

## **OIL ANALYSIS REPORT**

ISO

Sample Rating Trend

Machine Id

# KAESER SK 15T 5767941 (S/N 1735)

Component Compressor

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

#### DIAGNOSIS

#### 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

All component wear rates are normal.

### Contamination

There is a high amount of particulates present in the oil.

#### Fluid Condition

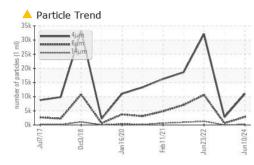
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

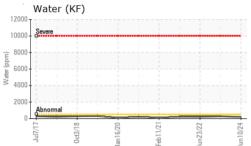
| Iron  ppm  ASTM D5185m  >50  0  <1   | 2022  |
|--|-------|
| Machine Age  hrs  Client Info  26763  24701  24381    Oil Age  hrs  Client Info  2382  0  577    Oil Changed  Client Info  Changed  Not Changd  Changed    Sample Status  Imathia  Imathia  Changed  Nort Changed  Changed    WEAR METALS  method  Imit/base  current  history1  ABNOF    Iron  ppm  ASTM D5185m  >50  0  <1  <1  0    Nickel  ppm  ASTM D5185m  >10  0  <1  0  0    Silver  ppm  ASTM D5185m  >3  0  0  0    Aluminum  ppm  ASTM D5185m  >10  0  0  0    Copper  ppm  ASTM D5185m  >10  0  0  0    Adadium  ppm  ASTM D5185m  >10  0  0  0  0    Cadamium  ppm  ASTM D5185m  >10  0   |       |
| Machine Age  hrs  Client Info  26763  24701  24381    Oil Age  hrs  Client Info  2382  0  577    Oil Changed  Client Info  2382  0  577  0    Sample Status  Image  Client Info  Changed  NORMAL  ABNOR    WEAR METALS  method  limit/base  current  history1  ABNOR    Iron  ppm  ASTM D5185m  >50  0  <1  <1  0    Nickel  ppm  ASTM D5185m  >10  0  <1  0  0    Silver  ppm  ASTM D5185m  >3  0  0  0    Aluminum  ppm  ASTM D5185m  >10  0  0  0    Adminum  ppm  ASTM D5185m  >10  0  0  0  0    Adminum  ppm  ASTM D5185m  >10  0  0  0  0  0  0  0  0  0  0   | 2d    |
| Oil Age  hrs  Client Info  2382  0  577    Oil Changed  Client Info  Changed  Not Changd  Changed    Sample Status  Imethod  Imit/base  current  history1  ABNOR    WEAR METALS  method  Imit/base  current  history1  ABNOR    Iron  ppm  ASTM D5185m  >50  0  <1  <1    Chromium  ppm  ASTM D5185m  >10  0  <1  0    Nickel  ppm  ASTM D5185m  >3  0  0  0    Silver  ppm  ASTM D5185m  >2  0  <1  0    Aluminum  ppm  ASTM D5185m  >10  0  0  0    Copper  ppm  ASTM D5185m  >10  0  0  0    Antimony  ppm  ASTM D5185m  >10  0  0  0    Adadium  ppm  ASTM D5185m  >10  0  0  0  | 2d    |
| Oil Changed<br>Sample Status  Client Info  Changed<br>ABNORMAL  Not Changd<br>ABNORMAL  Change<br>ABNOR    WEAR METALS  method  limit/base  current  history1  history1  history1    Iron  ppm  ASTM D5185m  >50  0  <1  <1    Chromium  ppm  ASTM D5185m  >50  0  <1  <1    Ohromium  ppm  ASTM D5185m  >3  0  0  0    Nickel  ppm  ASTM D5185m  >3  <1  0  0    Aluminum  ppm  ASTM D5185m  >10  0  <1  <1    Lead  ppm  ASTM D5185m  >10  0  0  0    Antimony  ppm  ASTM D5185m  >10  0  0  0    Cadmium  ppm  ASTM D5185m  >10  0  0  0    Cadmium  ppm  ASTM D5185m  <1  0  0  0    Cadmium  ppm  ASTM D5185m  0 <th>2d</th>  | 2d    |
| Sample Status  method  limit/base  current  history1  ABNOR    WEAR METALS  method  limit/base  current  history1  history1  history1    Iron  ppm  ASTM D5185m  >50  0  <1  <1    Chromium  ppm  ASTM D5185m  >10  0  <1  0    Nickel  ppm  ASTM D5185m  >3  0  0  0  0    Silver  ppm  ASTM D5185m  >3  <10  0  0  0    Aluminum  ppm  ASTM D5185m  >10  0  <1  1  1    Lead  ppm  ASTM D5185m  >10  0  0  0  0    Choper  ppm  ASTM D5185m  >10     | JU    |
| Iron  ppm  ASTM D5185m  >50  0  <1   |       |
| Iron  ppm  ASTM D5185m  >50  0  <1   | tory2 |
| Chromium  ppm  ASTM D5185m  >10  0  <1   |       |
| Nickel  ppm  ASTM D5185m  >3  0  0  0    Titanium  ppm  ASTM D5185m  >3  <1  0  0    Silver  ppm  ASTM D5185m  >2  0  <1  0    Aluminum  ppm  ASTM D5185m  >10  0  <1  <1    Lead  ppm  ASTM D5185m  >10  0  <1  <1  <1    Lead  ppm  ASTM D5185m  >10  0  0  0  0    Copper  ppm  ASTM D5185m  >50  3  1  2  0    Antimony  ppm  ASTM D5185m  >10  0  0  0    Cadmium  ppm  ASTM D5185m  <  <1  0  0  0    Boron  ppm  ASTM D5185m  0  0  0  0  0  0    Molybdenum  ppm  ASTM D5185m  0  0  0  0  0  0  0 <td></td>   |       |
| Titanium  ppm  ASTM D5185m  >3  <1   |       |
| Silver  ppm  ASTM D5185m  >2  0  <1  |       |
| Aluminum  ppm  ASTM D5185m  >10  0  <1   |       |
| Lead  ppm  ASTM D5185m  >10  0  0  0    Copper  ppm  ASTM D5185m  >50  3  1  2    Tin  ppm  ASTM D5185m  >10  0  0  0    Antimony  ppm  ASTM D5185m  >10  0  0  0    Vanadium  ppm  ASTM D5185m  <  <1  0  0  0    Cadmium  ppm  ASTM D5185m   <10    |       |
| Copper  ppm  ASTM D5185m  >50  3  1  2    Tin  ppm  ASTM D5185m  >10  0  0  0    Antimony  ppm  ASTM D5185m  >10  0  0  0    Vanadium  ppm  ASTM D5185m  <1  0  0  0    Cadmium  ppm  ASTM D5185m  <1  0  0  0    Cadmium  ppm  ASTM D5185m  <1  0  0  0    ADDITIVES  method  limit/base  current  history1  hist    Boron  ppm  ASTM D5185m  0  0  0  0    Molybdenum  ppm  ASTM D5185m  0  0  0  0    Magnesium  ppm  ASTM D5185m  0  0  0  <1    Phosphorus  ppm  ASTM D5185m  0  1  0  4    Sulfur  ppm  ASTM D5185m  0  1  0  4  |       |
| Tin  ppm  ASTM D5185m  >10  0  0  0    Antimony  ppm  ASTM D5185m  |       |
| Antimony  ppm  ASTM D5185m       Vanadium  ppm  ASTM D5185m  <1  0  0    Cadmium  ppm  ASTM D5185m  0  0  0  0    Cadmium  ppm  ASTM D5185m  0  0  0  0  0    ADDITIVES  method  limit/base  current  history1  hist    Boron  ppm  ASTM D5185m  0  0  0  <1    Barium  ppm  ASTM D5185m  90  0  30  11    Molybdenum  ppm  ASTM D5185m  0  0  0  0    Maganese  ppm  ASTM D5185m  0  0  0  <1    Phosphorus  ppm  ASTM D5185m  0  1  0  4    Zinc  ppm  ASTM D5185m  0  8  4  4    Sulfur  ppm  ASTM D5185m  23500  20283  27979  180/4   |       |
| Vanadium  ppm  ASTM D5185m  <1   |       |
| Cadmium  ppm  ASTM D5185m  0  0  0  0    ADDITIVES  method  limit/base  current  history1  history1    Boron  ppm  ASTM D5185m  0  0  0  0     Barium  ppm  ASTM D5185m  90  0  30  11    Molybdenum  ppm  ASTM D5185m  0  0  0  0  0    Manganese  ppm  ASTM D5185m  0  0  0  0  0    Magnesium  ppm  ASTM D5185m  100  36  106  48    Calcium  ppm  ASTM D5185m  0  0  0  0  4    Phosphorus  ppm  ASTM D5185m  0  8  4  4    Sulfur  ppm  ASTM D5185m  23500  20283  27979  1804    CONTAMINANTS  method  limit/base  current  history1  history1    Silicon  ppm   |       |
| ADDITIVES  method  limit/base  current  history1  his    Boron  ppm  ASTM D5185m  0  0  0  <1    Barium  ppm  ASTM D5185m  90  0  30  11    Molybdenum  ppm  ASTM D5185m  0  0  0  0  0    Manganese  ppm  ASTM D5185m  0  0  0  0  0    Magnesium  ppm  ASTM D5185m  100  36  106  48    Calcium  ppm  ASTM D5185m  0  0  0  <1    Phosphorus  ppm  ASTM D5185m  0  1  0  4    Zinc  ppm  ASTM D5185m  0  8  4  4    Sulfur  ppm  ASTM D5185m  23500  20283  27979  1804    CONTAMINANTS  method  limit/base  current  history1  history1    Silicon  ppm  ASTM D5185m  >25   |       |
| Boron  ppm  ASTM D5185m  0  0  0  <1   |       |
| Barium  ppm  ASTM D5185m  90  0  30  11    Molybdenum  ppm  ASTM D5185m  0  0  0  0  0    Manganese  ppm  ASTM D5185m  0  0  0  0  0    Magnesium  ppm  ASTM D5185m  100  36  106  48    Calcium  ppm  ASTM D5185m  0  0  0  <1    Phosphorus  ppm  ASTM D5185m  0  1  0  4    Zinc  ppm  ASTM D5185m  0  1  0  4    Sulfur  ppm  ASTM D5185m  23500  20283  27979  1804    CONTAMINANTS  method  limit/base  current  history1  his    Silicon  ppm  ASTM D5185m  >25  <1  0  <1    Sodium  ppm  ASTM D5185m  >25  <1  0  <1    Potassium  ppm  ASTM D5185m <t< th=""><th>tory2</th></t<>   | tory2 |
| Molybdenum  ppm  ASTM D5185m  0  0  0  0    Manganese  ppm  ASTM D5185m  100  36  106  48    Magnesium  ppm  ASTM D5185m  100  36  106  48    Calcium  ppm  ASTM D5185m  0  0  0  <1    Phosphorus  ppm  ASTM D5185m  0  1  0  4    Zinc  ppm  ASTM D5185m  0  8  4  4    Sulfur  ppm  ASTM D5185m  23500  20283  27979  1804    CONTAMINANTS  method  limit/base  current  history1  hist    Silicon  ppm  ASTM D5185m  >25  <1  0  <1    Sodium  ppm  ASTM D5185m  >25  <1  0  <1    Potassium  ppm  ASTM D5185m  >20  <1  4  <1   |       |
| Manganese  ppm  ASTM D5185m  <1  |       |
| Magnesium  ppm  ASTM D5185m  100  36  106  48    Calcium  ppm  ASTM D5185m  0  0  0  0  4    Phosphorus  ppm  ASTM D5185m  0  1  0  4    Zinc  ppm  ASTM D5185m  0  1  0  4    Sulfur  ppm  ASTM D5185m  23500  20283  27979  1804    CONTAMINANTS  method  limit/base  current  history1  his    Silicon  ppm  ASTM D5185m  >25  <1   |       |
| Calcium  ppm  ASTM D5185m  0  0  0  <1   |       |
| Phosphorus  ppm  ASTM D5185m  0  1  0  4    Zinc  ppm  ASTM D5185m  0  8  4  4    Sulfur  ppm  ASTM D5185m  23500  20283  27979  1804    CONTAMINANTS  method  limit/base  current  history1  history2  history2  history2  history2  history2 |       |
| Zinc  ppm  ASTM D5185m  0  8  4  4    Sulfur  ppm  ASTM D5185m  23500  20283  27979  1804    CONTAMINANTS  method  limit/base  current  history1  history1    Silicon  ppm  ASTM D5185m  >25  <1  0  <1    Sodium  ppm  ASTM D5185m  >20  <1  4  <1  |       |
| Sulfur  ppm  ASTM D5185m  23500  20283  27979  1804    CONTAMINANTS  method  limit/base  current  history1  his    Silicon  ppm  ASTM D5185m  >25  <1  0  <1    Sodium  ppm  ASTM D5185m  >20  <1  4  <1   |       |
| CONTAMINANTS  method  limit/base  current  history1  hist    Silicon  ppm  ASTM D5185m  >25  <1  0  <1    Sodium  ppm  ASTM D5185m  >25  <1  0  <1    Potassium  ppm  ASTM D5185m  >20  <1  4  <1  |       |
| Silicon  ppm  ASTM D5185m  >25  <1   | 18    |
| Sodium  ppm  ASTM D5185m  11  22  15    Potassium  ppm  ASTM D5185m  >20  <1   | tory2 |
| Potassium  ppm  ASTM D5185m  >20  <1   |       |
|  |       |
| Water % ASTM D6304 >0.05 0.018 0.027 0.02  |       |
|  | 1     |
| ppm Water ppm ASTM D6304 >500 181 273.9 214.   | 5     |
| FLUID CLEANLINESS method limit/base current history1 his   | tory2 |
| Particles >4μm  ASTM D7647  11034  2777  3214  | 11    |
| Particles >6μm  ASTM D7647  >1300  Δ 2892  625  Δ 1062   | 27    |
| Particles >14μm ASTM D7647 >80 ▲ 145 36 ▲ 1294   | 1     |
| Particles >21μm  ASTM D7647  >20  Δ 29  7  Δ 248   |       |
| Particles >38μm  ASTM D7647  >4  1  0  9   |       |
| Particles >71μm  ASTM D7647  >3  0  0  0   |       |
| Oil Cleanliness ISO 4406 (c) >/17/13 🔺 21/19/14 19/16/12 🔺 22/2  | 1/17  |
| FLUID DEGRADATION method limit/base current history1 his   | tory2 |
| Acid Number (AN) mg KOH/g ASTM D8045 1.0 0.30 0.40 0.34  |       |
| :00:02) Rev: 1 Contact/Location: ? ? - NORE  |       |

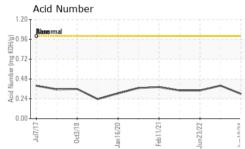
Report Id: NORBROKC [WUSCAR] 06212442 (Generated: 06/21/2024 21:00:02) Rev: 1

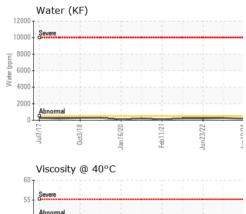


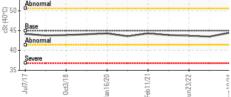
# **OIL ANALYSIS REPORT**





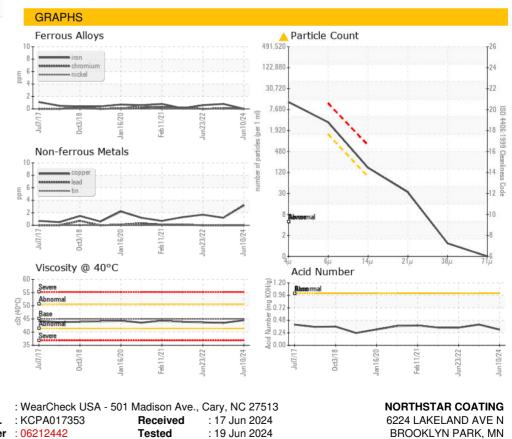






| VISUAL           |        | method    | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual   | >0.05      | NEG     | NEG      | NEG      |
| Free Water       | scalar | *Visual   |            | NEG     | NEG      | NEG      |
| FLUID PROPERT    | IES    | method    | limit/base | current | history1 | history2 |
| Visc @ 40°C      | cSt    | ASTM D445 | 45         | 44.5    | 43.5     | 43.7     |
| SAMPLE IMAGES    | S      | method    | limit/base | current | history1 | history2 |
| Color            |        |           |            |         |          |          |

Bottom



: 19 Jun 2024 - Don Baldridge



Laboratory : WearChec Sample No. : KCPA0173 Lab Number : 06212442 Unique Number : 11085306 Test Package : IND 2 ( Ad

Unique Number : 11085306 Diagnosed 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)

Report Id: NORBROKC [WUSCAR] 06212442 (Generated: 06/21/2024 21:00:03) Rev: 1

Contact/Location: ? ? - NORBROKC Page 2 of 2

US 55428

Contact:

T:

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