

### **OIL ANALYSIS REPORT**



Machine Id

# 6789324 (S/N 2055)

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

#### DIAGNOSIS

#### Recommendation

Oil and filter change at the time of sampling has been noted. We were unable to perform a particle count due to a high concentration of particles present in this sample. We recommend an early resample in 500 hours to monitor this condition.

#### Wear

All component wear rates are normal.

#### Contamination

Moderate concentration of visible dirt/debris present in the oil. There is a light concentration of water present in the oil.

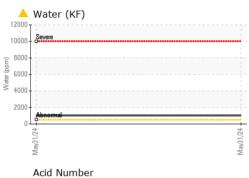
#### Fluid Condition

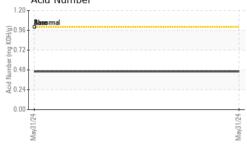
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

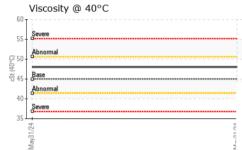
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		KCPA017716		
Sample Date		Client Info		31 May 2024		
Machine Age	hrs	Client Info		32847		
Oil Age	hrs	Client Info		3000		
Oil Changed		Client Info		Changed		
Sample Status				ABNORMAL		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<1		
Chromium	ppm	ASTM D5185m	>10	<1		
Nickel	ppm	ASTM D5185m	>3	<1		
Titanium	ppm	ASTM D5185m	>3	<1		
Silver	ppm	ASTM D5185m	>2	<1		
Aluminum	ppm	ASTM D5185m	>10	3		
Lead	ppm	ASTM D5185m	>10	<1		
Copper	ppm	ASTM D5185m	>50	2		
Tin	ppm	ASTM D5185m	>10	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		<1		
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 1		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 90	0 1 <1		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0	0 1 <1 <1		 
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 90 0 100	0 1 <1 <1 <1		
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 1 <1 <1 <1 <1 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 1 <1 <1 <1 <1 0 312	   	  
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 1 <1 <1 <1 <1 0 312 31	    	    
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 1 <1 <1 <1 0 312 31 381		
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	0 1 <1 <1 <1 0 312 31 381 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	0 1 <1 <1 <1 0 312 31 381 current 2	     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 ASTM D5185m ASTM D5185m	0 90 0 100 0 0 23500 1 imit/base >25	0 1 <1 <1 <1 0 312 31 381 current 2 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 1 <1 <1 0 312 31 381 current 2 0 3 3	     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 0 23500 limit/base >25 >20 >0.05	0 1 <1 <1 <1 0 312 31 381 Current 2 0 3 ↓ 0.102	     history1  	     history2



## **OIL ANALYSIS REPORT**







١	/ISUAL		method	limit/base	current	history1	histo
W	hite Metal	scalar	*Visual	NONE	NONE		
Ye	ellow Metal	scalar	*Visual	NONE	NONE		
Pr	ecipitate	scalar	*Visual	NONE	NONE		
Sil	lt	scalar	*Visual	NONE	NONE		
De	ebris	scalar	*Visual	NONE			
Sa	and/Dirt	scalar	*Visual	NONE	NONE		
Ap	pearance	scalar	*Visual	NORML	NORML		
Oc	dor	scalar	*Visual	NORML	NORML		
En	nulsified Water	scalar	*Visual	>0.05	<b>6.2%</b>		
Fr	ee Water	scalar	*Visual		NEG		
F	LUID PROPERTI	IES	method	limit/base	current	history1	histo
	sc @ 40°C	cSt	ASTM D445	45	48.0		
ç	SAMPLE IMAGES		method	limit/base	current	history1	histo
0						na imaga	no in
Co	blor					no image	no im
					-40		
Bo	ottom					no image	no im
						0	
0	iron chromium nickel						
mqq 5 0 100 150 mM	iron chromium nickel			May31/24			
8 6 4 2 0 7012000 N 10 8 5	iron chromium nickel						
8 - mdd 2 - POLICIEW M	iron chromium nickel						
8 6 4 2 0 7012000 N 10 8 5	iron chromium nickel	5		May3124			
8 - 4 - 2 - 0 - 10 - 10 - 10 - 10 - 10 - 10 -	iron chromium nickel	5		May3124			
8 - 4 - 2 - 0 - 10 - 10 - 10 - 10 - 10 - 10 -	iron chromium nickel	5		May3124			
8 6 4 2 0 FOLDOREW M	iron chromium nickel	5		May3124			
8 6 4 2 0 PC1 EVEW <b>P</b> 10 1 6 4 2 0 PC1 EVEW <b>P</b> 10 1 6 4 2 0 PC1 EVEW <b>P</b> 10 1 6 4 2 0 PC1 EVEW	iron chromium nickel	5		May31/24 May31/24	Acid Number		
8+ udd 2+ 0 7010°FW 10 10 1 8+ 4+ 2+ 0 7010°FW 10 8+ 4+ 2+ 0 7010°FW 10 8+ 4+ 2+ 0 7010°FW 10 8+ 4+ 0 7010°FW 10 10 10 10 10 10 10 10 10 10	iron chromium nickel	5		May31/24 May31/24			
8+ Edd 2+ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	iron chromium nickel	5		May31/24 May31/24			
8+ udd 2 0 201 bewy <b>N N</b> 10 1 4 10 1 4 10 1 5 10 15 10 1	iron chromium nickel Non-ferrous Metals lead tin Viscosity @ 40°C Severe Abnomal Base	5		May31/24 May31/24			
8+ udd 2 - 20 20 10 mW <b>N</b> 10	iron chromium nickel Non-ferrous Metals lead tin Viscosity @ 40°C Severe Abnomal Base Abnomal	5		May31/24 May31/24			
8+ udd 2 0 00000000000000000000000000000000	iron chromium nickel Von-ferrous Metals copper lead Viscosity @ 40°C Severe Abnomal Severe	5		May31/24	20 4 5 5 5 5 5 5 5 5 5 5 5 5 5		
8+ udd 2 0 00000000000000000000000000000000	iron chromium nickel Von-ferrous Metals copper lead Viscosity @ 40°C Severe Abnomal Severe	5		May31/24	20 4 5 5 5 5 5 5 5 5 5 5 5 5 5		
8+ udd 2+ 10 rotrow W V 10 rotrow	iron chromium nickel Von-ferrous Metals copper lead Viscosity @ 40°C Severe Abnomal Severe	5		May31/24 60 Mumber (mg K0H(g) 71 71 72 71 72 72 72 72 72 72 72 72 72 72 72 72 72	20 6 72 88 24		
8+ udd 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	iron chromium nickel	5		May31/24 May31/24 May31/24 May31/24 May31/24 May31/24	20 4 5 5 5 5 5 5 5 5 5 5 5 5 5		
8+ udd 2 0 0 0 1 10 mW <b>N</b> 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Von-ferrous Metals	Madiso	n Ave., Cary	+7/1E/eW +7/1E/eW +7/1E/eW +7/1E/eW +7/1E/eW	20 4 5 5 5 5 5 5 5 5 5 5 5 5 5	SPIRIT AERO 2265 VALLEY	
8+ udd 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	iron chromium nickel	5	in Ave., Cary	May31/24 May31/24 May31/24 May31/24 May31/24 May31/24	20 4 5 5 5 5 5 5 5 5 5 5 5 5 5	SPIRIT AERO 2265 VALLEY	
udd 2 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	iron chromium nickel Non-ferrous Metals lead Uiscosity @ 40°C Severe Abnomal Base Abnomal Severe arCheck USA - 501 PA017716	Madiso Recei Teste Diagr	n Ave., Cary ived : 21 d : 24 iosed : 24	b71E/eW b71E/e	20 <b>Absormal</b> 72 72 74 72 74 75 75 75 75 75 75 75 75 75 75		( BRANC DALL US

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)

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Contact/Location: Service Manager - SPIDAL Page 2 of 2

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