

# **OIL ANALYSIS REPORT**



Machine Id 8750534 (S/N 1554) 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. We were unable to perform a particle count due to a high concentration of particles present in this sample.

# Wear

All component wear rates are normal.

#### Contamination

High concentration of visible dirt/debris 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	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		KCPA009940		
Sample Date		Client Info		29 Dec 2023		
Machine Age	hrs	Client Info		5528		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				ABNORMAL		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	2		
Chromium	ppm	ASTM D5185m	>10	<1		
Nickel	ppm	ASTM D5185m	>3	0		
Titanium	ppm	ASTM D5185m	>3	<1		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>10	2		
Lead	ppm	ASTM D5185m	>10	0		
Copper	ppm	ASTM D5185m	>50	12		
Tin	ppm	ASTM D5185m	>10	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1	history2
	ppm ppm					
Boron		ASTM D5185m	0	0		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 90	0 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 90	0 0 0		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0	0 0 0 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100	0 0 0 0 2		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0	0 0 0 2 0	  	  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0 0	0 0 0 2 0 326	  	  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0 0 0	0 0 0 2 0 326 0		    
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0 0 0 23500	0 0 0 2 0 326 0 6036		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100 0 0 23500 limit/base	0 0 0 2 0 326 0 6036 current	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 90 0 100 0 0 23500 limit/base	0 0 0 2 0 326 0 6036 current <1	     history1	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 90 0 100 0 0 23500 limit/base >25	0 0 0 2 0 326 0 6036 current <1 0	     history1	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 90 0 100 0 0 23500 limit/base >25	0 0 0 2 0 326 0 6036 current <1 0 <1	     history1	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 90 0 100 0 0 23500 limit/base >25 >20 >20	0 0 0 2 0 326 0 6036 current <1 0 <1 0 .014	     history1	     history2



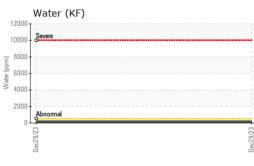
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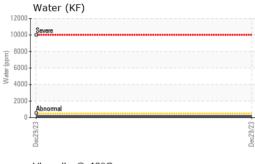
method

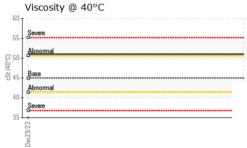
limit/base

current

VISUAL







	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			
	_ Sand/Dirt	scalar	*Visual	NONE	NONE		
23		scalar	*Visual	NORML	NORML		
Dec29/23	Odor		*Visual				
	000	scalar		NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.05	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPER	RTIES	method	limit/base	e current	history1	history2
	Visc @ 40°C	cSt	ASTM D445	45	51.0		
	SAMPLE IMAG	ES	method	limit/base	e current	history1	history2
						-	
Dec29/23	Color					no image	no image
	Bottom					no image	no image
	GRAPHS						
	Ferrous Alloys						
	<sup>10</sup> T						
	8 - iron						
_	E 6						
	ā 4						
	2-						
	Dec29/23			Dec29/23			
				De			
	Non-ferrous Met	als					
	copper						
	10 - tin						
	u di						
	5 -						
	5						
	0 - 52/61			:9/23			
	Dec29/23			Dec29/23			
	Viscosity @ 40°0	2	*******	Dec29/23	Acid Number		
	Viscosity @ 40°0	2	*******		Acid Number		
	Viscosity @ 40°(	2					
	Viscosity @ 40°(	2					
	Viscosity @ 40°( 55 Severe Abnomal 45 Base	2					
	Viscosity @ 40°( 55 50 50 50 50 50 50 50 50 8 8 8 8 8 8 8 8 8 8 8 8 8	2					
	Viscosity @ 40°C	2		Acid Number (mg KOH/g)	20 96 <b>Base mal</b> 72 48 24		
	Viscosity @ 40°C	2		Acid Number (mg KOH/g)	20 96 <b>Base mal</b> 72 48 24		00
	Viscosity @ 40°0	2		cid Number (mg KOH/g)	20 96 <b>Bissormal</b> 1.72 4.48		
) Johorstory	Viscosity @ 40°C			Dec29/23	20 Blacermal	DETEDGE	
Laboratory Sample No	Viscosity @ 40°C	- 501 Madis		(0)HO3 Gui arquiny port EZ/82290 ry, NC 2755	20 Blacermal		N PRECISIOI
Sample No.	Viscosity @ 40°0	- 501 Madis Recieved	<b>i</b> : 11 .	(0)H00 Bull are unit of the second se	20 Blacermal	761	N PRECISION 1 GALILEE RI DSEVILLE CA
Sample No. Lab Number	Viscosity @ 40°0	- 501 Madis Recieved Diagnose	ad :11. ad :15.	ry, NC 275 Jan 2024 Jan 2024	20 396 172 488 124 13	761	N PRECISIOI
Sample No.	Viscosity @ 40°0 5 5 5 5 5 5 5 5 5 5 5 5 5	- 501 Madis Recieved Diagnose Diagnost	l :11 . ed :15 . ician :Jon	(0)H00 Bull are unit of the second se	20 396 172 488 124 13	761 R(	<b>N PRECISIOI</b> 1 GALILEE RI DSEVILLE, C/
Sample No. Lab Number Unique Number	Viscosity @ 40°0 5 5 5 5 5 5 5 5 5 5 5 5 5	- 501 Madis Recieved Diagnose Diagnost Tests: KF,	d : 11 . ed : 15 . ician : Jon PrtCount )	ry, NC 275 Jan 2024 Jan 2024 athan Hest	20 396 172 148 124 100 13 er	761 R(	N PRECISIOI 1 GALILEE RI DSEVILLE, C US 9567 act: K. RUPK

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history2

history1