

## **OIL ANALYSIS REPORT**

# Sample Rating Trend ISO

Machine Id 8100176 (S/N 1118) Component

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

#### 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.

| Sample DateClient Info15 Jan 202424 Apr 202314 SetMachine AgehrsClient Info1398598126289Oil AgehrsClient Info035233265Oil ChangedClient InfoN/AChangedCharSample StatusImageImageATTENTIONATTENTION   | aged<br>ENTION<br>history2 |
|---|----------------------------|
| Machine Age hrs Client Info 13985 9812 6289   Oil Age hrs Client Info 0 3523 3265   Oil Changed Client Info N/A Changed Char   Sample Status Client Info N/A Changed Char   WEAR METALS method limit/base current history1 ATTENTION   Iron ppm ASTM D5185m >50 <1 <1 <1   Chromium ppm ASTM D5185m >10 <1 0 0   Nickel ppm ASTM D5185m >3 0 0 0   Silver ppm ASTM D5185m >2 0 0 0   Aluminum ppm ASTM D5185m >10 2 1 <1 <1 | nged<br>ENTION<br>history2 |
| Oil AgehrsClient Info035233265Oil ChangedClient InfoN/AChangedCharSample StatusImageImageABNORMALATTENTIONATTENTIONWEAR METALSmethodlimit/basecurrenthistory1AttentionIronppmASTM D5185m>50<1<1<1ChromiumppmASTM D5185m>10<100NickelppmASTM D5185m>3000SilverppmASTM D5185m>2000AluminumppmASTM D5185m>1021<1LeadppmASTM D5185m>10<100  | aged<br>ENTION<br>history2 |
| Oil Changed<br>Sample StatusClient InfoN/AChangedChar<br>Sample StatusWEAR METALSmethodlimit/basecurrenthistory1ATTENTIONIronppmASTM D5185m>50<1<1<1ChromiumppmASTM D5185m>10<100NickelppmASTM D5185m>3000TitaniumppmASTM D5185m>3<100SilverppmASTM D5185m>2000AluminumppmASTM D5185m>1021<1LeadppmASTM D5185m>10<100   | nged<br>ENTION<br>history2 |
| Sample Status method limit/base current history1 ATTENTION ATTENTION   WEAR METALS method limit/base current history1 ft   Iron ppm ASTM D5185m >50 <1 <1 <1   Chromium ppm ASTM D5185m >10 <1 0 0   Nickel ppm ASTM D5185m >3 0 0 0   Titanium ppm ASTM D5185m >3 <1 0 0   Silver ppm ASTM D5185m >2 0 0 0   Aluminum ppm ASTM D5185m >10 2 1 <1   Lead ppm ASTM D5185m >10 <1 0 0   | ENTION<br>history2         |
| WEAR METALS method limit/base current history1 H   Iron ppm ASTM D5185m >50 <1 <1 <1 <1   Chromium ppm ASTM D5185m >10 <1 0 0   Nickel ppm ASTM D5185m >3 0 0 0   Titanium ppm ASTM D5185m >3 <1 0 0   Silver ppm ASTM D5185m >2 0 0 0   Aluminum ppm ASTM D5185m >10 2 1 <1   Lead ppm ASTM D5185m >10 <1 0 0  | history2                   |
| Iron ppm ASTM D5185m >50 <1   |                            |
| Chromium ppm ASTM D5185m >10 <1   | 1                          |
| Nickel ppm ASTM D5185m >3 0 0 0   Titanium ppm ASTM D5185m >3 <1  |                            |
| Titanium ppm ASTM D5185m >3 <1  |                            |
| Silver ppm ASTM D5185m >2 0 0 0 0   Aluminum ppm ASTM D5185m >10 2 1 <1   |                            |
| Silver ppm ASTM D5185m >2 0 0 0   Aluminum ppm ASTM D5185m >10 2 1 <1   |                            |
| Aluminum ppm ASTM D5185m >10 2 1 <1   |                            |
| Lead ppm ASTM D5185m >10 <1 0 0   | 1                          |
| in the second   |                            |
|   | 3                          |
| Tin ppm ASTM D5185m >10 <1  |                            |
| Vanadium ppm ASTM D5185m 0  |                            |
| Cadmium ppm ASTM D5185m O O O   |                            |
| ADDITIVES method limit/base current history1 h  | history2                   |
| Boron ppm ASTM D5185m O   |                            |
| Barium ppm ASTM D5185m 90 1 0 <1  | 1                          |
| Molybdenum ppm ASTM D5185m 0 0 0  |                            |
| Manganese ppm ASTM D5185m 0 <1 <1   | 1                          |
| Magnesium ppm ASTM D5185m 100 24 15 22  | 2                          |
| Calcium ppm ASTM D5185m 0 <1 0 <1   | 1                          |
| Phosphorus ppm ASTM D5185m 0 27 2 4   |                            |
| Zinc ppm ASTM D5185m 0 164 146 12   | 27                         |
| Sulfur ppm ASTM D5185m 23500 21429 22624 17   | 7175                       |
| CONTAMINANTS method limit/base current history1 h   | history2                   |
| Silicon ppm ASTM D5185m >25 0 0 <1  | 1                          |
| Sodium ppm ASTM D5185m 27 6 22  | 2                          |
| Potassium ppm ASTM D5185m >20 15 2 19   | )                          |
| Water % ASTM D6304 >0.05 0.017 0.018 0.01   | 026                        |
| ppm Water ppm ASTM D6304 >500 179 182.5 26  | 66.6                       |
| FLUID CLEANLINESS method limit/base current history1 h  | history2                   |
|   | 572                        |
| Particles >6μm ASTM D7647 >1300 ▲ 1616 1245 ▲ 20  | )76                        |
| Particles >14μm ASTM D7647 >80 ▲ 606 ▲ 132 ▲ 12   | 22                         |
| Particles >21μm ASTM D7647 >20 ▲ 364 ▲ 40 ▲ 25  | 5                          |
| Particles >38μm ASTM D7647 >4 Δ 34 2 0  |                            |
| Particles >71μm ASTM D7647 >3 1 0 0   |                            |
| Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 19/18/16 ▲ 19/17/14 ▲ 20   | 0/18/14                    |
|   | history2                   |
| FLUID DEGRADATION method limit/base current history1 h  |                            |

Contact/Location: S. VARGAS - CHEBEN



Built for a lifetime. Particle Trend

10k

6

4

2

0 4/22

12000

10000

800 (maa)

600 Water 400

200

1.20 (B/H0) E0.72 Ê 0.4 Pio 0.2

0.00

10000

600 Water (

4000

200

60

55

() 50 50

3 45

40

35

muu

Sep

Water (KF)

Abnormal

Abnorma

Se

Sep 1

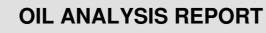
e

Acid Number

Sep 1

Water (KF)

of particles (1 ml)



| VISUAL           |        | method    | limit/base | current | history1 |
|------------------|--------|-----------|------------|---------|----------|
| White Metal      | scalar | *Visual   | NONE       | NONE    | NONE     |
| Yellow Metal     | scalar | *Visual   | NONE       | NONE    | NONE     |
| Precipitate      | scalar | *Visual   | NONE       | NONE    | NONE     |
| Silt             | scalar | *Visual   | NONE       | NONE    | NONE     |
| Debris           | scalar | *Visual   | NONE       | NONE    | NONE     |
| Sand/Dirt        | scalar | *Visual   | NONE       | NONE    | NONE     |
| Appearance       | scalar | *Visual   | NORML      | NORML   | NORML    |
| Odor             | scalar | *Visual   | NORML      | NORML   | NORML    |
| Emulsified Water | scalar | *Visual   | >0.05      | NEG     | NEG      |
| Free Water       | scalar | *Visual   |            | NEG     | NEG      |
| FLUID PROPERT    | IES    | method    | limit/base | current | history1 |
| Visc @ 40°C      | cSt    | ASTM D445 | 45         | 48.1    | 45.9     |
| SAMPLE IMAGES    | ;      | method    | limit/base | current | history1 |
| Color            |        |           |            |         | 3        |
| Bottom           |        |           |            |         | (130)    |



history2

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

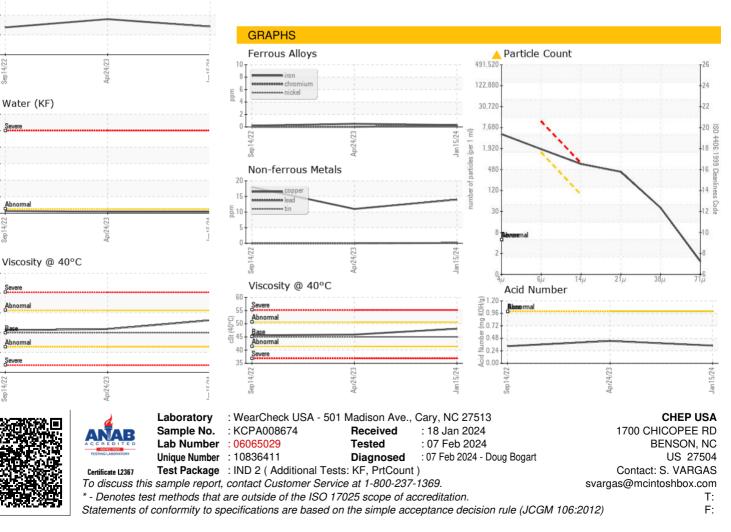
history2

history2

NEG

NEG

45.6



Contact/Location: S. VARGAS - CHEBEN