AW ISO 68, however, a fluid match indicates that this fluid is ISO 32 AW Hydraulic Oil. Please confirm the oil type and grade on your next sample. All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



13 Feb 2022 Diag: Kevin Marson

VISCOSITY



We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for topup/fill. Resample at the next service interval to monitor. The fluid was specified as FUCHS RENOLIN AW ISO 68, however, a fluid match indicates that this fluid is ISO 32 AW Hydraulic Oil. Please confirm the oil type and grade on your next sample.All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



04 Oct 2021 Diag: Kevin Marson

VISCOSITY



We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for topup/fill. Resample at the next service interval to monitor. The fluid was specified as FUCHS RENOLIN AW ISO 68, however, a fluid match indicates that this fluid is ISO 32 AW Hydraulic Oil. Please confirm the oil type and grade on your next sample. All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



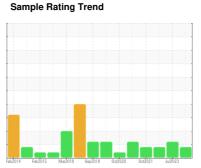


OIL ANALYSIS REPORT

Lockring Roughing Mori Seiki Lock Ring Roughing # 294 - cc4031

Hydraulic System

FUCHS RENOLIN AW ISO 32 (2 LTR)





DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil.

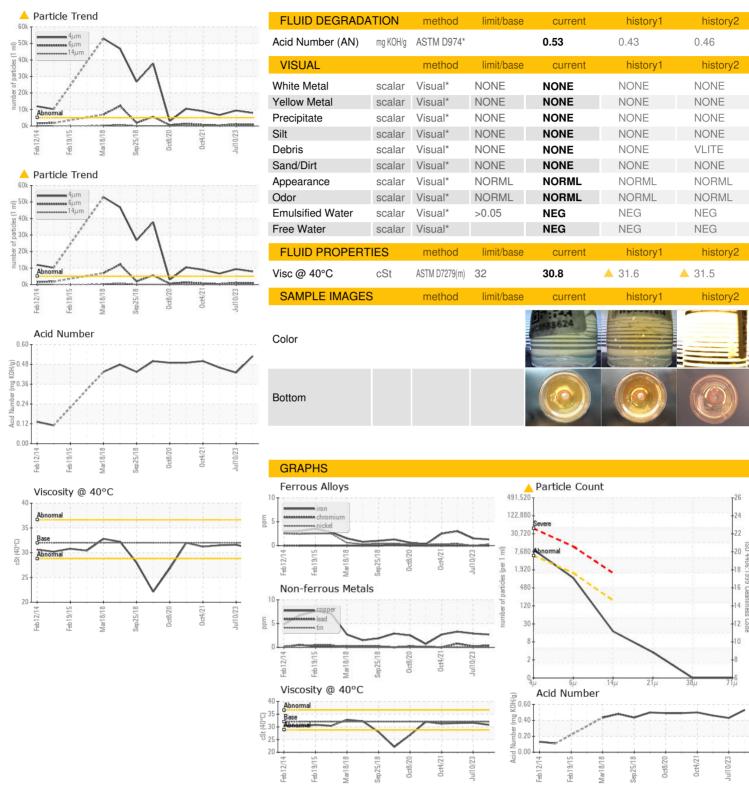
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info WC0888624 WC0837814 WC0671081 Sample Date Client Info 10 Dec 2023 10 Jul 2023 13 Feb 2022 Machine Age days Client Info 0 0 0 Oil Age days Client Info N/A N/A N/A Oil Changed Client Info N/A N/A N/A Sample Status Tenson ATTENTION ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >20 0 0 0 WEAR METALS method limit/base current history1 history2 Iron ppm	Sample Number Sample Date Machine Age day Oil Age day Oil Changed Sample Status	Client Info)			history2
Sample Date	Sample Date Machine Age day Oil Age day Oil Changed Sample Status	Client Info)	WC0888624		
Machine Age days Client Info 0 0 0 Oil Age days Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status ATTENTION ABNORMAL ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >20 1 2 3 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1	Machine Age day Oil Age day Oil Changed Sample Status	ys Client Info		WC0000024	WC0837814	WC0671081
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Sample Status ATTENTION ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >20 1 2 3 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1 0 <1 Silver ppm ASTM D5185(m) >20 <1 0 0 Aluminum ppm ASTM D5185(m) >20 <1 <1 <1 Lead ppm ASTM D5185(m) >20 3 3 3 Tin ppm ASTM D5185(m) >20 3 3 3 Tin ppm ASTM D5185(m) >20 0 0 0 <td< th=""><th>Sample Status</th><th>yo onent init</th><th></th><th>0</th><th>0</th><th>0</th></td<>	Sample Status	yo onent init		0	0	0
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Iron ppm ASTM D5185(m) >20 1 2 3 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1	Water	WC Method	d >0.05	NEG	NEG	NEG
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Nickel ppm ASTM D5185(m) >20 <1	Iron ppr	m ASTM D5185(m	>20	1	2	3
Titanium ppm ASTM D5185(m) 0 0 0 Silver ppm ASTM D5185(m) <1 0 0 Aluminum ppm ASTM D5185(m) >20 0 0 <1 Lead ppm ASTM D5185(m) >20 3 3 3 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 0	Chromium ppr	m ASTM D5185(m	>20	0	0	0
Silver ppm ASTM D5185(m) <1	Nickel ppr	m ASTM D5185(m	>20	<1	0	<1
Aluminum ppm ASTM D5185(m) >20 0 0 <1	Titanium ppr	m ASTM D5185(m)	0	0	0
Lead ppm ASTM D5185(m) >20 <1	Silver ppr	m ASTM D5185(m)	<1	0	0
Copper ppm ASTM D5185(m) > 20 3 3 3 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 0 ADDITIVES method limit/base current history1 history2	Aluminum ppr	m ASTM D5185(m	>20	0	0	<1
Tin ppm ASTM D5185(m) >20 0 0 0 Antimony ppm ASTM D5185(m) 0 0 0 0 Vanadium ppm ASTM D5185(m) 0 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 0 Cadmium ppm ASTM D5185(m) 0 0 0 0 ADDITIVES method limit/base current history1 history2	Lead ppr	m ASTM D5185(m	>20	<1	<1	<1
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 0 ADDITIVES method limit/base current history1 history2	Copper ppr	m ASTM D5185(m	>20	3	3	3
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	Tin ppr	m ASTM D5185(m	>20	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	Antimony ppr	m ASTM D5185(m)	0	0	0
Cadmium ppm ASTM D5185(m) 0 0 0 ADDITIVES method limit/base current history1 history2	Vanadium ppr	m ASTM D5185(m)	0	0	0
ADDITIVES method limit/base current history1 history2	Beryllium ppr	m ASTM D5185(m)	0	0	0
-	Cadmium ppr	m ASTM D5185(m)	0	0	0
Boron ASTM D5185(m) 2 2	ADDITIVES	method	limit/base	current	history1	history2
Boron ppm ASIM D5185(m) 3 3	Boron ppr	m ASTM D5185(m)	3	3	3
Barium ppm ASTM D5185(m) <1	Barium ppr	m ASTM D5185(m)	<1	0	0
Molybdenum ppm ASTM D5185(m) 0 0	Molybdenum ppr	m ASTM D5185(m)	0	0	0
Manganese ppm ASTM D5185(m) 0 0	Manganese ppr	m ASTM D5185(m)	0	0	0
Magnesium ppm ASTM D5185(m) 1 1 1	Magnesium ppr	m ASTM D5185(m)	1	1	1
Calcium ppm ASTM D5185(m) 41 44 41	Calcium ppr	m ASTM D5185(m)	41	44	41
Phosphorus ppm ASTM D5185(m) 327 356 333		,	,			
Zinc ppm ASTM D5185(m) 406 411 398	Zinc ppr	,	,			398
Sulfur ppm ASTM D5185(m) 2150 2266 1684		,	,		2266	1684
	Lithium ppr	m ASTM D5185(m		<1	<1	<1
Lithium ppm ASTM D5185(m) <1	CONTAMINANTS	method	limit/base	current	history1	history2
	Silicon ppr	m ASTM D5185(m	>15	0	<1	<1
CONTAMINANTS method limit/base current history1 history2	1.1	m ASTM D5185(m)	<1	<1	<1
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 0 <1 <1		m ASTM D5185(m	>20	0	<1	<1
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 0 <1 <1 Sodium ppm ASTM D5185(m) <1 <1 <1	Sodium ppr	30/		aller and		
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CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 0 <1 <1 Sodium ppm ASTM D5185(m) <1 <1 <1 Potassium ppm ASTM D5185(m) >20 0 <1 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 7873 9348 6676	Sodium ppi Potassium ppi FLUID CLEANLINESS Particles >4µm Particles >6µm	S method ASTM D7647	7 >5000 7 >1300	▲ 7873 896	▲ 9348 1065	▲ 6676 271
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 0 <1 <1 Sodium ppm ASTM D5185(m) <1 <1 <1 Potassium ppm ASTM D5185(m) >20 0 <1 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 7873 49348 6676 Particles >6μm ASTM D7647 >1300 896 1065 271	Sodium ppi Potassium ppi FLUID CLEANLINESS Particles >4µm Particles >6µm Particles >14µm	ASTM D7647 ASTM D7647 ASTM D7647	7 >5000 7 >1300 7 >160	▲ 7873 896 15	▲ 9348 1065 27	▲ 6676 271 17
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 0 <1 <1 Sodium ppm ASTM D5185(m) <1 <1 <1 Potassium ppm ASTM D5185(m) >20 0 <1 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 7873 49348 6676 Particles >6μm ASTM D7647 >1300 896 1065 271 Particles >14μm ASTM D7647 >160 15 27 17	Sodium ppi Potassium ppi FLUID CLEANLINESS Particles >4 µm Particles >6 µm Particles >14 µm Particles >21 µm	ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	7 >5000 7 >1300 7 >160 7 >40	▲ 7873 896 15	▲ 9348 1065 27 6	▲ 6676 271 17
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 0 <1 <1 Sodium ppm ASTM D5185(m) <1 <1 <1 Potassium ppm ASTM D5185(m) >20 0 <1 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 7873 49348 6676 Particles >6μm ASTM D7647 >1300 896 1065 271 Particles >14μm ASTM D7647 >160 15 27 17 Particles >21μm ASTM D7647 >40 3 6 6	Sodium ppi Potassium ppi FLUID CLEANLINESS Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm	ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	7 >5000 7 >1300 7 >160 7 >40 7 >10	▲ 7873 896 15 3	▲ 9348 1065 27 6	▲ 6676 271 17 6



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number **Unique Number**

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 HUSKY INJECTION MOLDING SYSTEMS LTD : WC0888624 : 02602280

Diagnosed : 5695365

Received : 11 Dec 2023 : 12 Dec 2023 Diagnostician

: Kevin Marson

530 QUEEN STREET SOUTH BOLTON, ON **CA L7E 5S5** Contact: Robert Cameron

Test Package : IND 2 (Additional Tests: TAN Man) 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.

rcameron@husky.ca T: (905)951-5000 F: (905)951-5167