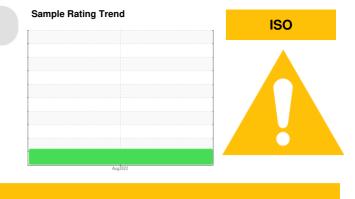


PROBLEM SUMMARY

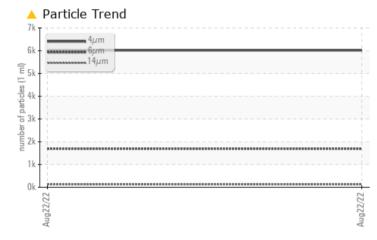
KAESER CSD 100 7859279 (S/N 1143)

Compressor



KAESER SIGMA (OEM) S-460 (--- LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TE	EST RESULTS			
Sample Status			ATTENTION	
Particles >6µm	ASTM D7647	>1300	🔺 1696	
Particles >14µm	ASTM D7647	>80	<u> </u>	
Oil Cleanliness	ISO 4406 (c)	>/17/13	20/18/14	

Customer Id: PACALL Sample No.: KC104874 Lab Number: 05636509 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Don Baldridge +1 <u>don.b505@comcast.net</u>

To change component or sample information: Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u> There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT



ISO

KAESER CSD 100 7859279 (S/N 1143)

Compressor

KAESER SIGMA (OEM) S-460 (--- LTR)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. 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

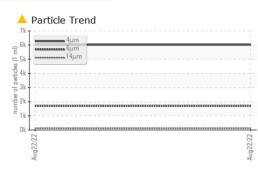
There is a moderate amount of particulates present in the oil.

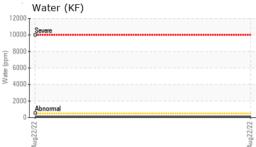
Fluid Condition

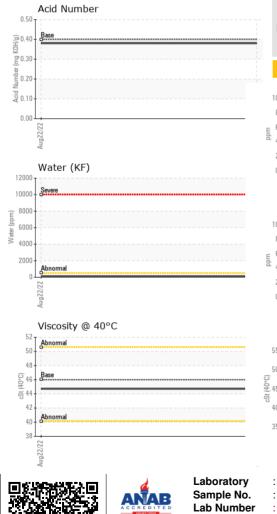
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample NumberClient InfoKC 104874Sample DateClient Info22 Aug 2022Machine AgehrsClient Info9134Oil AgehrsClient Info6488Oil AngedTClient InfoKot ChangdSample StatusImageClient InfoNot ChangdWEAR METALSmethodImitbasecurrenthistoryChromiumppmASTM 051856NickelppmASTM 051856SilverppmASTM 051856CopperppmASTM 051856AdminumppmASTM 051856AdminumppmASTM 051856 <t< th=""><th>SAMPLE INFORM</th><th>MATION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 9134 Oil Age hrs Client Info 6488 Sample Status Client Info Not Changd WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >10 0 Aluminum ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 Itanium ppm ASTM D5185m >10 0 Aduminum ppm ASTM D5185m >10 0 Itanium ppm ASTM D5185m >10 0 Aduminum ppm ASTM D5185m 0 0 Aduminum ppm ASTM D5185m 0 0	Sample Number		Client Info		KC104874		
Oil Age hrs Client Info 6488 Sample Status I I I ATTENTION WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >3 0 Nickel ppm ASTM D5185m >3 0 Atuminum ppm ASTM D5185m >10 0 Atuminum ppm ASTM D5185m >10 0 Atuminum ppm ASTM D5185m >10 0 Addium ppm ASTM D5185m >10 0 ASTM D5185m 90 0 ASTM D5185m 90 13	Sample Date		Client Info		22 Aug 2022		
Oil Changed Client Info Not Changed	Machine Age	hrs	Client Info		9134		
Oil Changed Client Info Not Changed	Oil Age	hrs	Client Info		6488		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >3 0 Nickel ppm ASTM D5185m >3 0 Nickel ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >10 <1	-		Client Info		Not Changd		
Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >3 0 Nickel ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 <1	Sample Status				ATTENTION		
Chromium ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 <1 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 9 Vanadium ppm ASTM D5185m 0 ADDITIVES method Imit/base current history1 history2 Boron ppm ASTM D5185m 0 Magnaesium ppm ASTM D5185m 0 13 Calcium ppm ASTM D5185m 2 <td< th=""><th>WEAR METALS</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >10 0 Nickel ppm ASTM D5185m >3 0 Titanium ppm ASTM D5185m >2 0 Silver ppm ASTM D5185m >10 <1	Iron	maa	ASTM D5185m	>50	0		
Nickel ppm ASTM D5185m >3 0 Titanium ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 90 13 Magnesium ppm ASTM D5185m 2 0	Chromium		ASTM D5185m	>10			
Titanium ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 0 Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Magnese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 13 Calcium ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m 2 0 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Silver ppm ASTM D5185n >2 0 Aluminum ppm ASTM D5185n >10 <1					-		
Aluminum ppm ASTM D5185m >10 <1							
Lead ppm ASTM D5185m >10 0 Copper ppm ASTM D5185m >50 9 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Marganese ppm ASTM D5185m 0 Marganese ppm ASTM D5185m 0 Marganese ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m 2 1 Solium ppm ASTM D5185m >20 2					-		
Copper ppm ASTM D5185m >50 9 Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Malybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m 2 1 Sodium ppm ASTM D5185m >20 2 Vater % ASTM D5185m >20							
Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Maganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 Zinc ppm ASTM D5185m 2 0 Silicon ppm ASTM D5185m 2 1 Sodium ppm ASTM D5185m >20 2 Sodium ppm ASTM D5185m >20 2 Vater % ASTM D504 >0.05 0.011 Puticl							
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 90 0 Manganese ppm ASTM D5185m 90 13 Magnesium ppm ASTM D5185m 2 0 Calcium ppm ASTM D5185m 2 0 Magnesium ppm ASTM D5185m 2 0 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 Sodium ppm ASTM D5185m >20 2					-		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 90 0 Magnese ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 90 13 Zinc ppm ASTM D5185m 2 0 Silicon ppm ASTM D5185m 2 <1 Sodium ppm ASTM D5185m >2 <1 Sodium ppm ASTM D5185m >2 <1 Sodium ppm ASTM D5185m >20 2 <				210	-		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 0 13 Calcium ppm ASTM D5185m 90 13 Phosphorus ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m <1							
Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 90 13 Magnesium ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m 2 1 Zinc ppm ASTM D5185m >25 <1	Cadmium	ppm	ASTM DS185m		U		
Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 90 13 Magnesium ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 2 0 Calcium ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m < -1 Zinc ppm ASTM D5185m 5 Sodium ppm ASTM D5185m >20 2 Yeater % ASTM D5185m >20 2 Water ppm ASTM D6180 >20 110.0 Particles >4µm ASTM D7647 6015 <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 90 13 Magnesium ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 2 0 Calcium ppm ASTM D5185m 2 0 Phosphorus ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m <	Boron	ppm	ASTM D5185m		0		
Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 2 0 Phosphorus ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m	90	0		
Magnesium ppm ASTM D5185m 90 13 Calcium ppm ASTM D5185m 2 0 Phosphorus ppm ASTM D5185m 2 0 Zinc ppm ASTM D5185m CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1	Molybdenum	ppm	ASTM D5185m		0		
Calcium ppm ASTM D5185m 2 0 Phosphorus ppm ASTM D5185m <1	Manganese	ppm	ASTM D5185m		0		
PhosphorusppmASTM D5185m<1ZincppmASTM D5185m5CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25<1	Magnesium	ppm	ASTM D5185m	90	13		
ZincppmASTM D5185m5CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25<1	Calcium	ppm	ASTM D5185m	2	0		
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25<1	Phosphorus	ppm	ASTM D5185m		<1		
Silicon ppm ASTM D5185m >25 <1	Zinc	ppm	ASTM D5185m		5		
Sodium ppm ASTM D5185m 3 Potassium ppm ASTM D5185m >20 2 Water % ASTM D6304 >0.05 0.011 ppm Water ppm ASTM D6304 >500 110.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 6015 Particles >6µm ASTM D7647 >1300 ▲ 1696 Particles >14µm ASTM D7647 >80 ▲ 122 Particles >21µm ASTM D7647 >20 18 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 20/18/14	CONTAMINANTS	3	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 Water % ASTM D6304 >0.05 0.011 ppm Water ppm ASTM D6304 >500 110.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 6015 Particles >6µm ASTM D7647 >1300 1696 Particles >14µm ASTM D7647 >80 122 Particles >21µm ASTM D7647 >20 18 Particles >38µm ASTM D7647 >4 3 Particles >71µm ASTM D7647 >3 0 Gli Cleanliness ISO 4406 (c) >/17/13 20/18/14 FLUID DEGRADATION method limit/base current history1 history2 </td <td>Silicon</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>25</td> <td><1</td> <td></td> <td></td>	Silicon	ppm	ASTM D5185m	>25	<1		
Water % ASTM D6304 >0.05 0.011 ppm Water ppm ASTM D6304 >500 110.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 6015 Particles >6µm ASTM D7647 >1300 1696 Particles >6µm ASTM D7647 >80 122 Particles >14µm ASTM D7647 >20 18 Particles >21µm ASTM D7647 >4 3 Particles >38µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 20/18/14 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		3		
ppm Water ppm ASTM D6304 >500 110.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 6015 Particles >6µm ASTM D7647 >1300 ▲ 1696 Particles >6µm ASTM D7647 >80 ▲ 122 Particles >14µm ASTM D7647 >20 18 Particles >21µm ASTM D7647 >4 3 Particles >38µm ASTM D7647 >4 3 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) /17/13 20/18/14 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	2		
FLUID CLEANLINESSmethodlimit/basecurrenthistory1history2Particles >4µmASTM D76476015Particles >6µmASTM D7647>13001696Particles >14µmASTM D7647>80122Particles >21µmASTM D7647>2018Particles >38µmASTM D7647>43Particles >71µmASTM D7647>30Oil CleanlinessISO 4406 (c)>/17/1320/18/14FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Water	%	ASTM D6304	>0.05	0.011		
Particles >4μm ASTM D7647 6015 Particles >6μm ASTM D7647 >1300<	ppm Water	ppm	ASTM D6304	>500	110.0		
Particles >6μm ASTM D7647 >1300 ▲ 1696 Particles >14μm ASTM D7647 >80 ▲ 122 Particles >21μm ASTM D7647 >20 18 Particles >21μm ASTM D7647 >20 18 Particles >38μm ASTM D7647 >4 3 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/18/14 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >80 ▲ 122 Particles >21μm ASTM D7647 >20 18 Particles >28μm ASTM D7647 >4 3 Particles >38μm ASTM D7647 >4 3 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/18/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647		6015		
Particles >21 μm ASTM D7647 >20 18 Particles >38μm ASTM D7647 >4 3 Particles >38μm ASTM D7647 >4 3 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 20/18/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	🔺 1696		
Particles >38μm ASTM D7647 >4 3 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 A 20/18/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>80	<u> </u>		
Particles >38μm ASTM D7647 >4 3 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 A 20/18/14 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>20	18		
Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/18/14 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>4			
Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/18/14 FLUID DEGRADATION method limit/base current history1 history2			ASTM D7647	>3	0		
				>/17/13	20/18/14		
Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.38	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	0.38		









OIL ANALYSIS REPORT

	VISUAL		method	limit/base	current	history1	histor
	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	LIGHT		
	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 PROPERT	TIES	method	limit/base	current	history1	histo
	Visc @ 40°C	cSt	ASTM D445	46	44.7		
	SAMPLE IMAGES	S	method	limit/base	current	history1	histo
	Color					no image	no ima
	Bottom					no image	no ima
	GRAPHS						1
	Ferrous Alloys			101 500	Particle Cour	it	
	10 iron			491,520	I		
_	chromium			122,880	-		
bpm	4			30,720			
	2-			100 100			
				7,680			
	Aug22/22			Aug22/22 s (per 1 m]		.	
		c		Values (480		N	
	¹⁰ T	5		of bar			
	8 - copper			Aug22222 1700 1700 1700 1700 1700 1700 1700	t	1	
bbm	6			2 30			
	1						
	2				Biorene mal		
	2/22		****************	2/2			
	Aug22/22			Aug22/22			
	Viscosity @ 40°C			₹ 0 4	ہوں Acid Number	14μ 21μ	38µ
	⁵⁵			, ₀0.50			
_	50 Abnormal			Hog 0.40	Base		
cSt (40°C)	45 - Base			<u>الم</u> 0.30			
お	40 - Abnormal			(b)HO .40 (b)HO .40 (c) .00 (c) .00 (c			
0				2 0.10			
	ar 1			0.00			
	Aug22/22			Aug22/22	Aug22/22		

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)

Certificate L2367

T:

F: