

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

8545453 (S/N 1384) Component Compressor

Compressor Fluid KAESER SIGMA (OEM) S-460 (--- QTS)

DIAGNOSIS

Recommendation

Oil and 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.

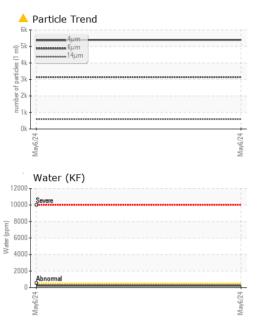
Fluid Condition

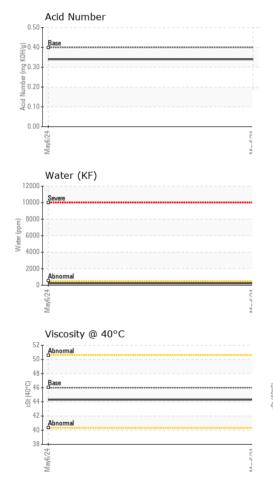
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

| Sample NumberClient InfoKC130823Sample DateClient Info06 May 202Machine AgehrsClient Info2137Oil Changed'rClient InfoKangedSample Status'rClient InfoKangedWEAR METALSMethodIntitueARNORMANickelpmASTM 051860NickelpmASTM 051860SilverpmASTM 051860< | SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|---|------------------|---------------|--------------|-------------|-----------------|----------|----------|
| Machine Age hrs Client Info 4247 Oil Age hrs Client Info 2137 Sample Status Client Info Changed WEAR METALS method Imil/base current history1 WEAR METALS method Imil/base current history1 WEAR METALS method Imil/base current history1 Nickel ppm ASTM D5185m >30 0 Silver ppm ASTM D5185m >10 <1 Aluminum ppm ASTM D5185m >10 <1 Aluminum ppm ASTM D5185m >10 <1 Addium ppm ASTM D5185m >10 <1 Capper ppm ASTM D5185m >10 <1 Addium ppm ASTM D5185m <0 <t< th=""><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>KC130823</th><th></th><th></th></t<> | Sample Number | | Client Info | | KC130823 | | |
| Oil Age hrs Client Info 2137 Sample Status I I ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >50 0 Nickel ppm ASTM 05185m >10 <1 | Sample Date | | Client Info | | 06 May 2024 | | |
| Oil Changed Client Info Changed | Machine Age | hrs | Client Info | | 4247 | | |
| Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >30 0 Nickel ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >10 <1 | Oil Age | hrs | Client Info | | 2137 | | |
| WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >30 0 Nickel ppm ASTM D5185m >33 <1 | Oil Changed | | Client Info | | Changed | | |
| Iron ppm ASTM D5185m >50 0 Nickel ppm ASTM D5185m >3 0 Nickel ppm ASTM D5185m >3 <1 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 2 Lead ppm ASTM D5185m >10 <1 Vanadium ppm ASTM D5185m 90 4 ADDITIVES method Imit/base current history1 history2 Barium ppm ASTM D5185m | - | | | | ABNORMAL | | |
| Chromium ppm ASTM D5185m >10 <1 | WEAR METALS | | method | limit/base | current | history1 | history2 |
| Nickel ppm ASTM D5185m >3 0 Titanium ppm ASTM D5185m >3 <1 | Iron | ppm | ASTM D5185m | >50 | 0 | | |
| Nickel ppm ASTM D5185m >3 0 Titanium ppm ASTM D5185m >3 <1 | Chromium | ppm | ASTM D5185m | >10 | <1 | | |
| Titanium ppm ASTM D5185m >3 <1 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 2 0 Lead ppm ASTM D5185m >10 <1 Copper ppm ASTM D5185m >10 <1 Vanadium ppm ASTM D5185m >10 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Molydenum ppm ASTM D5185m 0 4 Magnesium ppm ASTM D5185m 0 54 Magnesium ppm ASTM D5185m 2 4 ContrAminANTS method limit/base current history1 history2 | Nickel | | ASTM D5185m | >3 | 0 | | |
| Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >10 2 Lead ppm ASTM D5185m >10 <1 | Titanium | | ASTM D5185m | >3 | <1 | | |
| Aluminum ppm ASTM D5185m >10 2 Lead ppm ASTM D5185m >10 <1 | | | | | | | |
| Lead ppm ASTM D5185m >10 <1 Copper ppm ASTM D5185m >50 4 Tin ppm ASTM D5185m >10 <1 | Aluminum | | | >10 | | | |
| Copper ppm ASTM D5185m >50 4 Tin ppm ASTM D5185m >10 <1 | | | | | _ | | |
| Tin ppm ASTM D5185m >10 <1 Vanadium ppm ASTM D5185m <1 | | | | | | | |
| Vanadium ppm ASTM D5185m <1 Cadmium ppm ASTM D5185m <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 90 4 Malydeenum ppm ASTM D5185m 90 4 Manganese ppm ASTM D5185m 90 54 Calcium ppm ASTM D5185m 90 54 Galcium ppm ASTM D5185m 90 54 CONTAMINANTS ppm ASTM D5185m 20 11 Solicon ppm ASTM D5185m >20 11 Solicon ppm ASTM D5185m >20 11 < | | | | | = | | |
| Cadmium ppm ASTM D5185m <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 90 4 Molybdenum ppm ASTM D5185m 90 4 Magnesium ppm ASTM D5185m 90 54 Calcium ppm ASTM D5185m 90 54 ContAdman ppm ASTM D5185m 90 54 Zinc ppm ASTM D5185m 20 54 Solicon ppm ASTM D5185m 20 54 Solicon ppm ASTM D5185m >20 11 Solicon ppm ASTM D5185m 20 11 | | | | 210 | | | |
| ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 90 4 Molybdenum ppm ASTM D5185m <1 | | | | | | | |
| Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 90 4 Molybdenum ppm ASTM D5185m <1 Manganese ppm ASTM D5185m 90 54 Magnesium ppm ASTM D5185m 2 4 Calcium ppm ASTM D5185m 2 4 Calcium ppm ASTM D5185m 2 4 Contamina ppm ASTM D5185m 2 4 Zinc ppm ASTM D5185m 2 4 Solium ppm ASTM D5185m 2 <1 Solium ppm ASTM D5185m >20 11 Vater % ASTM D5185m >20 11 < | | PP | | limit/baco | | history1 | history? |
| Barium ppm ASTM D5185m 90 4 Molybdenum ppm ASTM D5185m <1 | | | | IIIIII/Dase | | | |
| Molybdenum ppm ASTM D5185m <1 Manganese ppm ASTM D5185m 90 54 Magnesium ppm ASTM D5185m 90 54 Calcium ppm ASTM D5185m 2 4 Calcium ppm ASTM D5185m 2 4 Phosphorus ppm ASTM D5185m 2 4 Zinc ppm ASTM D5185m 2 4 Zinc ppm ASTM D5185m >25 <1 | | | | 0.0 | | | |
| Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 90 54 Calcium ppm ASTM D5185m 2 4 Phosphorus ppm ASTM D5185m 2 4 Zinc ppm ASTM D5185m 6 Zinc ppm ASTM D5185m 6 Zinc ppm ASTM D5185m 6 Solicon ppm ASTM D5185m >25 <1 | | | | 90 | = | | |
| Magnesium ppm ASTM D5185m 90 54 Calcium ppm ASTM D5185m 2 4 Phosphorus ppm ASTM D5185m 6 Zinc ppm ASTM D5185m 6 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 | - | | | | | | |
| Calcium ppm ASTM D5185m 2 4 Phosphorus ppm ASTM D5185m 6 Zinc ppm ASTM D5185m 6 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 | - | | | 0.0 | | | |
| Phosphorus ppm ASTM D5185m 6 Zinc ppm ASTM D5185m G CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 <1 Sodium ppm ASTM D5185m >25 <1 Sodium ppm ASTM D5185m >20 11 Potassium ppm ASTM D6304 >0.05 0.022 Water % ASTM D6304 >500 220 ppm Water ppm ASTM D647 >500 220 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 3139 Particles >1µm ASTM D7647 >20 121 | 0 | | | | - | | |
| ZincppmASTM D5185m6CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25<1 | | | | 2 | | | |
| CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25<1 | | | | | - | | |
| Silicon ppm ASTM D5185m >25 <1 Sodium ppm ASTM D5185m 9 Potassium ppm ASTM D5185m >20 11 Water % ASTM D6304 >0.05 0.022 pm Water pm ASTM D6304 >500 220 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 3139 Particles >6µm Imit/base 586 Particles >14µm ASTM D7647 >20 121 Particles >21µm ASTM D7647 >20 121 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Qil Cleanliness ISO 4406 (c) >/17/13 20/19/16 | Zinc | ppm | ASTM D5185m | | 6 | | |
| Sodium ppm ASTM D5185m 9 Potassium ppm ASTM D5185m >20 11 Water % ASTM D6304 >0.05 0.022 ppm Water ppm ASTM D6304 >500 220 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 5394 Particles >6µm ASTM D7647 >1300 ▲ 3139 Particles >14µm ASTM D7647 >80 ▲ 586 Particles >21µm ASTM D7647 >20 ▲ 11 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 20/19/16 <tr< th=""><th>CONTAMINANTS</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></tr<> | CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Potassium ppm ASTM D5185m >20 11 Water % ASTM D6304 >0.05 0.022 ppm Water ppm ASTM D6304 >500 220 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 ▲ 3139 Particles >6µm ASTM D7647 >80 ▲ 586 Particles >14µm ASTM D7647 >20 ▲ 121 Particles >21µm ASTM D7647 >4 1 Particles >38µm ASTM D7647 >4 1 Particles >71µm ASTM D7647 >3 0 Gli Cleanliness ISO 4406 (c) >/17/13 20/19/16 FLUID DEGRADATION method limit/base current history1 histo | Silicon | ppm | ASTM D5185m | >25 | | | |
| Water % ASTM D6304 >0.05 0.022 ppm Water ppm ASTM D6304 >500 220 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 5394 Particles >6µm ASTM D7647 >1300 3139 Particles >6µm ASTM D7647 >80 586 Particles >21µm ASTM D7647 >20 121 Particles >38µm ASTM D7647 >4 1 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 20/19/16 FLUID DEGRADATION method limit/base current history1 history2 | Sodium | ppm | ASTM D5185m | | 9 | | |
| ppm Water ppm ASTM D6304 >500 220 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 5394 Particles >6µm ASTM D7647 >1300 ▲ 3139 Particles >6µm ASTM D7647 >80 ▲ 586 Particles >14µm ASTM D7647 >20 ▲ 121 Particles >21µm ASTM D7647 >4 1 Particles >38µm ASTM D7647 >3 0 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) /17/13 20/19/16 FLUID DEGRADATION method limit/base current history1 history2 | | | | >20 | | | |
| FLUID CLEANLINESSmethodlimit/basecurrenthistory1history2Particles >4 μ mASTM D76475394Particles >6 μ mASTM D7647>13003139Particles >14 μ mASTM D7647>80586Particles >21 μ mASTM D7647>20121Particles >38 μ mASTM D7647>41Particles >71 μ mASTM D7647>30Oil CleanlinessISO 4406 (c)>/17/1320/19/16FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2 | Water | % | ASTM D6304 | >0.05 | 0.022 | | |
| Particles >4μm ASTM D7647 5394 Particles >6μm ASTM D7647 >1300 3139 Particles >14μm ASTM D7647 >80 586 Particles >21μm ASTM D7647 >20 121 Particles >23μm ASTM D7647 >4 1 Particles >38μm ASTM D7647 >3 0 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 20/19/16 FLUID DEGRADATION method Imit/base current history1 history2 | ppm Water | ppm | ASTM D6304 | >500 | 220 | | |
| Particles >6µm ASTM D7647 >1300 ▲ 3139 Particles >14µm ASTM D7647 >80 ▲ 586 Particles >21µm ASTM D7647 >20 ▲ 121 Particles >21µm ASTM D7647 >4 1 Particles >38µm ASTM D7647 >4 1 Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/19/16 FLUID DEGRADATION method limit/base current history1 history2 | FLUID CLEANLIN | IESS | method | limit/base | current | history1 | history2 |
| Particles >14μm ASTM D7647 >80 ▲ 586 Particles >21μm ASTM D7647 >20 ▲ 121 Particles >38μm ASTM D7647 >4 1 Particles >38μm ASTM D7647 >4 1 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/19/16 FLUID DEGRADATION method limit/base current history1 history2 | Particles >4µm | | ASTM D7647 | | 5394 | | |
| Particles >21μm ASTM D7647 >20 ▲ 121 Particles >38μm ASTM D7647 >4 1 Particles >38μm ASTM D7647 >4 1 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/19/16 FLUID DEGRADATION method limit/base current history1 history2 | Particles >6µm | | ASTM D7647 | >1300 | <u> </u> | | |
| Particles >38μm ASTM D7647 >4 1 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 A 20/19/16 FLUID DEGRADATION method limit/base current history1 history2 | Particles >14µm | | ASTM D7647 | >80 | 6 586 | | |
| Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/19/16 FLUID DEGRADATION method limit/base current history1 history2 | Particles >21µm | | ASTM D7647 | >20 | <u> </u> | | |
| Oil Cleanliness ISO 4406 (c) >/17/13 20/19/16 FLUID DEGRADATION method limit/base current history1 history2 | Particles >38µm | | ASTM D7647 | >4 | 1 | | |
| FLUID DEGRADATION method limit/base current history1 history2 | Particles >71µm | | ASTM D7647 | >3 | 0 | | |
| | Oil Cleanliness | | ISO 4406 (c) | >/17/13 | 20/19/16 | | |
| | FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| | Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | 0.34 | | |

KAESER COMPRESSORS Built for a lifetime."

OIL ANALYSIS REPORT





| | | method | limit/base | current | history1 | history2 |
|------------------|----------------------------------|-------------------------------------|--|---|----------------|--|
| 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 | NONE | | |
| Sand/Dirt | scalar | *Visual | NONE | NONE | | |
| ppearance | scalar | *Visual | NORML | NORML | | |
|)dor | scalar | *Visual | NORML | NORML | | |
| Emulsified Water | scalar | *Visual | >0.05 | NEG | | |
| Free Water | scalar | *Visual | >0.05 | NEG | | |
| | | | | NEG | | |
| FLUID PROPER | TIES | method | limit/base | current | history1 | history2 |
| /isc @ 40°C | cSt | ASTM D445 | 46 | 44.3 | | |
| SAMPLE IMAGE | S | method | limit/base | current | history1 | history2 |
| Color | | | | a. | no image | no image |
| Bottom | | | | | no image | no image |
| GRAPHS | | | | | | |
| Ferrous Alloys | | | | Particle Count | <u>.</u> | |
| | | | 491,520 | T. | | T ²⁶ |
| Iron chromium | | | 122,880 | | | -24 |
| nickel | | | | | | |
| | | | 30,720 | - | | -22 |
| | | | 7,680 | | | -20 |
| | | | | | | |
| 5/24 | | | | | | |
| May6/24 | | | | | | -18 |
| May6/24 | | | | | | +18 |
| | | | | | | |
| Non-ferrous Meta | | | | | | -18 -16 |
| Non-ferrous Meta | | | of particles (per 1 ml) 1761 |)- - | | -18 -16 -14 |
| Non-ferrous Meta | | | 480 420 μ μ μ μ 1.920 480 μ μ μ μ 1.920 480 μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ μ |)- - - | | -18 -16 -14 -12 |
| Non-ferrous Meta | | | May6/24 |)- - - | | +18 +16 +14 |
| Non-ferrous Meta | | | +209keW +209keW 480 30 30 30 480 480 480 480 480 480 480 480 480 48 |) - - - Bioresemal | | -18 -16 -14 -12 |
| Non-ferrous Meta | | | +2/94eW (Jun Last) september 486 +2/94eW 30 +2/94e |) - - - - - - - - - - - - - - - - - - - | | -18 +16 -14 +12 |
| Non-ferrous Meta | | | +2/94eW (Jun Last) september 486 +2/94eW 30 +2/94e | р | 14μ 21μ | -18 -16 -14 -12 |
| Non-ferrous Meta | | | +279/eW (m Las) 1.920 +279/eW 30 579/eW 480 480 480 480 480 480 480 480 480 480 | β β β β β β β β β β β β β β | 14μ 21μ | -18 -16 -14 -12 -10 -8 -6 |
| Non-ferrous Meta | | | +2/9/eW (m Las) 1.920 +2/9/eW 30 5/9/eW 480 5/9/eW 480 5/9/eW 480 6/0/eW | β β β β β β β β β β β β β β | 14μ 21μ | -18 -16 -14 -12 -10 -8 -6 |
| Non-ferrous Meta | | | +2/9/eW (m Las) 1.920 +2/9/eW 30 5/9/eW 480 5/9/eW 480 5/9/eW 480 6/0/eW | β β β β β β β β β β β β β β | 14μ 21μ | -18 -16 -14 -12 -10 -8 -6 |
| Non-ferrous Meta | | | +2/9/eW (m Las) 1.920 +2/9/eW 30 5/9/eW 480 5/9/eW 480 5/9/eW 480 6/0/eW | β β β β β β β β β β β β β β | 14μ 21μ | -18 -16 -14 -12 -10 -8 -6 |
| Non-ferrous Meta | | | +2/9/eW (m Las) 1.920 +2/9/eW 30 5/9/eW 480 5/9/eW 480 5/9/eW 480 6/0/eW | β β β β β β β β β β β β β β | 14μ 21μ | -18 -16 -14 -12 -10 -8 -6 |
| Non-ferrous Meta | | | +2/94eW (Jun Last) septed jo and mun 42/94eW 30 42/94e | Acid Number | 14μ 21μ | -18 -16 -14 -12 -10 -8 -6 |
| Non-ferrous Meta | | | +2094eW (m 1 = a) 1.920 (b) 1.920 (c) 1.20 (c) 1 | Acid Number | 14μ 21μ | -18 -16 -14 -12 -10 -10 -8 -6 -71μ |
| Non-ferrous Meta | | | Horner of the second se | Acid Number | 14μ 21μ | -18 -16 -14 -12 -10 -10 -8 -6 -71μ |
| Non-ferrous Meta | ls | | +209/eW +209/eW +209/eW +209/eW +209/eW (0,0.50 (0,0.40) (0,0.40) (0, | Acid Number | 14μ 21μ | -18 -16 -14 -14 -12 -10 |
| Non-ferrous Meta | Is 1 1 Madisc | n Ave., Cary | +209/eW +209/eW +209/eW +209/eW +209/eW +209/eW (0,0.50 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,0.50 (0,HO) 600 (0,0.50) (0,0 | Acid Number | | 18 16 14 14 12 0 8 36µ 71µ 10 10 10 10 10 10 10 10 10 10 10 10 10 |
| Non-ferrous Meta | Is 1 Madisc Recei | n Ave., Cary ived : 13 | +209/ем +200/ем +209/ем +2 | Acid Number | DRT UNION RIAL | 18 16 14 16 14 12 10 8 36µ 71µ 10 10 10 10 10 10 10 10 10 10 |
| Non-ferrous Meta | Is 1 Madisc Recei Teste | n Ave., Cary ived : 13 d : 14 | +209/eW +209/eW +209/eW +209/eW +209/eW +209/eW (0,0.50 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,HO) 600 (0,0.50 (0,HO) 600 (0,0.50) (0,0 | Acid Number | DRT UNION RIAL | 18 16 14 12 10 36µ 71µ 10 10 14 12 10 8 5 5 71µ |

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 L2367

Laboratory Sample No. Lab Number Unique Number Test Package

> Contact/Location: Service Manager - TUFWES Page 2 of 2

T:

F: