

PROBLEM SUMMARY

Sample Rating Trend

WATER

Machine Id

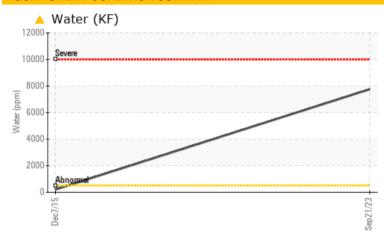
KAESER SX 7.5 4817968 (S/N 1139)

Component

Compressor

KAESER SIGMA (OEM) M-460 (--- QTS)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

There is too much water present in this sample to perform a particle count. We advise that you stop the unit and follow the water drain-off procedure for this component. We recommend an early resample in 500 hours to monitor this condition.

PROBLEMATIC TEST RESULTS											
Sample Status				ABNORMAL	ABNORMAL						
Water	%	ASTM D6304	>0.05	△ 0.776	0.020						
ppm Water	ppm	ASTM D6304	>500	7760	200						
Emulsified Water	scalar	*Visual	>0.05	0.2%	NEG						

Customer Id: ZAHLOV Sample No.: KCPA000642 Lab Number: 05982393 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:

Don Baldridge +1 don.b505@comcast.net

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

07 Dec 2015 Diag: Jonathan Hester

ISO

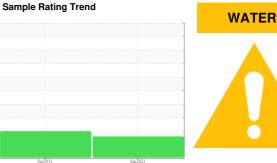


Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





OIL ANALYSIS REPORT



KAESER SX 7.5 4817968 (S/N 1139)

Compressor

KAESER SIGMA (OEM) M-460 (--- QTS)

DIAGNOSIS

Recommendation

There is too much water present in this sample to perform a particle count. We advise that you stop the unit and follow the water drain-off procedure for this component. We recommend an early resample in 500 hours to monitor this condition.

All component wear rates are normal.

Contamination

There is a moderate concentration of water present in the oil.

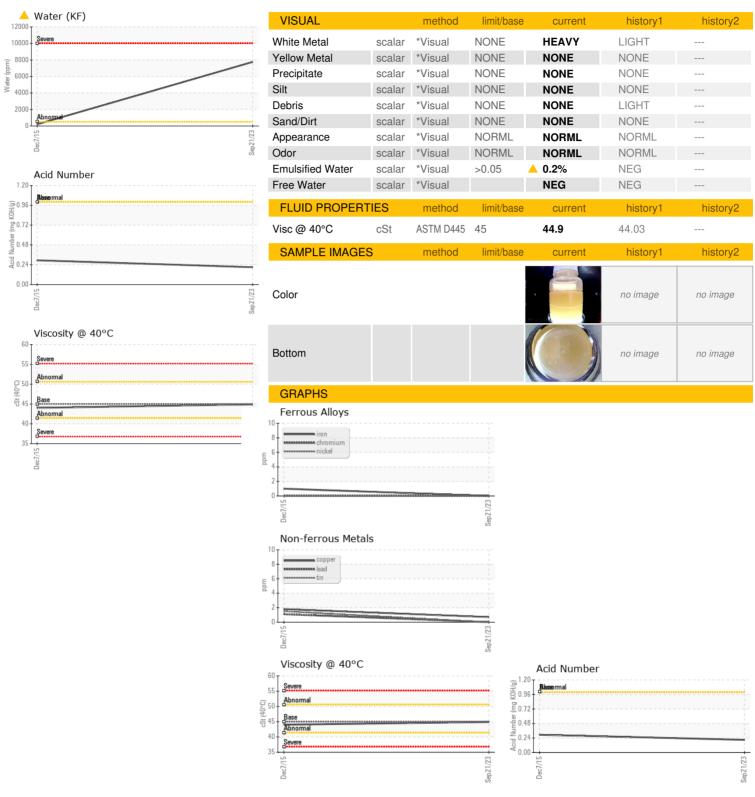
Fluid Condition

The AN level is acceptable for this fluid.

Sample Date Client Info 21 Sep 2023 07 Dec 2015 Machine Age hrs Client Info 1865 330 Oil Age hrs Client Info 0 330 Oil Changed Client Info N/A Changed Sample Status MENDRMAL ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 1 Nickel ppm ASTM D5185m >10 0 0 Nickel ppm ASTM D5185m >3 0 0 Niker ppm ASTM D5185m >3 0 0 Alluminum ppm ASTM D5185m >10 0 1 Alluminum ppm ASTM D5185m >10 0 1 Astm D5185m >10 0				Dec2015	Sep2023		
Sample Date Client Info 21 Sep 2023 0.7 Dec 2015 Machine Age hrs Client Info 1865 330 Oil Age hrs Client Info N/A Changed Oil Changed Client Info N/A ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 1 Nickel ppm ASTM D5185m >3 0 0 Nickel ppm ASTM D5185m >3 0 0 Ritural mul ppm ASTM D5185m >10 0 0 Alluminum ppm ASTM D5185m >10 0 1 Copper ppm ASTM D5185m >10 0 1 Aphicum ppm ASTM D5185m >50 <1 2 Ti	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 1865 330 Oil Age hrs Client Info 0 330 Oil Changed Client Info N/A Changed Sample Status method limil/base current history1 history2 Iron ppm ASTM D5185m >50 0 1 Nickel ppm ASTM D5185m >3 0 0 Nickel ppm ASTM D5185m >3 0 0 Titanium ppm ASTM D5185m >3 0 0 Silver ppm ASTM D5185m >3 0 0 Lead ppm ASTM D5185m >10 0 1 Copper ppm ASTM D5185m >10 0 1 Vanadium ppm ASTM D5185m 0 0 0 Cad	Sample Number		Client Info		KCPA000642	KCP47739	
Oil Age hrs Client Info N/A Changed Oil Changed Client Info N/A Changed Sample Status method limit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 1 Chromium ppm ASTM D5185m >50 0 0 Nickel ppm ASTM D5185m >3 0 0 Silver ppm ASTM D5185m >3 0 0 Aluminum ppm ASTM D5185m >10 0 1 Aluminum ppm ASTM D5185m >10 0 1 Copper ppm ASTM D5185m >10 0 2 Tin ppm ASTM D5185m 0 0 0	Sample Date		Client Info		21 Sep 2023	07 Dec 2015	
Client Info N/A Changed Ch	Machine Age	hrs	Client Info		1865	330	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 1 Chromium ppm ASTM D5185m >3 0 0 Nickel ppm ASTM D5185m >3 0 0 Titanium ppm ASTM D5185m >2 0 <1	Oil Age	hrs	Client Info		0	330	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 1 Chromium ppm ASTM D5185m >10 0 0 Nickel ppm ASTM D5185m >3 0 0 Silver ppm ASTM D5185m >2 0 <1	Oil Changed		Client Info		N/A	Changed	
Iron	Sample Status				ABNORMAL	ABNORMAL	
Chromium ppm ASTM D5185m >10 0 0 ···· Nickel ppm ASTM D5185m >3 0 0 ···· Titanium ppm ASTM D5185m >3 0 0 ··· Siliver ppm ASTM D5185m >2 0 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	0	1	
Titanium	Chromium	ppm	ASTM D5185m	>10	0	0	
Silver	Nickel	ppm	ASTM D5185m	>3	0	0	
Aluminum ppm ASTM D5185m >10 0 0 Lead ppm ASTM D5185m >10 0 1 Copper ppm ASTM D5185m >50 <1 2 Tin ppm ASTM D5185m >10 0 2 Antimony ppm ASTM D5185m >10 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 3 Calcium ppm ASTM D5185m 0 0 3 Zinc ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 20 0 3 Sodium ppm	Titanium	ppm	ASTM D5185m	>3	0	0	
Lead ppm ASTM D5185m >10 0 1 Copper ppm ASTM D5185m >50 <1 2 Tin ppm ASTM D5185m >10 0 2 Antimony ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 Boron ppm ASTM D5185m 0 0 <1 Molybdenum ppm ASTM D5185m 0 0 1 Magnesium ppm ASTM D5185m 0 0 3	Silver	ppm	ASTM D5185m	>2	0	<1	
Copper ppm ASTM D5185m >50 <1 2 Tin ppm ASTM D5185m >10 0 2 Antimony ppm ASTM D5185m 0 0 Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1	Aluminum	ppm	ASTM D5185m	>10	0	0	
Tin	Lead	ppm	ASTM D5185m	>10	0	1	
Antimony	Copper	ppm	ASTM D5185m	>50	<1	2	
Vanadium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 1 Magnesium ppm ASTM D5185m 0 0 3 Calcium ppm ASTM D5185m 0 0 3 Phosphorus ppm ASTM D5185m 0 2 42 Zinc ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1	Tin	ppm	ASTM D5185m	>10	0	2	
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 <1	Antimony	ppm	ASTM D5185m			0	
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	
Boron ppm ASTM D5185m 0 0 0 -1 Barium ppm ASTM D5185m 90 5 18 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 100 13 75 Calcium ppm ASTM D5185m 0 0 3 Phosphorus ppm ASTM D5185m 0 2 42 Zinc ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 22 15 Sodium ppm ASTM D5185m 20 0 3 Photassium ppm ASTM D5185m >25 15 24 Sodium ppm ASTM D5185m >20 0 3 Potassium ppm ASTM D5185m >20 0 3 Potassium ppm ASTM D5185m >20 0 3 Suffur 9pm ASTM D5185m >20 0 3 Patricles >4µm ASTM D6304 >500 ▲ 7760 200 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300	Cadmium	ppm	ASTM D5185m		0	0	
Barium ppm ASTM D5185m 90 5 18 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	0	<1	
Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 100 13 75 Calcium ppm ASTM D5185m 0 0 3 Phosphorus ppm ASTM D5185m 0 2 42 Zinc ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 24 Sodium ppm ASTM D5185m >20 0 3 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D6304 >0.05 ♠ 0.776 0.020 ppm Water ppm ASTM D6304 >500 ♠ 7	Barium	ppm	ASTM D5185m	90	5	18	
Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 100 13 75 Calcium ppm ASTM D5185m 0 0 3 Phosphorus ppm ASTM D5185m 0 14 10 Zinc ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 24 Sodium ppm ASTM D5185m >20 0 3 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D6304 >0.05 0.776 0.020 ppm Water ppm ASTM D6304 >500 760<	Molybdenum	ppm	ASTM D5185m	0	0	0	
Calcium ppm ASTM D5185m 0 0 3 Phosphorus ppm ASTM D5185m 0 2 42 Zinc ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 15 24 Sodium ppm ASTM D5185m 20 0 3 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D5185m >20 0 3 Water % ASTM D5185m >20 0 3 Particles >4µm ASTM D6304 >0.05 0.776 0.020 Particles >4µm ASTM D7647 >1300 16026	Manganese	ppm	ASTM D5185m		0	<1	
Phosphorus ppm ASTM D5185m 0 2 42 Zinc ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 24 Sodium ppm ASTM D5185m 20 0 3 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D6185m >20 0 3 Water % ASTM D6304 >0.05 0.776 0.020 ppm Water ppm ASTM D6304 >500 7760 200 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300	Magnesium	ppm	ASTM D5185m	100	13	75	
Zinc ppm ASTM D5185m 0 14 10 Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 24 Sodium ppm ASTM D5185m 2 15 Potassium ppm ASTM D5185m >20 0 3 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D5185m >20 0 3 Water % ASTM D6185m >20 0 3 Potassium ppm ASTM D6304 >0.05 0.7760 0.020 Particles >4µm ASTM D647 >1300 16026 Particles >514µm ASTM D7647 >80	Calcium	ppm	ASTM D5185m	0	0	3	
Sulfur ppm ASTM D5185m 23500 19295 18625 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 24 Sodium ppm ASTM D5185m 2 15 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D5185m >20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <td>Phosphorus</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <td>2</td> <td>42</td> <td></td>	Phosphorus	ppm	ASTM D5185m	0	2	42	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 15 24 Sodium ppm ASTM D5185m 2 15 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D5185m >20 0 0.020 water % ASTM D6304 >0.05 ▲ 0.7766 0.020 Particles >4µm ASTM D7647 16026 Particles >4µm ASTM D7647 >1300 ▲ 1487 Particles >21µm ASTM D7647 >20 ▲ 501	Zinc	ppm	ASTM D5185m	0	14	10	
Silicon ppm ASTM D5185m >25 15 24 Sodium ppm ASTM D5185m 2 15 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D6304 >0.05 0.776 0.020 ppm Water ppm ASTM D6304 >500 7760 200 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 16026 Particles >6µm ASTM D7647 >80 48730 Particles >14µm ASTM D7647 >80 497 501 Particles >21µm ASTM D7647 >4 77 Particles >71µm ASTM D7647 >3 7 Oil Cleanliness ISO 4406 (c) >17/13 20/18	Sulfur	ppm	ASTM D5185m	23500	19295	18625	
Sodium ppm ASTM D5185m 2 15 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D6304 >0.05 ▲ 0.776 0.020 ppm Water ppm ASTM D6304 >500 ▲ 7760 200 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 16026 Particles >6μm ASTM D7647 >1300 ▲ 8730 Particles >14μm ASTM D7647 >80 ▲ 1487 Particles >21μm ASTM D7647 >20 ▲ 501 Particles >38μm ASTM D7647 >4 ▲ 77 Particles >71μm ASTM D7647 >3 ▲ 77 Oil Cleanliness ISO 4406 (c) >17/13 ▲ 20/18	CONTAMINANTS		method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 2 15 Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D6304 >0.05 ▲ 0.776 0.020 ppm Water ppm ASTM D6304 >500 ▲ 7760 200 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 16026 Particles >6μm ASTM D7647 >1300 ▲ 8730 Particles >14μm ASTM D7647 >80 ▲ 1487 Particles >21μm ASTM D7647 >20 ▲ 501 Particles >38μm ASTM D7647 >4 ▲ 77 Particles >71μm ASTM D7647 >3 ▲ 77 Oil Cleanliness ISO 4406 (c) >17/13 ▲ 20/18 </td <td>Silicon</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>25</td> <td>15</td> <td>24</td> <td></td>	Silicon	ppm	ASTM D5185m	>25	15	24	
Potassium ppm ASTM D5185m >20 0 3 Water % ASTM D6304 >0.05 Δ 0.776 0.020 ppm Water ppm ASTM D6304 >500 Λ 7760 200 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 16026 Particles >6μm ASTM D7647 >1300 Δ 8730 Particles >14μm ASTM D7647 >80 Δ 1487 Particles >21μm ASTM D7647 >20 Δ 501 Particles >38μm ASTM D7647 >4 Δ 77 Particles >71μm ASTM D7647 >3 Δ 7 Oil Cleanliness ISO 4406 (c) >17/13 Δ 20/18	Sodium	ppm	ASTM D5185m		2	15	
Water % ASTM D6304 >0.05 ▲ 0.776 0.020 ppm Water ppm ASTM D6304 >500 ♣ 7760 200 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 16026 Particles >6μm ASTM D7647 >1300 ♣ 8730 Particles >14μm ASTM D7647 >80 ♣ 1487 Particles >21μm ASTM D7647 >20 ♣ 501 Particles >38μm ASTM D7647 >4 ♣ 77 Particles >71μm ASTM D7647 >3 ♣ 7 Oil Cleanliness ISO 4406 (c) >17/13 ♣ 20/18	Potassium	ppm	ASTM D5185m	>20	0	3	
ppm Water ppm ASTM D6304 >500 ▲ 7760 200 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 16026 Particles >6μm ASTM D7647 >1300 Δ 8730 Particles >14μm ASTM D7647 >80 Δ 1487 Particles >21μm ASTM D7647 >20 Δ 501 Particles >38μm ASTM D7647 >4 Δ 77 Particles >71μm ASTM D7647 >3 Δ 7 Oil Cleanliness ISO 4406 (c) >17/13 Δ 20/18	Water		ASTM D6304	>0.05	0.776	0.020	
Particles >4μm ASTM D7647 16026 Particles >6μm ASTM D7647 >1300 A8730 Particles >14μm ASTM D7647 >80 A1487 Particles >21μm ASTM D7647 >20 A501 Particles >38μm ASTM D7647 >4 A77 Particles >71μm ASTM D7647 >3 A7 Oil Cleanliness ISO 4406 (c) >17/13 A20/18	ppm Water	ppm	ASTM D6304	>500		200	
Particles >6μm ASTM D7647 >1300 Δ 8730 Particles >14μm ASTM D7647 >80 Δ 1487 Particles >21μm ASTM D7647 >20 Δ 501 Particles >38μm ASTM D7647 >4 Δ 77 Particles >71μm ASTM D7647 >3 Δ 7 Oil Cleanliness ISO 4406 (c) >17/13 Δ 20/18	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >80 ▲ 1487 Particles >21μm ASTM D7647 >20 ▲ 501 Particles >38μm ASTM D7647 >4 ▲ 77 Particles >71μm ASTM D7647 >3 ▲ 7 Oil Cleanliness ISO 4406 (c) >17/13 ▲ 20/18	Particles >4µm		ASTM D7647			16026	
Particles >21μm ASTM D7647 >20 Δ 501 Particles >38μm ASTM D7647 >4 Δ 77 Particles >71μm ASTM D7647 >3 Δ 7 Oil Cleanliness ISO 4406 (c) >17/13 Δ 20/18	Particles >6µm		ASTM D7647	>1300		▲ 8730	
Particles >38μm ASTM D7647 >4 A 77 Particles >71μm ASTM D7647 >3 A 7 Oil Cleanliness ISO 4406 (c) >17/13 Δ 20/18	Particles >14µm		ASTM D7647	>80		<u> </u>	
Particles >71μm ASTM D7647 >3 A 7 Oil Cleanliness ISO 4406 (c) >17/13 Δ 20/18	Particles >21µm		ASTM D7647	>20		▲ 501	
Particles >71μm ASTM D7647 >3 ↑ 7 Oil Cleanliness ISO 4406 (c) >17/13 ♠ 20/18	Particles >38µm		ASTM D7647	>4		~ 77	
Oil Cleanliness ISO 4406 (c) >17/13 ▲ 20/18	Particles >71µm		ASTM D7647	>3		<u>^</u> 7	
FLUID DEGRADATION method limit/base current history1 history2	Oil Cleanliness		ISO 4406 (c)	>17/13		<u>^</u> 20/18	
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number Unique Number

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 05982393

: KCPA000642

Received Diagnosed

: 18 Oct 2023

: 21 Oct 2023

Diagnostician : Don Baldridge : 10699688 Test Package : IND 2 (Additional Tests: KF, PrtCount)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) **ZAHOUREK SYSTEMS**

2198 W 15TH ST LOVELAND, CO US 80538

Contact: SERVICE MANAGER

3d@anatomyinclay.com

T: F: