

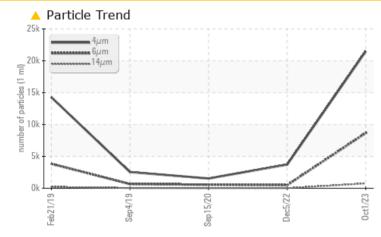
COMPRESSORS

KAESER AS 25T 5536189 (S/N 1253)

Compressor

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

COMPONENT CONDITION SUMMARY



RECOMMENDATION

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TES	T RESULTS				
Sample Status			ABNORMAL	ABNORMAL	NORMAL
Particles >6µm	ASTM D7647	>1300	<u> </u>	483	561
Particles >14µm	ASTM D7647	>80	🔺 757	14	20
Particles >21µm	ASTM D7647	>20	🔺 169	1	5
Oil Cleanliness	ISO 4406 (c)	>/17/13	A 22/20/17	19/16/11	16/11

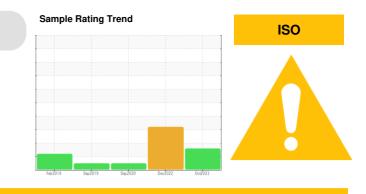
Customer Id: CARWESMASS Sample No.: KCPA006395 Lab Number: 05967023 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 <u>jhester@wearcheckusa.com</u>

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



RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

05 Dec 2022 Diag: Doug Bogart

WATER



Oil and filter change at the time of sampling has been noted. We recommend an early resample in 500 hours to monitor this condition.All component wear rates are normal. There is a light concentration of water present in the oil. Free water present. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid.



15 Sep 2020 Diag: Don Baldridge



 \checkmark

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



view repor

04 Sep 2019 Diag: Jonathan Hester

NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





OIL ANALYSIS REPORT

Machine Id KAESER AS 25T 5536189 (S/N 1253) Component

Compressor Fluid

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

DIAGNOSIS

Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

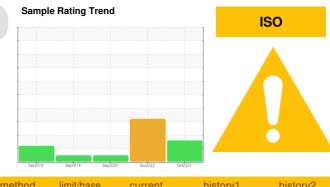
All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

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



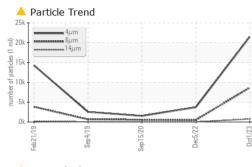
Sample Number Client Info KCPA006395 KCP52521 KCP30392 Sample Date I Client Info 01 Oct 2023 05 Dec 2022 15 Sep 2020 Machine Age hrs Client Info 0 2140 4821 Oil Age hrs Client Info NA Changed Changed Sample Status I Imethod Imit/base current NA ABNORMAL NORMAL WEAR METALS method Imit/base current Nator 0 0 Chromium ppm ASTM 05185m >30 0 0 0 Nickel ppm ASTM 05185m >20 0 0 0 Silver ppm ASTM 05185m >20 0 0 0 Copper ppm ASTM 05185m >10 0 0 0 Copper ppm ASTM 05185m >10 0 0 0 Cadmium ppm ASTM 05185m 0 0 </th <th>SAMPLE INFORM</th> <th>IATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Date Info 01 Oct 2023 05 Dec 2022 15 Sep 2020 Machine Age hrs Client Info 12889 9466 6667 Oil Age hrs Client Info 0 2140 4821 Oil Changed Client Info N/A Changed Changed Sample Status Image Client Info N/A ABNORMAL ABNORMAL NORMAL WEAR METALS method Imit/base current history1 41 Nickel ppm ASTM 05185m >3 0 0 0 Nickel ppm ASTM 05185m >3 0 0 0 Aluminum ppm ASTM 05185m >10 1 <1	Sample Number		Client Info		KCPA006395	KCP52521	KCP30392
Machine Age hrs Client Info 12889 9466 6667 Oil Age hrs Client Info N/A Changed Changed Sample Status Client Info N/A Changed Changed Changed WEAR METALS method Imit/base current history1 history2 Iron ppm ASTM 05185m >50 0 <1			Client Info				
Oil Age hrs Client Info 0 2140 4821 Oil Changed Client Info N/A Changed Changed Sample Status method limit/base current history1 history1 WEAR METALS method limit/base current history1 history1 Koromium ppm ASTM 05185m >50 0 <1		hrs					
Oli Changed Client Info N/A Changed Changed Sample Status Image Client Info ABNORMAL ABNORMAL NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185n >50 0 <1	U						
Sample Status method Imit base current history1 NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 <1	0				-		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185n >50 0 <1	-						
Iron ppm ASTM D5185m >50 0 <1 <1 Chromium ppm ASTM D5185m >3 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >10 1 <1	-		method	limit/base	current	historv1	historv2
Chromium ppm ASTM D5185m >30 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 1 <1		nnm					
Nickel ppm ASTM D5185m >3 0 0 0 Titanium ppm ASTM D5185m >3 0 0 <1							
Titanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 <1							
Silver ppm ASTM D5185m >2 0 0 <1 Aluminum ppm ASTM D5185m >10 1 <1							
Aluminum ppm ASTM D5185m >10 1 <1 <1 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 24 11 21 Tin ppm ASTM D5185m >10 0 <1							
Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 24 11 21 Tin ppm ASTM D5185m >10 0 <1							
Copper ppm ASTM D5185m >50 24 11 21 Tin ppm ASTM D5185m >10 0 <1							
Tin ppm ASTM D5185m >10 0 <1 0 Antimony ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 <1							
Antimony ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Magnaese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 0 0 Phosphorus ppm ASTM D5185m 0 5 14 2 2 17490 2 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1							
Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0 Barium ppm ASTM D5185m 90 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 0 Magnese ppm ASTM D5185m 100 2 31 17 Calcium ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 23500 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Sil				>10			
Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 90 0 0 0 0 Malybdenum ppm ASTM D5185m 0 0 0 0 0 Magnese ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 100 2 31 17 Calcium ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 0 11 4 Sulfur ppm ASTM D5185m 25 0 <1	-						
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 0 Phosphorus ppm ASTM D5185m 0 0 0 0 0 Phosphorus ppm ASTM D5185m 0 28 444 81 Sulfur ppm ASTM D5185m 0 28 144 2 Solicon ppm ASTM D5185m 0 114 2 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1							
Boron ppm ASTM D5185m 0 0 0 <1 Barium ppm ASTM D5185m 90 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnese ppm ASTM D5185m 100 2 31 17 Calcium ppm ASTM D5185m 100 2 31 17 Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 23500 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1		ppm			U	-	
Barium ppm ASTM D5185m 90 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesie ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 100 2 31 17 Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 0 28 14 2 Solicon ppm ASTM D5185m 20500 21094 20852 17490 Solicon ppm ASTM D5185m >25 0 <1 <1 Sodium ppm ASTM D5185m >20 <1 <1 1 Vater % ASTM D5030 >0.05 0.009 <t< th=""><th>ADDITIVES</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 0 0 0 Manganese ppm ASTM D5185m 100 2 31 17 Calcium ppm ASTM D5185m 0 0 0 0 0 Calcium ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 0 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 <1 <1 Sodium ppm ASTM D5185m 0.01 11 4 Potassium ppm ASTM D5185m 0 0.11 4 Potassium ppm ASTM D6304 >0.05 0.009 0.270 0.015 ppm Water ppm ASTM D647		ppm			-		
Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 100 2 31 17 Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 23500 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 <1		ppm			-		
Magnesium ppm ASTM D5185m 100 2 31 17 Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 23500 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 <1				0	-		-
Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 23500 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 <1	-	ppm	ASTM D5185m		-		
Phosphorus ppm ASTM D5185m 0 5 14 2 Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 23500 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 <1 <1 Sodium ppm ASTM D5185m >25 0 <11 <1 Potassium ppm ASTM D5185m >20 <1 <1 <1 Water % ASTM D5185m >20 <1 <1 1 Water % ASTM D5044 >0.05 0.009 △.270 0.015 ppm ASTM D7647 21486 3721 150.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >30 ASTM D7647 20	U	ppm	ASTM D5185m	100			
Zinc ppm ASTM D5185m 0 28 44 81 Sulfur ppm ASTM D5185m 23500 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 <1 <1 Sodium ppm ASTM D5185m >20 <1 <1 <1 Year % ASTM D5185m >20 <1 <1 <1 Vater % ASTM D5185m >20 <1 <1 <1 Water % ASTM D6304 >0.05 0.009 △ 0.270 0.015 ppm Water ppm ASTM D6304 >500 97.4 2700 150.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 & 8665 483 561 Particles >14µm ASTM D7647 >20 169 1 5 Particles >21µm ASTM D7647 20	Calcium	ppm	ASTM D5185m	0	0	0	0
Sulfur ppm ASTM D5185m 23500 21094 20852 17490 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 <1 <1 Sodium ppm ASTM D5185m >25 0 <1 <4 Potassium ppm ASTM D5185m >20 <1 <1 <4 Vater % ASTM D5185m >20 <1 <1 <1 Water % ASTM D5185m >20 <1 <1 <1 Water % ASTM D6304 >0.05 0.009 0.270 0.015 ppm Water ppm ASTM D6304 >500 97.4 2700 150.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 & 8665 483 561 Particles >14µm ASTM D7647 >20	Phosphorus	ppm			5	14	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 <1	Zinc	ppm	ASTM D5185m	0	28	44	81
Silicon ppm ASTM D5185m >25 0 <1	Sulfur	ppm	ASTM D5185m	23500	21094	20852	17490
Sodium ppm ASTM D5185m 0 11 4 Potassium ppm ASTM D5185m<>20 <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 <1 1 Water % ASTM D6304 >0.05 0.009 ▲ 0.270 0.015 ppm Water ppm ASTM D6304 >500 97.4 ▲ 2700 150.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 21486 3721 1536 Particles >6µm ASTM D7647 >1300 & 8665 483 561 Particles >14µm ASTM D7647 >20 ▲ 169 1 5 Particles >21µm ASTM D7647 >20 ▲ 169 1 5 Particles >38µm ASTM D7647 >3 0 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>25	0	<1	<1
Water % ASTM D6304 >0.05 0.009 ▲ 0.270 0.015 ppm Water ppm ASTM D6304 >500 97.4 ▲ 2700 150.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 21486 3721 1536 Particles >6µm ASTM D7647 >1300 ▲ 8665 483 561 Particles >14µm ASTM D7647 >20 ▲ 169 1 5 Particles >21µm ASTM D7647 >20 ▲ 169 1 5 Particles >38µm ASTM D7647 >3 0 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		0	11	4
ppm Water ppm ASTM D6304 >500 97.4 ▲ 2700 150.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 21486 3721 1536 Particles >6µm ASTM D7647 >1300 ▲ 8665 483 561 Particles >14µm ASTM D7647 >80 ~ 757 14 20 Particles >21µm ASTM D7647 >20 ▲ 169 1 5 Particles >38µm ASTM D7647 >3 0 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) /17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	<1	<1	1
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 21486 3721 1536 Particles >6µm ASTM D7647 >1300 & 8665 483 561 Particles >14µm ASTM D7647 >80 ▲ 757 14 20 Particles >21µm ASTM D7647 >20 ▲ 169 1 5 Particles >21µm ASTM D7647 >4 0 0 Particles >38µm ASTM D7647 >4 4 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Water	%	ASTM D6304	>0.05	0.009	0.270	0.015
Particles >4µm ASTM D7647 21486 3721 1536 Particles >6µm ASTM D7647 >1300 & 8665 483 561 Particles >14µm ASTM D7647 >80 757 14 20 Particles >21µm ASTM D7647 >20 ▲ 169 1 5 Particles >21µm ASTM D7647 >4 4 0 0 Particles >38µm ASTM D7647 >3 0 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>500	97.4	<u> </u>	150.2
Particles >6µm ASTM D7647 >1300 ▲ 8665 483 561 Particles >14µm ASTM D7647 >80 ▲ 757 14 20 Particles >21µm ASTM D7647 >20 ▲ 169 1 5 Particles >38µm ASTM D7647 >4 4 0 0 Particles >38µm ASTM D7647 >4 4 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >80 ▲ 757 14 20 Particles >21μm ASTM D7647 >20 ▲ 169 1 5 Particles >38μm ASTM D7647 >4 4 0 0 Particles >38μm ASTM D7647 >3 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647		21486	3721	1536
Particles >21μm ASTM D7647 >20 ▲ 169 1 5 Particles >38μm ASTM D7647 >4 0 0 Particles >38μm ASTM D7647 >4 4 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	<u> </u>	483	561
Particles >38μm ASTM D7647 >4 4 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>80	<u> </u>	14	20
Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>20	<u> </u>	1	5
Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >38um		ASTM D7647	>4	4	0	0
Oil Cleanliness ISO 4406 (c) >/17/13 22/20/17 19/16/11 16/11 FLUID DEGRADATION method limit/base current history1 history2	i antioloo i oopini			0		0	0
	1		ASTM D7647	>3	0	0	0
	Particles >71µm						÷
	Particles >71µm Oil Cleanliness		ISO 4406 (c)	>/17/13	22/20/17	19/16/11	16/11

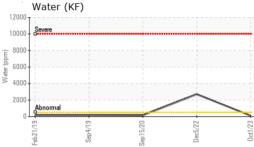
Acid Number (AN) Report Id: CARWESMASS [WUSCAR] 05967023 (Generated: 10/04/2023 16:37:42) Rev: 1

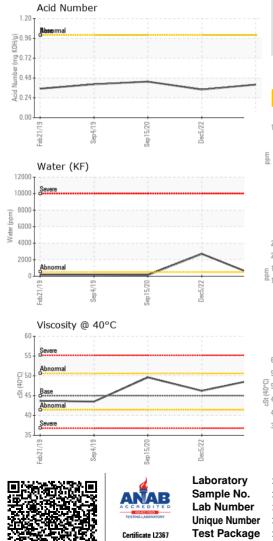
Contact/Location: ROBERT BAEZ - CARWESMASS



OIL ANALYSIS REPORT

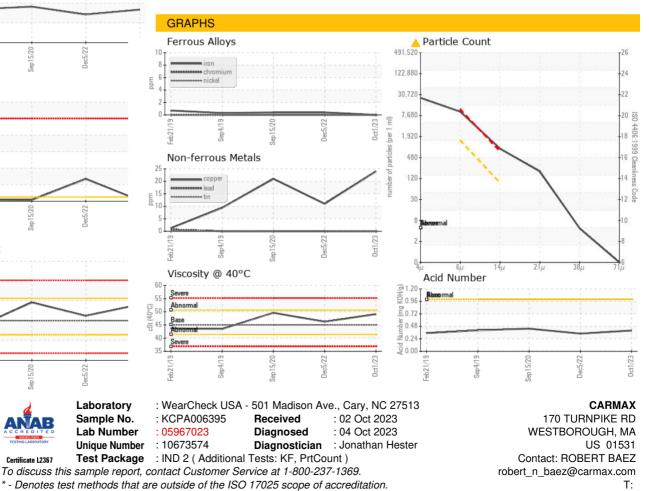






VISUAL		method	limit/base	current	biotonut	bioton/0
VISUAL		method	iinii/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	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	>0.05	NEG	▲ 0.2%	NEG
Free Water	scalar	*Visual		NEG	1 .0	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	49.1	46.2	49.6
SAMPLE IMAGE	S	method	limit/base	current	history1	history2
Color						

Bottom



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: