

OIL ANALYSIS REPORT

Machine Id

KAESER AIRCENTER 7.5 5949381 (S/N 1543)

Compressor

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

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. We recommend an early resample in 500 hours to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a light concentration of water present in the oil. The amount and size of particulates present in the system are acceptable.

Fluid Condition

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

| SAMPLE INFORMATION method limit/base current history1 history1 <th></th> <th></th> <th>0ct2019</th> <th>Jul2020 Mar2021</th> <th>Dec2021 Jun2022 Mar2023</th> <th>M=2024</th> <th></th> | | | 0ct2019 | Jul2020 Mar2021 | Dec2021 Jun2022 Mar2023 | M=2024 | |
|---|------------------|----------|-------------|-----------------|-------------------------|---------------------|-------------|
| Sample Number Client Info KCPA016199 KCP5816 KCP4100 Sample Date Client Info 21 Mar 2024 06 Mar 2023 30 Jun 20 Machine Age hrs Client Info 272 300 330 Oil Age hrs Client Info 272 300 330 Oil Changed Client Info 272 300 330 Sample Status method limit/base current history1 history1 VEAR METALS method limit/base current history1 history1 Nickel ppm ASTM 05155m >10 0 0 0 Nickel ppm ASTM 05155m >10 0 0 0 Aluminum ppm ASTM 05155m >10 0 0 0 0 Aluminum ppm ASTM 05155m >10 0 0 0 0 0 Aluminum ppm ASTM 05155m >10 0 0 0 | | | 002010 | GREATA HARACE | DOLLET OUNCOLL INSISTE | HALSE I | |
| Sample Date Client Info 21 Mar 2024 06 Mar 2023 80 Jun 20 Machine Age hrs Client Info 3030 2758 2464 Oil Age hrs Client Info 272 300 330 Oil Changed Client Info Changed ABNORMAL ABNORMAL ABNORMAL Sample Status Imit/base current history1 history1 history1 Kron ppm ASTM D5185m >50 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >10 0 0 0 Agenda ppm ASTM D5185m >10 0 0 0 Capper ppm ASTM D5185m >10 <1 | SAMPLE INFOR | RMATION | method | limit/base | current | history1 | history2 |
| Machine Age hrs Client Info 3030 2758 2464 Oil Age hrs Client Info 272 300 330 Sample Status Client Info Changed Not Changd N/A Sample Status method Imit/base current history1 history1 WEAR METALS method Imit/base current history1 history1 Itanium ppm ASTM D5185m >50 0 0 0 Nickel ppm ASTM D5185m >30 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Copper ppm ASTM D5185m >10 0 <1 | Sample Number | | Client Info | | KCPA016199 | KCP55816 | KCP41000 |
| Oil Age hrs Client Info 272 300 330 Oil Changed Client Info Changed Nci Changd N/A Sample Status Imethod limit/base current history1 ABNORMAL WEAR METALS method limit/base current history1 history1 Kromium ppm ASTM D5185m >50 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >10 0 -1 -1 Cadad ppm ASTM D5185m >10 0 -1 -1 Cadad ppm ASTM D5185m >10 0 -1 -1 Cadadium ppm ASTM D5185m 10 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 -1 Astm D5185m 0 0 0 -1 -1 -1 -1 | Sample Date | | Client Info | | 21 Mar 2024 | 06 Mar 2023 | 30 Jun 2022 |
| Oil Changed Client Info Changed Not Changd N/A Sample Status Image Current ABNORMAL ABNORMAL <t< td=""><td>Machine Age</td><td>hrs</td><td>Client Info</td><td></td><td>3030</td><td>2758</td><td>2464</td></t<> | Machine Age | hrs | Client Info | | 3030 | 2758 | 2464 |
| Sample Status Image ABNORMAL ABNORMAL ABNORMAL ABNORMAL ABNORMAL WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Titanium ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1 | Oil Age | hrs | Client Info | | 272 | 300 | 330 |
| WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1 | Oil Changed | | Client Info | | Changed | Not Changd | N/A |
| ron ppm ASTM D5185m >50 0 0 <11 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1 | Sample Status | | | | ABNORMAL | ABNORMAL | ABNORMA |
| Dromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1 | WEAR METALS | ; | method | limit/base | current | history1 | history2 |
| Nickel ppm ASTM D5185m >3 0 0 0 Titanium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1 | Iron | ppm | ASTM D5185m | >50 | 0 | 0 | <1 |
| Titanium ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1 | Chromium | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >10 0 <1 | Nickel | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum ppm ASTM D5185m >10 0 <1 <1 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 <1 | Titanium | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 <1 | Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >50 <1 | Aluminum | ppm | ASTM D5185m | >10 | 0 | <1 | <1 |
| Copper ppm ASTM D5185m >50 <1 2 <1 Tin ppm ASTM D5185m >10 <1 | Lead | | ASTM D5185m | >10 | 0 | 0 | 0 |
| Tin ppm ASTM D5185m >10 <1 0 <1 Antimony ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 history1 Boron ppm ASTM D5185m 0 0 0 0 0 Barium ppm ASTM D5185m 90 0 0 0 4 Molybdenum ppm ASTM D5185m 0 0 0 4 Manganese ppm ASTM D5185m 0 23 38 51 Calcium ppm ASTM D5185m 2 0 0 2 Phosphorus ppm ASTM D5185m 2 0 1 12 Sulfur ppm ASTM D5185m 2 0 1 1 Sulfur ppm ASTM D5185m 2 0 1 1 Sulfur ppm ASTM D5185m <th< td=""><td>Copper</td><td></td><td>ASTM D5185m</td><td>>50</td><td><1</td><td>2</td><td><1</td></th<> | Copper | | ASTM D5185m | >50 | <1 | 2 | <1 |
| Antimony ppm ASTM D5185m | | | | | | | |
| Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 90 0 0 0 4 Molybdenum ppm ASTM D5185m 90 0 0 0 4 Maganese ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 2 0 0 21 21 Sulfur ppm ASTM D5185m 28 32 21 21 Sulfur ppm ASTM D5185m 21227 21493 21216 CONTAMINANTS method limit/base | Antimony | | ASTM D5185m | | | | |
| Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 90 0 0 0 4 Molybdenum ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 90 21 21 21 Zinc ppm ASTM D5185m 28 32 21 Sulfur ppm ASTM D5185m 21227 21493 21216 CONTAMINANTS method limit/base current history1 history1 Solicon ppm ASTM D5185m >20 0 <1 2 <td>-</td> <td></td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> | - | | | | 0 | 0 | 0 |
| ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 90 0 0 4 Molybdenum ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 90 21 2 1 12 Calcium ppm ASTM D5185m 0 <1 | | | | | - | | |
| Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 90 0 0 4 Molybdenum ppm ASTM D5185m 0 0 <1 | | lele | | limit/base | current | - | - |
| Barium ppm ASTM D5185m 90 0 0 4 Molybdenum ppm ASTM D5185m 0 0 <1 | | 0000 | | in the base | | | |
| Molybdenum ppm ASTM D5165m 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <td></td> <td></td> <td></td> <td>00</td> <td></td> <td></td> <td></td> | | | | 00 | | | |
| Manganese ppm ASTM D5185m <1 <1 <1 <1 Magnesium ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 2 0 0 2 Phosphorus ppm ASTM D5185m 0 <1 | | | | 90 | - | | |
| Magnesium ppm ASTM D5185m 90 23 38 51 Calcium ppm ASTM D5185m 2 0 0 2 Phosphorus ppm ASTM D5185m 0 <1 | , | | | | - | | |
| Calcium ppm ASTM D5185m 2 0 0 2 Phosphorus ppm ASTM D5185m 0 <1 | - | | | 00 | | | |
| Phosphorus ppm ASTM D5185m 0 <1 12 Zinc ppm ASTM D5185m 28 32 21 Sulfur ppm ASTM D5185m 21227 21493 21216 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 0 1 <1 Sodium ppm ASTM D5185m >25 0 1 <1 Sodium ppm ASTM D5185m >20 0 <1 21 Sodium ppm ASTM D5185m >20 0 <1 2 Water % ASTM D6304 >0.05 0.331 0.172 0.007 ppm ASTM D6304 >500 3310 1720 73.3 FLUID CLEANLINESS method limit/base current history1 history1 Particles >6µm ASTM D7647 >1300 166 915 3798 <th< td=""><td>•</td><td></td><td></td><td></td><td>-</td><td></td><td></td></th<> | • | | | | - | | |
| Zinc ppm ASTM D5185m 28 32 21 Sulfur ppm ASTM D5185m 21227 21493 21216 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 0 1 <1 | | | | 2 | - | | |
| Sulfur ppm ASTM D5185m 21227 21493 21216 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 0 1 <1 | | | | | - | | |
| CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 0 1 <1 | - | | | | | | |
| Silicon ppm ASTM D5185m >25 0 1 <1 Sodium ppm ASTM D5185m 9 10 18 Potassium ppm ASTM D5185m >20 0 <1 | | | | | 21227 | | - |
| Sodium ppm ASTM D5185m 9 10 18 Potassium ppm ASTM D5185m >20 0 <1 | | S | | | current | | history2 |
| Potassium ppm ASTM D5185m >20 0 <1 2 Water % ASTM D6304 >0.05 0.331 0.172 0.007 ppm Water ppm ASTM D6304 >500 3310 1720 73.3 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4µm ASTM D7647 694 1679 9392 Particles >6µm ASTM D7647 694 1679 9392 Particles >6µm ASTM D7647 >1300 166 915 3798 Particles >14µm ASTM D7647 >20 5 52 6 Particles >21µm ASTM D7647 >20 5 52 6 Particles >38µm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/2 FLUID DEGRADATION method limit/base current history1 history1 | | ppm | | >25 | 0 | | |
| Water % ASTM D6304 >0.05 0.331 0.172 0.007 ppm Water ppm ASTM D6304 >500 3310 1720 73.3 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4µm ASTM D7647 694 1679 9392 Particles >6µm ASTM D7647 590 166 915 3798 Particles >14µm ASTM D7647 >80 19 156 91 Particles >21µm ASTM D7647 >20 5 52 6 Particles >38µm ASTM D7647 >4 0 8 0 Particles >71µm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/2 FLUID DEGRADATION method limit/base current history1 history1 | Sodium | ppm | | | 9 | 10 | 18 |
| ppm ASTM D6304 >500 3310 1720 73.3 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4µm ASTM D7647 694 1679 9392 Particles >6µm ASTM D7647 >1300 166 915 3798 Particles >6µm ASTM D7647 >80 19 156 91 Particles >14µm ASTM D7647 >20 5 52 6 Particles >21µm ASTM D7647 >4 0 8 0 Particles >38µm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/2 FLUID DEGRADATION method limit/base current history1 history1 | Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | 2 |
| FLUID CLEANLINESS method limit/base current history1 history1 Particles >4µm ASTM D7647 694 1679 9392 Particles >6µm ASTM D7647 >1300 166 915 3798 Particles >14µm ASTM D7647 >80 19 156 91 Particles >14µm ASTM D7647 >20 5 52 6 Particles >21µm ASTM D7647 >20 5 52 6 Particles >38µm ASTM D7647 >4 0 8 0 Particles >71µm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/3 FLUID DEGRADATION method limit/base current history1 history1 | Water | % | ASTM D6304 | >0.05 | A 0.331 | ▲ 0.172 | 0.007 |
| Particles >4µm ASTM D7647 694 1679 9392 Particles >6µm ASTM D7647 >1300 166 915 3798 Particles >14µm ASTM D7647 >80 19 156 91 Particles >14µm ASTM D7647 >20 5 52 6 Particles >21µm ASTM D7647 >20 5 52 6 Particles >38µm ASTM D7647 >4 0 8 0 Particles >71µm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/1 FLUID DEGRADATION method limit/base current history1 history1 | ppm Water | ppm | ASTM D6304 | >500 | A 3310 | <mark>▲</mark> 1720 | 73.3 |
| Particles >6μm ASTM D7647 >1300 166 915 3798 Particles >14μm ASTM D7647 >80 19 156 91 Particles >21μm ASTM D7647 >20 5 52 6 Particles >38μm ASTM D7647 >4 0 8 0 Particles >38μm ASTM D7647 >4 0 10 0 Particles >71μm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/2 FLUID DEGRADATION method limit/base current history1 history1 | FLUID CLEANL | INESS | method | limit/base | current | history1 | history2 |
| Particles >14µm ASTM D7647 >80 19 156 ▲ 91 Particles >21µm ASTM D7647 >20 5 52 6 Particles >38µm ASTM D7647 >4 0 8 0 Particles >38µm ASTM D7647 >3 0 1 0 Particles >71µm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/1 FLUID DEGRADATION method limit/base current history1 history1 | Particles >4µm | | ASTM D7647 | | 694 | 1679 | 9392 |
| Particles >21μm ASTM D7647 >20 5 52 6 Particles >38μm ASTM D7647 >4 0 8 0 Particles >38μm ASTM D7647 >4 0 8 0 Particles >71μm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/2 FLUID DEGRADATION method limit/base current history1 history1 | Particles >6µm | | ASTM D7647 | >1300 | 166 | 915 | ▲ 3798 |
| Particles >38µm ASTM D7647 >4 0 8 0 Particles >71µm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/3 FLUID DEGRADATION method limit/base current history1 history1 | Particles >14µm | | ASTM D7647 | >80 | 19 | 1 56 | 9 1 |
| Particles >71μm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/1 FLUID DEGRADATION method limit/base current history1 history1 | Particles >21µm | | ASTM D7647 | >20 | 5 | 52 | 6 |
| Particles >71μm ASTM D7647 >3 0 1 0 Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/1 FLUID DEGRADATION method limit/base current history1 history1 | Particles >38µm | | ASTM D7647 | >4 | 0 | 8 | 0 |
| Oil Cleanliness ISO 4406 (c) >/17/13 17/15/11 18/17/14 20/19/1 FLUID DEGRADATION method limit/base current history1 history1 | | | ASTM D7647 | >3 | 0 | 1 | 0 |
| - | Oil Cleanliness | | | | 17/15/11 | 18/17/14 | ▲ 20/19/14 |
| Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.28 0.34 0.33 | FLUID DEGRAD | DATION | method | limit/base | current | history1 | history2 |
| (07:10) Pour 1 Contact/Location: Sonvice Manager THEP | Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | 0.28 | 0.34 | 0.33 |

Sample Rating Trend

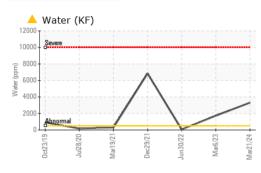
WATER

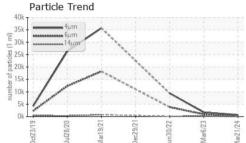
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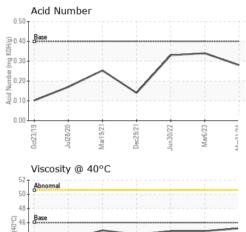
Contact/Location: Service Manager - THERICTX

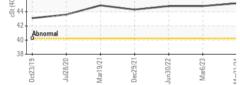


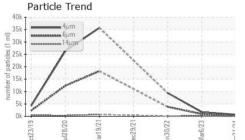
OIL ANALYSIS REPORT





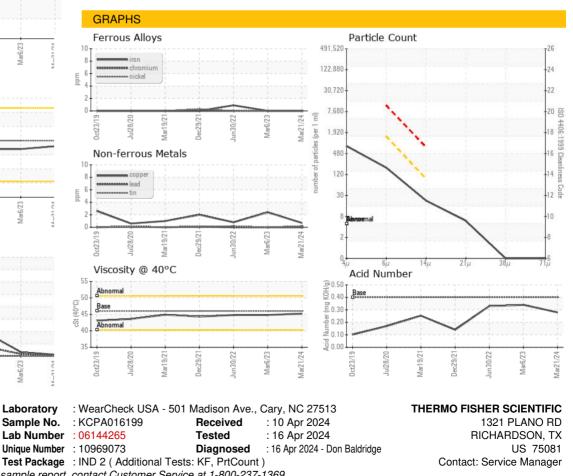






| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------------|--------------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | 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 | - HAZY | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.05 | A 0.2% | ▲ 0.2% | NEG |
| Free Water | scalar | *Visual | | NEG | ▲ 1.0 | NEG |
| FLUID PROPERT | IES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D445 | 46 | 45.2 | 44.8 | 44.8 |
| SAMPLE IMAGES | 6 | method | limit/base | current | history1 | history2 |
| Color | | | | | | |

Bottom



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) T: F:

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Certificate 12367

Contact/Location: Service Manager - THERICTX