

## **PROBLEM SUMMARY**

Sample Rating Trend

WATER

A

Machine Id

# KAESER SM 10 7799168 (S/N 1640)

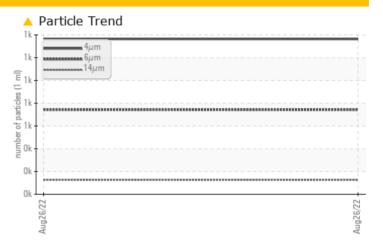
Component

Compressor

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

### COMPONENT CONDITION SUMMARY





### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample in 500 hours to monitor this condition.

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL				
Water	%	ASTM D6304	>0.05	<b>△</b> 0.236				
ppm Water	ppm	ASTM D6304	>500	<b>2360</b>				
Particles >14µm		ASTM D7647	>80	<b>126</b>				
Particles >21µm		ASTM D7647	>20	<b>43</b>				
Particles >38µm		ASTM D7647	>4	<u>^</u> 7				
Oil Cleanliness		ISO 4406 (c)	>/17/13	<b>18/17/14</b>				
Free Water	scalar	*Visual		<b>1.0</b>				

Customer Id: PENJES Sample No.: KCP33324 Lab Number: 05640368 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 jhester@wearcheckusa.com

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

RECOMMENDED ACTIONS						
Action	Status	Date	Done By	Description		
Change Fluid			?	Oil and filter change at the time of sampling has been noted.		
Change Filter			?	Oil and filter change at the time of sampling has been noted.		

## HISTORICAL DIAGNOSIS



## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

## KAESER SM 10 7799168 (S/N 1640)

Component

Compressor

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

DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. We recommend an early resample in 500 hours to monitor this condition.

#### Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of particulates present in the oil. Free water present. There is a light concentration of water present in the oil.

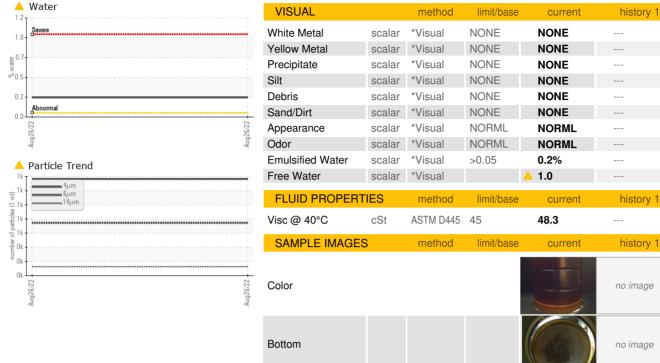
### **Fluid Condition**

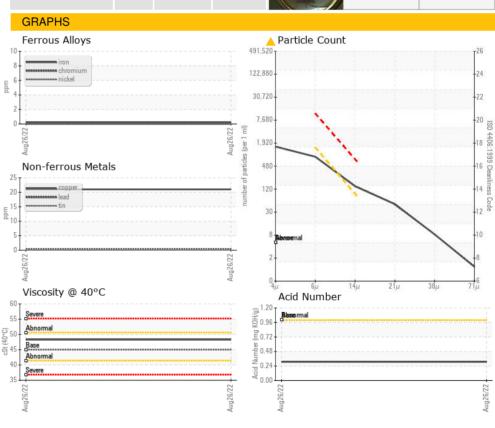
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION   method   limit/base   current   history 1   history 2							
Sample Number         KCP33324             Sample Date         26 Aug 2022             Machine Age         hrs         11619             Oil Age         hrs         0             Oil Changed         Changed             Sample Status         method         limit/base         current         history 1         history 2           Iron         ppm         ASTM D5185m         >50         <1             KChromium         ppm         ASTM D5185m         >10         0             Nickel         ppm         ASTM D5185m         >10         0             Silver         ppm         ASTM D5185m         >10         <1             Copper         ppm         ASTM D5185m         >10         <1             Copper         ppm         ASTM D5185m         >10         <1             Vanadium         ppm         ASTM D5185m         >10         <1					Aug2022		
Sample Date     26 Aug 2022	SAMPLE INFORM	MATION	method	limit/base	current	history 1	history 2
Machine Age         hrs         11619            Oil Age         hrs         0            Oil Changed Sample Status         Changed Changed Sample Status         Changed Changed Sample Status            WEAR METALS         method limit/base current         history 1         history 2           Iron         ppm         ASTM D5185m         >50         <1	Sample Number				KCP33324		
Oil Age         hrs         0         Changed	Sample Date				26 Aug 2022		
Changed   Ch	Machine Age	hrs			11619		
WEAR METALS         method         limit/base         current         history 1         history 2           Iron         ppm         ASTM D5185m         >50         <1	Oil Age	hrs			0		
WEAR METALS         method         limil/base         current         history 1         history 2           Iron         ppm         ASTM D5185m         >50         <1	Oil Changed				Changed		
Iron	Sample Status				ABNORMAL		
Chromium	WEAR METALS		method	limit/base	current	history 1	history 2
Nickel   ppm   ASTM D5185m   >3   0         Titanium   ppm   ASTM D5185m   >3   0       Silver   ppm   ASTM D5185m   >2   <1       Lead   ppm   ASTM D5185m   >10   <1       Lead   ppm   ASTM D5185m   >50   21       Copper   ppm   ASTM D5185m   >50   21       Tin   ppm   ASTM D5185m   >10   <1       Vanadium   ppm   ASTM D5185m   0       Cadmium   ppm   ASTM D5185m   0       ADDITIVES   method   limit/base   current   history 1   history 2     Boron   ppm   ASTM D5185m   0   0       ADDITIVES   method   limit/base   current   history 1   history 2     Boron   ppm   ASTM D5185m   0   0       Molybdenum   ppm   ASTM D5185m   0   0       Manganese   ppm   ASTM D5185m   0   0       Calcium   ppm   ASTM D5185m   0   0       Phosphorus   ppm   ASTM D5185m   0   0       Phosphorus   ppm   ASTM D5185m   0   0       Phosphorus   ppm   ASTM D5185m   0   2       Zinc   ppm   ASTM D5185m   0   2       Sulfur   ppm   ASTM D5185m   23500   16919       CONTAMINANTS   method   limit/base   current   history 1   history 2     Silicon   ppm   ASTM D6185m   >25   <1       Water   %   ASTM D6185m   >20   1       Vater   %   ASTM D6185m   >20   1       Vater   %   ASTM D6185m   >20   1       Particles >4μm   ASTM D7647   >1364       Particles >6μm   ASTM D7647   >1300   743       Particles >21μm   ASTM D7647   >4   7       Parti	Iron	ppm	ASTM D5185m	>50	<1		
Titanium	Chromium	ppm	ASTM D5185m	>10	0		
Silver         ppm         ASTM D5185m         >2         <1             Aluminum         ppm         ASTM D5185m         >10         <1	Nickel	ppm	ASTM D5185m	>3	0		
Aluminum ppm ASTM D5185m >10 <1	Titanium	ppm	ASTM D5185m	>3	0		
Lead         ppm         ASTM D5185m         >10         <1             Copper         ppm         ASTM D5185m         >50         21             Tin         ppm         ASTM D5185m         0         <1             Vanadium         ppm         ASTM D5185m         0              Cadmium         ppm         ASTM D5185m         0         0             ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         0             Manganese         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         0         2             Calcium         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         0         17 <td>Silver</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;2</td> <td>&lt;1</td> <td></td> <td></td>	Silver	ppm	ASTM D5185m	>2	<1		
Lead         ppm         ASTM D5185m         >10         <1	Aluminum	ppm	ASTM D5185m	>10	<1		
Copper         ppm         ASTM D5185m         >50         21             Tin         ppm         ASTM D5185m         >10         <1	Lead						
Tin ppm ASTM D5185m >10 <1							
Vanadium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         0             Molybdenum         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         0         0             Calcium         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         23500         16919	• •						
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         0             Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         100         4             Calcium         ppm         ASTM D5185m         0         2             Phosphorus         ppm         ASTM D5185m         0         2             Silfur         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         2.25         <1							
ADDITIVES					-		
Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         0             Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         100         4             Magnesium         ppm         ASTM D5185m         0         0             Calcium         ppm         ASTM D5185m         0         2             Phosphorus         ppm         ASTM D5185m         0         17             Phosphorus         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         >23500         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25		ррпп					
Barium         ppm         ASTM D5185m         90         0             Molybdenum         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         100         4             Calcium         ppm         ASTM D5185m         0         0             Phosphorus         ppm         ASTM D5185m         0         2             Phosphorus         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         23500         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1             Sodium         ppm         ASTM D5185m         >20         1             Potassium         ppm         ASTM D5185m <td< th=""><th>ADDITIVES</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history 1</th><th>history 2</th></td<>	ADDITIVES		method	limit/base	current	history 1	history 2
Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         100         4             Magnesium         ppm         ASTM D5185m         0         0             Calcium         ppm         ASTM D5185m         0         2             Phosphorus         ppm         ASTM D5185m         0         17             Zinc         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         23500         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1             Sodium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6185m         >20         1             Patricles >4µm         ASTM D6304         >500 <th< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td>0</td><td></td><td></td></th<>	Boron	ppm	ASTM D5185m	0	0		
Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         100         4             Calcium         ppm         ASTM D5185m         0         0             Phosphorus         ppm         ASTM D5185m         0         2             Zinc         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         0         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1	Barium	ppm	ASTM D5185m	90	0		
Magnesium         ppm         ASTM D5185m         100         4             Calcium         ppm         ASTM D5185m         0         0             Phosphorus         ppm         ASTM D5185m         0         2             Zinc         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         23500         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1	Molybdenum	ppm	ASTM D5185m	0	0		
Calcium         ppm         ASTM D5185m         0         0             Phosphorus         ppm         ASTM D5185m         0         2             Zinc         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         23500         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1	Manganese	ppm	ASTM D5185m		0		
Phosphorus         ppm         ASTM D5185m         0         2             Zinc         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         23500         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1	Magnesium	ppm	ASTM D5185m	100	4		
Zinc         ppm         ASTM D5185m         0         17             Sulfur         ppm         ASTM D5185m         23500         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1             Sodium         ppm         ASTM D5185m         >20         1             Potassium         ppm         ASTM D5185m         >20         1             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         Δ         0.236             ppm Water         ppm         ASTM D6304         >500         Δ         2360             FLUID CLEANLINESS         method         limit/base         current         history 1         history 2           Particles >4µm	Calcium	ppm	ASTM D5185m	0	0		
Sulfur         ppm         ASTM D5185m         23500         16919             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1	Phosphorus	ppm	ASTM D5185m	0	2		
CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         <1	Zinc	ppm	ASTM D5185m	0	17		
Silicon       ppm       ASTM D5185m       >25       <1           Sodium       ppm       ASTM D5185m       < 21            Potassium       ppm       ASTM D5185m       >20       1            Water       %       ASTM D6304       >0.05       0.236            ppm Water       ppm       ASTM D6304       >500       2360           FLUID CLEANLINESS       method       limit/base       current       history 1       history 2         Particles >4μm       ASTM D7647       >1300       743           Particles >6μm       ASTM D7647       >80       126           Particles >21μm       ASTM D7647       >20       43           Particles >38μm       ASTM D7647       >4       7           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       18/17/14           FLUID DEGRADATION       method	Sulfur	ppm	ASTM D5185m	23500	16919		
Sodium         ppm         ASTM D5185m         <1	CONTAMINANTS		method	limit/base	current	history 1	history 2
Sodium         ppm         ASTM D5185m         <1             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         ▲ 0.2366             ppm Water         ppm         ASTM D6304         >500         ▲ 2360             FLUID CLEANLINESS         method         limit/base         current         history 1         history 2           Particles >4μm         ASTM D7647         >1300         743             Particles >6μm         ASTM D7647         >80         ▲ 126             Particles >21μm         ASTM D7647         >20         ▲ 43             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         18/17/14             FLUID DEGRADATION         method         limit/base         current         history 1         histor	Silicon	ppm	ASTM D5185m	>25	<1		
Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         Δ 0.236             ppm Water         ppm         ASTM D6304         >500         Δ 2360             FLUID CLEANLINESS         method         limit/base         current         history 1         history 2           Particles >4μm         ASTM D7647         >1300         743             Particles >6μm         ASTM D7647         >80         126             Particles >21μm         ASTM D7647         >20         43             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         3         1             Oil Cleanliness         ISO 4406 (c)        /17/13         18/17/14             FLUID DEGRADATION         method         limit/base         current         history 1         history 2	Sodium		ASTM D5185m		<1		
Water         %         ASTM D6304         >0.05         ▲ 0.236             ppm Water         ppm         ASTM D6304         >500         ▲ 2360             FLUID CLEANLINESS         method         limit/base         current         history 1         history 2           Particles >4μm         ASTM D7647         1364             Particles >6μm         ASTM D7647         >1300         743             Particles >14μm         ASTM D7647         >80         ▲ 126             Particles >21μm         ASTM D7647         >20         ▲ 43             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         ▲ 18/17/14             FLUID DEGRADATION         method         limit/base         current         history 1         history 2	Potassium			>20			
ppm Water         ppm         ASTM D6304         >500         ▲ 2360             FLUID CLEANLINESS         method         limit/base         current         history 1         history 2           Particles >4μm         ASTM D7647         1364             Particles >6μm         ASTM D7647         >1300         743             Particles >14μm         ASTM D7647         >80         126             Particles >21μm         ASTM D7647         >20         43             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         18/17/14             FLUID DEGRADATION         method         limit/base         current         history 1         history 2							
Particles >4μm       ASTM D7647       1364           Particles >6μm       ASTM D7647       >1300       743           Particles >14μm       ASTM D7647       >80       126           Particles >21μm       ASTM D7647       >20       43           Particles >38μm       ASTM D7647       >4       7           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       18/17/14           FLUID DEGRADATION       method       limit/base       current       history 1       history 2							
Particles >6μm         ASTM D7647         >1300         743             Particles >14μm         ASTM D7647         >80         126             Particles >21μm         ASTM D7647         >20         43             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         18/17/14             FLUID DEGRADATION         method         limit/base         current         history 1         history 2	FLUID CLEANLIN	IESS	method	limit/base	current	history 1	history 2
Particles >14μm       ASTM D7647       >80       126           Particles >21μm       ASTM D7647       >20       43           Particles >38μm       ASTM D7647       >4       7           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       18/17/14           FLUID DEGRADATION       method       limit/base       current       history 1       history 2	Particles >4µm		ASTM D7647		1364		
Particles >21μm       ASTM D7647       >20       43           Particles >38μm       ASTM D7647       >4       7           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       18/17/14           FLUID DEGRADATION       method       limit/base       current       history 1       history 2	Particles >6µm		ASTM D7647	>1300	743		
Particles >21μm       ASTM D7647       >20       43           Particles >38μm       ASTM D7647       >4       7           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       18/17/14           FLUID DEGRADATION       method       limit/base       current       history 1       history 2	Particles >14µm		ASTM D7647	>80	<b>126</b>		
Particles >38 $\mu$ m ASTM D7647 >4 $\wedge$ 7 Particles >71 $\mu$ m ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >/17/13 $\wedge$ 18/17/14 FLUID DEGRADATION method limit/base current history 1 history 2			ASTM D7647	>20	<b>43</b>		
Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         ▲ 18/17/14             FLUID DEGRADATION         method         limit/base         current         history 1         history 2			ASTM D7647	>4			
Oil Cleanliness ISO 4406 (c) >/17/13 • 18/17/14  FLUID DEGRADATION method limit/base current history 1 history 2			ASTM D7647	>3	1		
				>/17/13	<b>18/17/14</b>		
	FLUID DEGRADA	TION	method	limit/base	current	history 1	history 2
	Acid Number (AN)	mg KOH/g					



### **OIL ANALYSIS REPORT**









Certificate L2367

Laboratory

Sample No. Lab Number Unique Number

: KCP33324 : 05640368 : 10129898

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

: 13 Sep 2022 : 15 Sep 2022

Diagnostician : Jonathan Hester

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)

PENSKE TRUCK LEASING 8685 WASHINGTON BLVD

JESSUP, MD USA 20794

history 2

history 2

history 2

no image

no image

Contact: Service Manager

T: F: