

### **OIL ANALYSIS REPORT**

Sample Rating Trend

**WEAR** 

Machine Id

# KAESER SM 10 4388413 (S/N 1206)

Compressor Fluid

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

#### DIAGNOSIS

#### A Recommendation

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

#### 🛑 Wear

An increase in the copper level is noted. All other 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 INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		KCPA014331	KCPA003446	KCP41294
Sample Date		Client Info		01 Jul 2024	26 May 2023	25 Jan 2022
Machine Age	hrs	Client Info		0	13840	12344
Dil Age	hrs	Client Info		0	0	676
Oil Changed		Client Info		Changed	N/A	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
WEAR METALS		method	limit/base	current	history1	history2
ron	ppm	ASTM D5185m	>50	0	<1	2
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m	>3	0	0	0
Titanium	ppm	ASTM D5185m	>3	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	0	<1	6
Lead	ppm	ASTM D5185m	>10	0	<1	0
Copper	ppm	ASTM D5185m	>50	<b>3</b> 8	10	5
Tin	ppm	ASTM D5185m	>10	0	0	<1
Antimony	ppm	ASTM D5185m	210			0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ррш			-		-
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	90	0	6	2
Volybdenum	ppm	ASTM D5185m	0	0	0	0
Manganese	ppm	ASTM D5185m		0	<1	<1
Vagnesium	ppm	ASTM D5185m	100	<1	16	40
Calcium	ppm	ASTM D5185m	0	0	2	22
Phosphorus	ppm	ASTM D5185m	0	4	8	104
Zinc	ppm	ASTM D5185m	0	0	28	59
Sulfur	ppm	ASTM D5185m	23500	19452	22801	14498
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<1	<1	<1
Sodium	ppm	ASTM D5185m		2	3	5
<b>-</b>	ppm	ASTM D5185m	>20	0	3	2
Potassium					0.000	▲ 0.532
Potassium Water	%	ASTM D6304	>0.05	0.012	0.006	
Water	% ppm	ASTM D6304 ASTM D6304	>0.05 >500	0.012 128	0.006 63.8	▲ 5320
	ppm					▲ 5320 history2
Water opm Water FLUID CLEANLIN	ppm	ASTM D6304	>500	128	63.8	
Vater opm Water FLUID CLEANLIN <sup>C</sup> articles >4μm	ppm	ASTM D6304 method	>500	128 current	63.8 history1	history2
Vater opm Water FLUID CLEANLIN Particles >4μm Particles >6μm	ppm	ASTM D6304 method ASTM D7647	>500 limit/base	128 current 8830	63.8 history1 	history2
Vater ppm Water FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm	ppm	ASTM D6304 method ASTM D7647 ASTM D7647	>500 limit/base >1300	128 current 8830 ▲ 3542	63.8 history1 	history2
Water ppm Water FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm Particles >21μm	ppm	ASTM D6304 method ASTM D7647 ASTM D7647 ASTM D7647	>500 limit/base >1300 >80	128 current 8830 ▲ 3542 ▲ 383	63.8 history1  	history2  
Water opm Water	ppm	ASTM D6304 method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>500 limit/base >1300 >80 >20	128 current 8830 ▲ 3542 ▲ 383 ▲ 102	63.8 history1   	history2   
Vater ppm Water FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm Particles >21μm Particles >38μm	ppm	ASTM D6304 method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>500 limit/base >1300 >80 >20 >4	128 current 8830 ▲ 3542 ▲ 383 ▲ 102 3	63.8 history1   	history2

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Contact/Location: FABIO CANUEZ - PENAUBMA



Built for a lifetime

12000

10000

800 (maa)

6000 Water 4000

2000

Water (KF)

1.20

(B/H0)

Ê0.72

ब ह.0.48

Pig 0.24

0.00

1200

1000

800

4000

2000

Water (ppm)

mber of particles (1 ml)

## **OIL ANALYSIS REPORT**

limit/base

NONE

NONE

NONE

NONE

NONE

current

NONE

NONE

NONE

NONE

NONE

White Metal scalar *Vis Yellow Metal scalar *Vis Scalar *Vis Silt scalar *Vis Sand/Dirt scalar *Vis Sand/Dirt scalar *Vis Sand/Dirt scalar *Vis Sand/Dirt scalar *Vis Odor scalar *Vis Sand/Dirt scalar *Vis Odor scalar *Vis Free Water scalar *Vis Sand/Dirt scalar *Vis Odor scalar *Vis Sand/Dirt scalar *Vis Sand/Dirt scalar *Vis Odor scalar *Vis Free Water scalar *Vis SamPLE IMAGES mu Color						
White Metal scalar *Vis Silt scalar *Vis Silt scalar *Vis Silt scalar *Vis Sand/Dirt scalar *Vis Appearance scalar *Vis Free Water scalar *Vis Goor scalar *Vis Free Water scalar *Vis SAMPLE IMAGES mu Color Col	Particle Trend			VISUAL		methoo
Yellow Metal scalar *Vis Silt scalar *Vis Silt scalar *Vis Sand/Dirt scalar *Vis Sand/Dirt scalar *Vis Appearance scalar *Vis Odor scalar *Vis Free Water scalar	4μm 6μm		100 CT 10 CT	White Metal	scalar	*Visual
Silt scalar *Vis Sand/Dirt scalar *Vis Sand/Dirt scalar *Vis Sand/Dirt scalar *Vis Sand/Dirt scalar *Vis Odor scalar *Vis Odor scalar *Vis Emulsified Water scalar *Vis Free Water scal	14μm		THE REAL PROPERTY AND A DECISION	Yellow Metal	scalar	*Visual
Debris scalar *Vis Sand/Dirt scalar *Vis Appearance scalar *Vis Odor scalar *Vis Odor scalar *Vis Free Water scalar *Vis Fluid PROPERTIES mu Visc @ 40°C cSt AST SAMPLE IMAGES mu Color Non-ferrous Metals Color Acid Number		and and 200 MI of 200 MI		Precipitate	scalar	*Visual
Sand/Dirt scalar *Vis Appearance scalar *Vis Godor scalar *Vis Emulsified Water scalar *Vis Free Water scalar *Vis SAMPLE IMAGES mu Color Acid Number		-		Silt	scalar	*Visual
Appearance scalar *Vis Odor scalar *Vis Emulsified Water scalar *Vis Free Water scalar *Vis FlUID PROPERTIES mu Visc @ 40°C cSt AST SAMPLE IMAGES mu Color Color Von-ferrous Metals Color Color Color Color Color Color	and the second s			Debris	scalar	*Visual
Vater (KF) See en Cooper Scalar Vis Free Water scalar Vis Free Water scalar Vis Free Water scalar Vis Free Water scalar Vis FLUID PROPERTIES multiple Visc @ 40°C cSt AST SAMPLE IMAGES multiple Color Color Bottom GRAPHS Ferrous Alloys Corrow Alloys Control of the stale Color Color Color Color Color Color	A REAL PROPERTY AND A REAL PROPERTY A REAL PRO			Sand/Dirt	scalar	*Visual
Vater (KF) Server	03/20	25/22	11/24	Appearance	scalar	*Visual
Free Water scalar *Vis FLUID PROPERTIES mu Visc @ 40°C cSt AST SAMPLE IMAGES mu Color Co	No N	Jan	JL	Odor	scalar	*Visual
Free Water scalar *Vis FLUID PROPERTIES mu Visc @ 40°C cSt AST SAMPLE IMAGES mu Visc @ 10°C cSt AST SAMPLE IMAGES mu Color Color Bottom GRAPHS Ferrous Alloys Citon function Color	Vater (KF)			Emulsified Water	scalar	*Visual
FLUID PROPERTIES mit   Visc @ 40°C cSt   SAMPLE IMAGES mit   Son-ferrous Metals Color   Grapper E000 Providence   Signed E000 Providence   Signed Ferrous Alloys   Cid Number E000 Providence   Image: Signed Color Signed Color   Signed Color SignedColor   Signed Color <td></td> <td></td> <td>1</td> <td>Free Water</td> <td>scalar</td> <td>*Visual</td>			1	Free Water	scalar	*Visual
Anomal Color Non-ferrous Metals	Severe			FLUID PROPE	RTIES	method
Anomal Cooper Non-ferrous Metals Cooper Source of the second of the	~			Visc @ 40°C	cSt	ASTM D4
Coopper Non-ferrous Metals Coopper tin Coopper Color Bottom GRAPHS Ferrous Alloys Coopper Coopper Color Bottom Coopper Color Co				SAMPLE IMAG	ES	method
RUGADON Ron-ferrous Metals Copper Sin Color Bottom GRAPHS Ferrous Alloys Color	Abnormal	$\sim$				
Acid Number		Jan 25/22 -	- 12/02/07	Color		
Bottom Bottom Bottom GRAPHS Ferrous Alloys Ferrous Alloys Ferrous Alloys Comparing Acid Number Bergmal	Non-ferrous Me		2			
GRAPHS Ferrous Alloys Ferrous Alloys Ferrous Alloys Ferrous Alloys	copper		1	Bottom		
Acid Number			/			
Acid Number						
Acid Number						
Acid Number				GRAPHS		
Acid Number						
Acid Number	/9/20	5/22 .	CZ/0			
Bbsemal	Nov	Jan2	1	a second chromium		
Rbssermal 2	Acid Number			E 4		
Absormal 0				2-		
	<b>Base</b> rmal				22	23



history1

NONE

NONE

NONE

NONE

MODER

history2

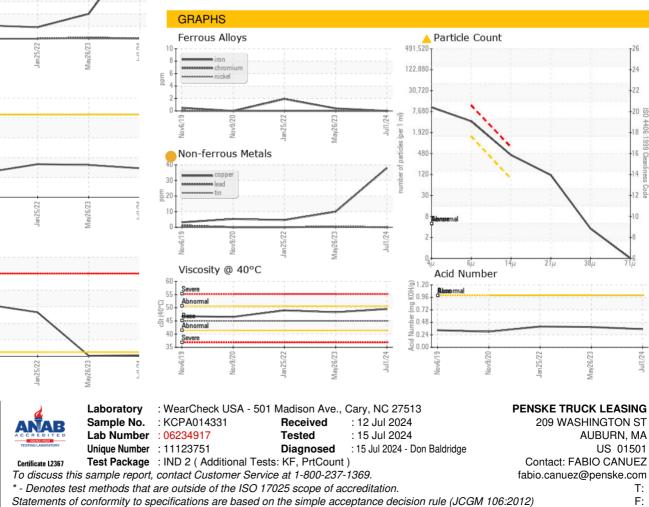
NONE

NONE

NONE

NONE

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