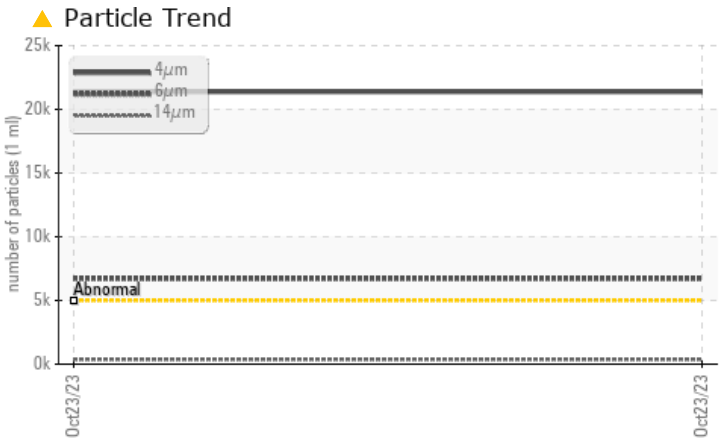
PROBLEM SUMMARY

Sample Rating Trend

ISO

Machine Id
MICRO TUNNELLING
Component
Hydraulic System
Fluid
QUAKER CHEMICAL QUINTOLUBRIC 888-68 (700 LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	---	---
Particles >4µm		ASTM D7647	>5000	▲ **21374**	---	---
Particles >6µm		ASTM D7647	>1300	▲ **6718**	---	---
Particles >14µm		ASTM D7647	>160	▲ **367**	---	---
Particles >21µm		ASTM D7647	>40	▲ **62**	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/20/16**	---	---

Customer Id: CUMNEW
Sample No.: ST43098
Lab Number: 02591787
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

STAUFF FILTRATION TECHNOLOGY

OIL ANALYSIS REPORT

Sample Rating Trend

ISO

Machine Id
MICRO TUNNELLING
Component
Hydraulic System
Fluid
QUAKER CHEMICAL QUINTOLUBRIC 888-68 (700 LTR)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

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

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		**ST43098**	---	---
Sample Date		Client Info		**23 Oct 2023**	---	---
Machine Age	yrs	Client Info		**0**	---	---
Oil Age	yrs	Client Info		**1**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**ABNORMAL**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	**3**	---	---
Chromium	ppm	ASTM D5185(m)	>20	**0**	---	---
Nickel	ppm	ASTM D5185(m)	>20	**0**	---	---
Titanium	ppm	ASTM D5185(m)		**0**	---	---
Silver	ppm	ASTM D5185(m)		**<1**	---	---
Aluminum	ppm	ASTM D5185(m)	>20	**0**	---	---
Lead	ppm	ASTM D5185(m)	>20	**0**	---	---
Copper	ppm	ASTM D5185(m)	>20	**<1**	---	---
Tin	ppm	ASTM D5185(m)	>20	**162**	---	---
Antimony	ppm	ASTM D5185(m)		**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**<1**	---	---
Barium	ppm	ASTM D5185(m)	0	**<1**	---	---
Molybdenum	ppm	ASTM D5185(m)	0	**0**	---	---
Manganese	ppm	ASTM D5185(m)	0	**0**	---	---
Magnesium	ppm	ASTM D5185(m)	0	**0**	---	---
Calcium	ppm	ASTM D5185(m)	10	**2**	---	---
Phosphorus	ppm	ASTM D5185(m)	200	**98**	---	---
Zinc	ppm	ASTM D5185(m)	125	**28**	---	---
Sulfur	ppm	ASTM D5185(m)	1000	**525**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

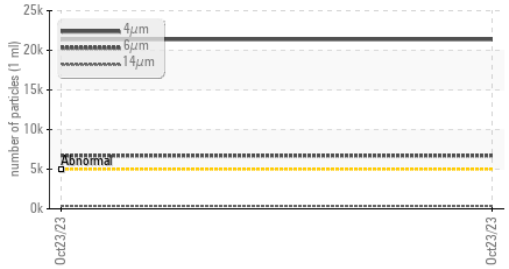
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**3**	---	---
Sodium	ppm	ASTM D5185(m)		**4**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	---	---
Water	%	ASTM D6304*	>0.05	**0.080**	---	---
ppm Water	ppm	ASTM D6304*	>500	**803.9**	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **21374**	---	---
Particles >6µm		ASTM D7647	>1300	▲ **6718**	---	---
Particles >14µm		ASTM D7647	>160	▲ **367**	---	---
Particles >21µm		ASTM D7647	>40	▲ **62**	---	---
Particles >38µm		ASTM D7647	>10	**7**	---	---
Particles >71µm		ASTM D7647	>3	**4**	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/20/16**	---	---

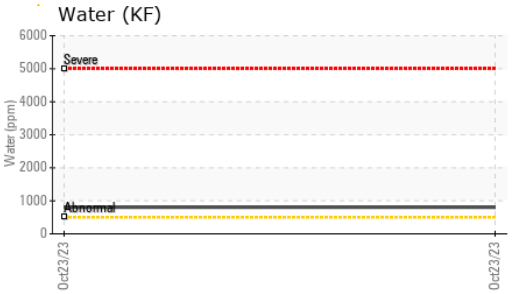
OIL ANALYSIS REPORT

STAUFF FILTRATION TECHNOLOGY

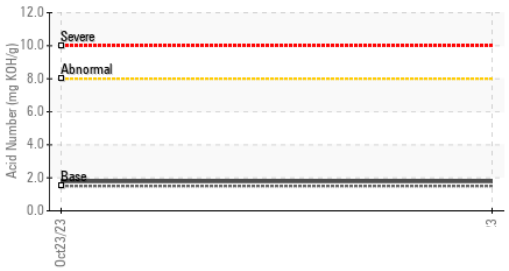
Particle Trend



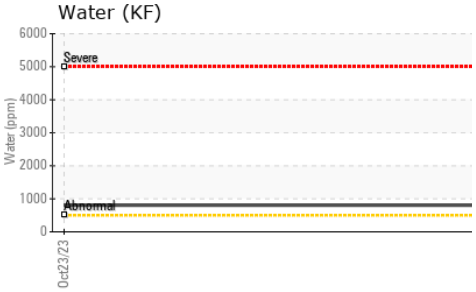
Water (KF)



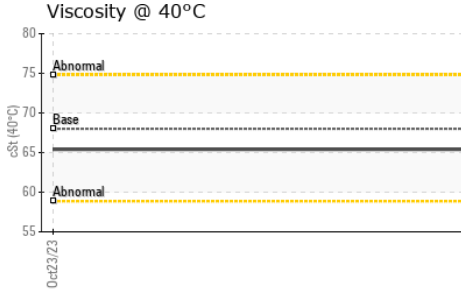
Acid Number



Water (KF)



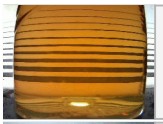
Viscosity @ 40°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.5	**1.78**	---	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**VLITE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*	>0.05	**NEG**	---	---
Free Water	scalar	Visual*		**NEG**	---	---

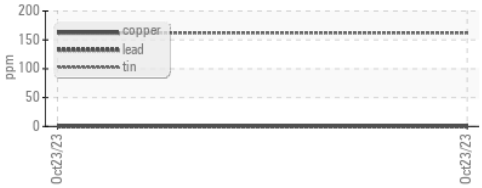
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68	**65.4**	---	---

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

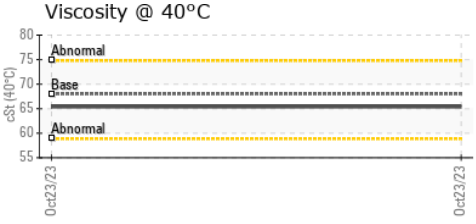
GRAPHS

Ferrous Alloys

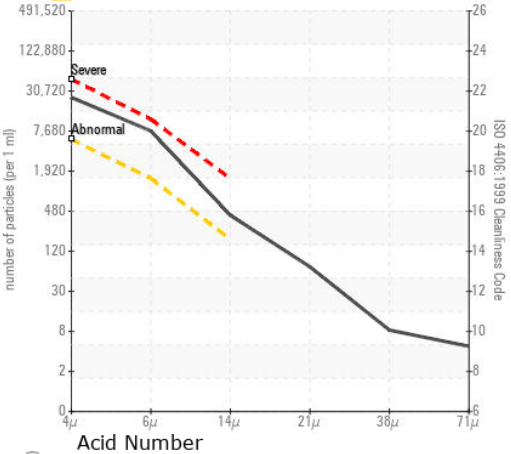
Non-ferrous Metals



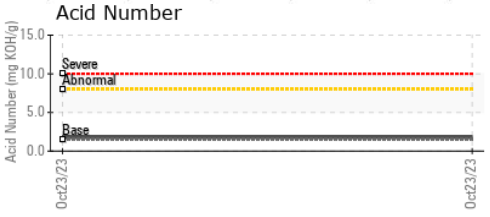
Viscosity @ 40°C



Particle Count



Acid Number



CALA Testing Accreditation No. 1005078
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : ST43098 **Received** : 25 Oct 2023
Lab Number : 02591787 **Diagnosed** : 26 Oct 2023
Unique Number : 5668866 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: KF, 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.

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