

Sample Rating Trend

ISO



#### Machine Id **1033** Component **Compressor** Fluid **KAESER SIGMA (OEM) S-460 (--- QTS)**

# 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 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.

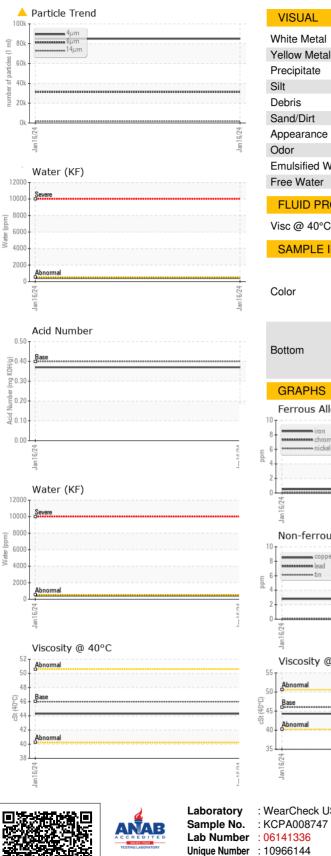
Boron    ppm    ASTM D5185m    0        Barium    ppm    ASTM D5185m    90    0	SAMPLE INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Machine Age  hrs  Client Info  1000      Oil Age  hrs  Client Info  0      Oil Changed  Client Info  N/A      Sample Status  Client Info  N/A      WEAR METALS  method  Imit/base  current  history1  history2    Iron  ppm  ASTM 05185m  >50  <1	Sample Number		Client Info		KCPA008747		
Oil Age    hrs    Client Info    0        Oil Changed    Client Info    N/A        Sample Status    Imit/base    current    history1       WEAR METALS    method    limit/base    current    history1       Chromium    ppm    ASTM 05185m    >10    0        Nickel    ppm    ASTM 05185m    >3    0        Aluminum    ppm    ASTM 05185m    >10    0        Aluminum    ppm    ASTM 05185m    >10    0        Aduminum    ppm    ASTM 05185m    >10    0        Adadium    ppm    ASTM 05185m    >10    0        ADDITIVES    method    limit/base    current    history1    history1      Maganesium    ppm    ASTM 05185m    0        Adatium	Sample Date		Client Info		16 Jan 2024		
Oil Changed    Client Info    N/A        WEAR METALS    method    limit/base    current    history1    history2      Iron    ppm    ASTM D5185m    >50    <1        Othornium    ppm    ASTM D5185m    >50    <1         Nickel    ppm    ASTM D5185m    >3    0         Nickel    ppm    ASTM D5185m    >3    0         Aluminum    ppm    ASTM D5185m    >10    0         Cadmium    ppm    ASTM D5185m    >10    0         ADDITIVES    method    limit/base    current    history1    history2      Garon    ppm    ASTM D5185m    0    0        ADDITIVES    method    limit/base    current    history1    history2      Maganesium	Machine Age	hrs	Client Info		1000		
Oil Changed    Client Info    N/A        Sample Status    Image of the status    I	Oil Age	hrs	Client Info		0		
Sample Status    Image    ABNORMAL        WEAR METALS    method    limit/base    current    history1    history1      tron    ppm    ASTM D5185m    >50    <1	-		Client Info				
WEAR METALS    method    limit/base    current    history1    history1      iron    ppm    ASTM D5185m    >50    <1	ů.				ABNORMAL		
ron    ppm    ASTM D5185m    >50    <1	-	_	mathad	limit/bass	ourroat	historyd	biotom/0
Chromium    ppm    ASTM D5185m    >10    0        Nickel    ppm    ASTM D5185m    >3    0        Silver    ppm    ASTM D5185m    >3    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    history1      Baron    ppm    ASTM D5185m    90    0        Magnaese    ppm    ASTM D5185m    90    35        Magnaese    ppm    ASTM D5185m    90    35        Solifor    ppm    ASTM D5185m							
Nickel    ppm    ASTM D5185m    >3    0        Titanium    ppm    ASTM D5185m    >3    0        Sliver    ppm    ASTM D5185m    >10    0        Aluminum    ppm    ASTM D5185m    >10    0        Copper    ppm    ASTM D5185m    >10    0        Vanadium    ppm    ASTM D5185m    >10    0        ADDITIVES    method    limit/base    current    history1    history1      Barium    ppm    ASTM D5185m    0        Molybdenum    ppm    ASTM D5185m    0        Magnese    ppm    ASTM D5185m    0        Magnesium    ppm    ASTM D5185m    0        Magnesium    ppm    ASTM D5185m    2    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       Maganese  ppm  ASTM D5185m  90  0      Maganese  ppm  ASTM D5185m  90  35      Maganese  ppm  ASTM D5185m  2  0      Maganese  ppm  ASTM D5185m  21608       Silfur  ppm  ASTM D5185m <t< td=""><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td></t<>					-		
Silver  ppm  ASTM D5185m  >2  0      Aluminum  ppm  ASTM D5185m  >10  0      Copper  ppm  ASTM D5185m  >10  0      Copper  ppm  ASTM D5185m  >50  3      Vanadium  ppm  ASTM D5185m  0  0      ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185m  0      Molybdenum  ppm  ASTM D5185m  90  0      Magnesium  ppm  ASTM D5185m  90  35      Vangnesium  ppm  ASTM D5185m  90  35      Valgensium  ppm  ASTM D5185m  0					-		
Atuminum    ppm    ASTM D5185m    >10    0        Lead    ppm    ASTM D5185m    >10    0        Copper    ppm    ASTM D5185m    >50    3        Vanadium    ppm    ASTM D5185m    >10    0        Addium    ppm    ASTM D5185m    >10    0        ADDITIVES    method    limit/base    current    history1    history2      Barium    ppm    ASTM D5185m    90    0        Magnaese    ppm    ASTM D5185m    90    35        Magnaese    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    2    0	Titanium	ppm	ASTM D5185m	>3	0		
Lead    ppm    ASTM D5185m    >10    0        Copper    ppm    ASTM D5185m    >50    3        Vanadium    ppm    ASTM D5185m    >10    0        ADDITIVES    method    limil/base    current    history1    history2      Boron    ppm    ASTM D5185m    0        Molybdenum    ppm    ASTM D5185m    0        Magnese    ppm    ASTM D5185m    0        Magnesium    ppm    ASTM D5185m    0        Magnesium    ppm    ASTM D5185m    0        Calcium    ppm    ASTM D5185m    0	Silver	ppm	ASTM D5185m	>2	0		
Copper    ppm    ASTM D5185m    >50    3        Tin    ppm    ASTM D5185m    >10    0        Adandium    ppm    ASTM D5185m    0    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        Maganese    ppm    ASTM D5185m    0        Phosphorus    ppm    ASTM D5185m    0        Sulfur    ppm    ASTM D5185m    0        Sulfur    ppm    ASTM D5185m    21608        Sodium    ppm    ASTM D51	Aluminum	ppm	ASTM D5185m	>10	0		
Tin  ppm  ASTM D5185m  >10  0      Vanadium  ppm  ASTM D5185m  0      ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185m  0      ADDITIVES  method  limit/base  current  history1  history2    Boron  ppm  ASTM D5185m  0      Magnese  ppm  ASTM D5185m  0      Magnesium  ppm  ASTM D5185m  90  35      Calcium  ppm  ASTM D5185m  90  35      Magnesium  ppm  ASTM D5185m  20  3      Sulfur  ppm  ASTM D5185m  21608       Sulfur  ppm  ASTM D5185m  >20  3      Sulfur  ppm  ASTM D5185m  >20  3   -	Lead	ppm	ASTM D5185m	>10	0		
Vanadium    ppm    ASTM D5185m    0        ADDITIVES    method    limit/base    current    history1    history2      Boron    ppm    ASTM D5185m    0        ADDITIVES    method    limit/base    current    history1    history2      Boron    ppm    ASTM D5185m    90    0        Magnese    ppm    ASTM D5185m    90    35        Magnese    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    90    35        Zinc    ppm    ASTM D5185m    0         Sulfur    ppm    ASTM D5185m    21608         Sodium    ppm    ASTM D5185m    >20    3	Copper	ppm	ASTM D5185m	>50	3		
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    0         Vagnesium    ppm    ASTM D5185m    0    35        Calcium    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    0         Sulfur    ppm    ASTM D5185m    21608        Soliton    ppm    ASTM D5185m    21608        Soliton    ppm    ASTM D5185m    >20    3        Soliton    ppm    ASTM D5185m    >20    3	Tin	ppm	ASTM D5185m	>10	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    0         Vagnesium    ppm    ASTM D5185m    0    35        Calcium    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    0         Sulfur    ppm    ASTM D5185m    21608        Soliton    ppm    ASTM D5185m    21608        Soliton    ppm    ASTM D5185m    >20    3        Soliton    ppm    ASTM D5185m    >20    3	Vanadium	ppm	ASTM D5185m		0		
Boron    ppm    ASTM D5185m    0        Barium    ppm    ASTM D5185m    90    0        Molybdenum    ppm    ASTM D5185m    0         Manganese    ppm    ASTM D5185m    90    35        Magnesium    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    90    35        Silicon    ppm    ASTM D5185m    21608         Sodium    ppm    ASTM D5185m    >25    <1	Cadmium	ppm	ASTM D5185m		0		
Barium    ppm    ASTM D5185m    90    0        Manganese    ppm    ASTM D5185m    0        Magnesium    ppm    ASTM D5185m    90    35        Calcium    ppm    ASTM D5185m    90    35        Zinc    ppm    ASTM D5185m    0         Sulfur    ppm    ASTM D5185m    >25    <1        Sodium    ppm    ASTM D5185m    >20    3        Sodium    ppm    ASTM D5185m    >20    3        Potassium    ppm    ASTM D5185m    >20    31277 <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  35      Magnesium  ppm  ASTM D5185m  90  35      Calcium  ppm  ASTM D5185m  2  0      Calcium  ppm  ASTM D5185m  2  0      Phosphorus  ppm  ASTM D5185m  0       Sulfur  ppm  ASTM D5185m  8       Sulfur  ppm  ASTM D5185m  21608       Sodium  ppm  ASTM D5185m  >25  <1	Boron	ppm	ASTM D5185m		0		
Manganese  ppm  ASTM D5185m  <1      Magnesium  ppm  ASTM D5185m  90  35      Calcium  ppm  ASTM D5185m  2  0      Phosphorus  ppm  ASTM D5185m  0       Zinc  ppm  ASTM D5185m  8       Sulfur  ppm  ASTM D5185m  21608      CONTAMINANTS  method  limit/base  current  history1  history2    Solicon  ppm  ASTM D5185m  >25  <1	Barium	ppm	ASTM D5185m	90	0		
Marganese  ppm  ASTM D5185m  <1	Molybdenum	ppm	ASTM D5185m		0		
Magnesium  ppm  ASTM D5185m  90  35      Calcium  ppm  ASTM D5185m  2  0      Phosphorus  ppm  ASTM D5185m  0      Zinc  ppm  ASTM D5185m  0      Sulfur  ppm  ASTM D5185m  21608      CONTAMINANTS  method  limit/base  current  history1  history2    Silicon  ppm  ASTM D5185m  >25  <1			ASTM D5185m		<1		
Calcium    ppm    ASTM D5185m    2    0        Phosphorus    ppm    ASTM D5185m    0         Zinc    ppm    ASTM D5185m    0         Sulfur    ppm    ASTM D5185m    21608        CONTAMINANTS    method    limit/base    current    history1    history2      Silicon    ppm    ASTM D5185m    >25    <1	Vagnesium		ASTM D5185m	90	35		
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Silicon  ppm  ASTM D5185m  >25  <1      Sodium  ppm  ASTM D5185m  16       Potassium  ppm  ASTM D5185m  >20  3      Water  %  ASTM D6304  >0.05  0.042      oppm Water  ppm  ASTM D6304  >500  428      FLUID CLEANLINESS  method  limit/base  current  history1  history2    Particles >4µm  ASTM D7647  849999      Particles >6µm  ASTM D7647  >1300  31277      Particles >1µm  ASTM D7647  >80  1822      Particles >1µm  ASTM D7647  >20  270      Particles >38µm  ASTM D7647  >3  0      Particles >71µm  ASTM D7647  >3  0      Oil Cleanliness  ISO 4406 (c)  >/17/13  24/22/18  <	-				-		
Sodium    ppm    ASTM D5185m    16        Potassium    ppm    ASTM D5185m    >20    3        Water    %    ASTM D6304    >0.05    0.042        ppm Water    ppm    ASTM D6304    >500    428        FLUID CLEANLINESS    method    limit/base    current    history1    history2      Particles >4µm    ASTM D7647    849999         Particles >6µm    ASTM D7647    >1300    31277        Particles >6µm    ASTM D7647    >80    1822        Particles >14µm    ASTM D7647    >20    270        Particles >21µm    ASTM D7647    >4    2        Particles >38µm    ASTM D7647    >3    0        Particles >71µm    ASTM D7647    >3    0        Oil	CONTAMINANTS	6	method	limit/base	current	history1	history2
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Potassium  ppm  ASTM D5185m  >20  3      Water  %  ASTM D6304  >0.05  0.042      oppm  Water  ppm  ASTM D6304  >500  428      FLUID CLEANLINESS  method  limit/base  current  history1  history2    Particles >4µm  ASTM D7647  84999      Particles >6µm  ASTM D7647  >1300  31277      Particles >14µm  ASTM D7647  >80  1822      Particles >14µm  ASTM D7647  >20  270      Particles >14µm  ASTM D7647  >4  2      Particles >38µm  ASTM D7647  >3  0      Particles >71µm  ASTM D7647  >3  0      Oil Cleanliness  ISO 4406 (c)  >/17/13  24/22/18      FLUID DEGRADATION  method  limit/base  current  hi	Sodium						
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oppm Water    ppm    ASTM D6304    >500    428        FLUID CLEANLINESS    method    limit/base    current    history1    history2      Particles >4µm    ASTM D7647    S4999         Particles >6µm    ASTM D7647    >1300    31277        Particles >6µm    ASTM D7647    >80    1822        Particles >14µm    ASTM D7647    >20    270        Particles >21µm    ASTM D7647    >4    2        Particles >38µm    ASTM D7647    >4    2        Particles >71µm    ASTM D7647    >3    0        Oil Cleanliness    ISO 4406 (c)    >/17/13    24/22/18        FLUID DEGRADATION    method    limit/base    current    history1    history2					-		
Particles >4μm  ASTM D7647  84999      Particles >6μm  ASTM D7647  >1300  31277      Particles >14μm  ASTM D7647  >80  1822      Particles >14μm  ASTM D7647  >20  270      Particles >21μm  ASTM D7647  >20  270      Particles >38μm  ASTM D7647  >4  2      Particles >71μm  ASTM D7647  >3  0      Oil Cleanliness  ISO 4406 (c)  >/17/13  24/22/18      FLUID DEGRADATION  method  limit/base  current  history1  history2							
Particles >4µm  ASTM D7647  84999      Particles >6µm  ASTM D7647  >1300  31277      Particles >14µm  ASTM D7647  >80  1822      Particles >14µm  ASTM D7647  >20  270      Particles >21µm  ASTM D7647  >20  270      Particles >38µm  ASTM D7647  >4  2      Particles >38µm  ASTM D7647  >3  0      Particles >71µm  ASTM D7647  >3  0      Oil Cleanliness  ISO 4406 (c)  >/17/13  24/22/18      FLUID DEGRADATION  method  limit/base  current  history1  history2	FLUID CLEANLIN		method	limit/base	current	history1	history2
Particles >6μm  ASTM D7647  >1300  ▲ 31277      Particles >14μm  ASTM D7647  >80  ▲ 1822      Particles >21μm  ASTM D7647  >20  ▲ 270      Particles >38μm  ASTM D7647  >4  2      Particles >38μm  ASTM D7647  >4  2      Particles >71μm  ASTM D7647  >3  0      Dil Cleanliness  ISO 4406 (c)  >/17/13  ▲ 24/22/18      FLUID DEGRADATION  method  limit/base  current  history1  history2	Particles >4µm		ASTM D7647		84999		
Particles >14μm  ASTM D7647  >80  ▲ 1822      Particles >21μm  ASTM D7647  >20  ▲ 270      Particles >38μm  ASTM D7647  >4  2      Particles >38μm  ASTM D7647  >4  2      Particles >71μm  ASTM D7647  >3  0      Oil Cleanliness  ISO 4406 (c)  >/17/13  ▲ 24/22/18      FLUID DEGRADATION  method  limit/base  current  history1  history2	•		ASTM D7647	>1300			
Particles >21μm    ASTM D7647    >20    270        Particles >38μm    ASTM D7647    >4    2        Particles >38μm    ASTM D7647    >4    2        Particles >71μm    ASTM D7647    >3    0        Oil Cleanliness    ISO 4406 (c)    >/17/13    24/22/18        FLUID DEGRADATION    method    limit/base    current    history1    history2							
Particles >38μm    ASTM D7647    >4    2        Particles >71μm    ASTM D7647    >3    0        Oil Cleanliness    ISO 4406 (c)    >/17/13    ▲ 24/22/18        FLUID DEGRADATION    method    limit/base    current    history1    history2							
Particles >71µm    ASTM D7647    >3    0        Dil Cleanliness    ISO 4406 (c)    >/17/13    ▲ 24/22/18        FLUID DEGRADATION    method    limit/base    current    history1    history2							
Dil Cleanliness  ISO 4406 (c)  >/17/13  ▲ 24/22/18      FLUID DEGRADATION  method  limit/base  current  history1  history2	•						
FLUID DEGRADATION method limit/base current history1 history2							
		TION	( )				
Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.37							
						nistory i	nistory2

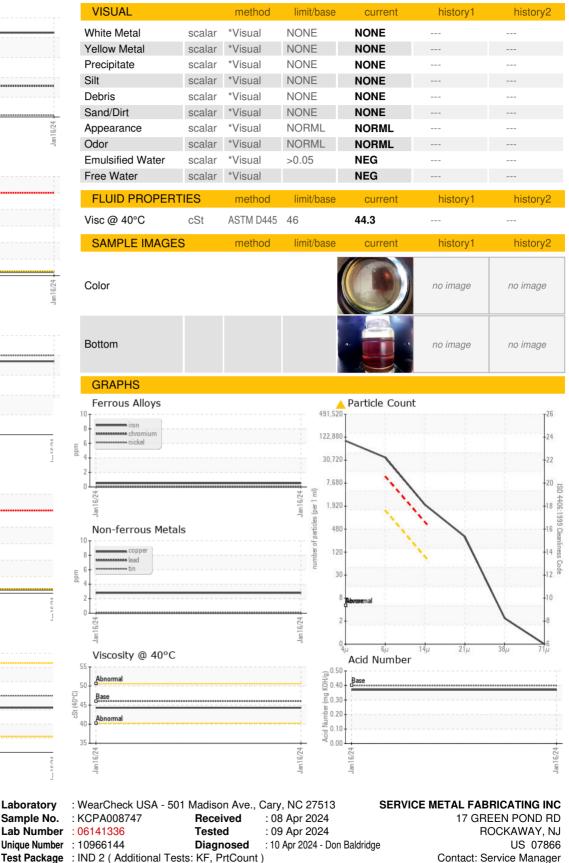
Contact/Location: Service Manager - SERROC Page 1 of 2



Built for a lifetime

# **OIL ANALYSIS REPORT**





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 12367

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

T:

F: