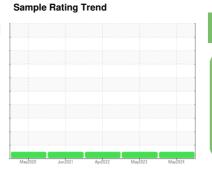


OIL ANALYSIS REPORT

Area

KAESER S-460 [9808] KAESER 1141 - WARD MFG INC

Component Compressor





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

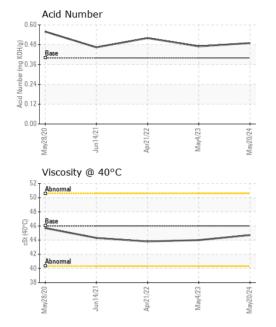
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

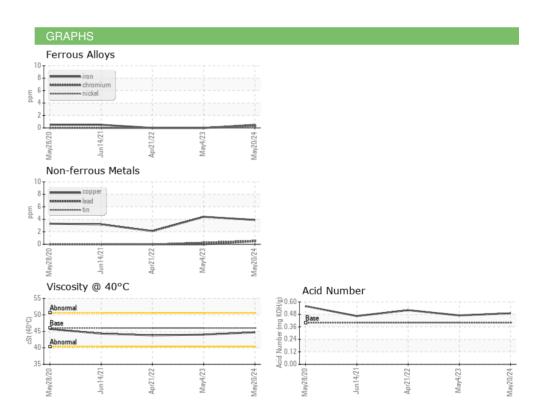
| Sample Number Client Info UDI0000290 UCH05849827 UCH058535 Sample Date Client Info 20 May 2024 04 May 2023 21 Apr 202 Machine Age hrs Client Info 41234 35034 28795 Client Info 6100 6200 5216 Changed Changed Changed Changed Changed Changed NORMAL NORMAL | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|-------------|------------|-------------|-------------|-------------|
| Sample Date | SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Machine Age hrs Client Info 41234 35034 28795 Oil Age hrs Client Info 6100 6200 5216 Oil Changed Client Info Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history1 WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 <1 0 0 Chromium ppm ASTM D5185m >50 <1 0 0 Nickel ppm ASTM D5185m >10 <1 0 0 Nickel ppm ASTM D5185m >3 <1 0 0 Nickel ppm ASTM D5185m >2 1 0 <1 Aluminum ppm ASTM D5185m >10 1 0 | Sample Number | | Client Info | | UDI0000290 | UCH05849827 | UCH05535346 |
| Machine Age hrs Client Info 41234 35034 28795 Oil Age hrs Client Info 6100 6200 5216 Oil Changed Client Info Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL WORMAL NORMAL NORMAL NORMAL WORMAL NORMAL NORMAL NORMAL WORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL WORMAL NORMAL NORMAL NORMAL WORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL STATESTAL NORMAL STATESTAL NORMAL NORMAL NORMAD STATESTAL 0 0 | Sample Date | | Client Info | | 20 May 2024 | 04 May 2023 | 21 Apr 2022 |
| Oil Changed Sample Status Client Info Changed NORMAL Control NORMAL | Machine Age | hrs | Client Info | | 41234 | | 28795 |
| NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history | Oil Age | hrs | Client Info | | 6100 | 6200 | 5216 |
| CONTAMINATION method limit/base current history1 history1 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 <1 0 0 Chromium ppm ASTM D5185m >50 <1 0 0 Nickel ppm ASTM D5185m >3 <1 0 0 Silver ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >2 1 0 <1 Lead ppm ASTM D5185m >10 <1 0 <1 Lead ppm ASTM D5185m >10 <1 0 <1 Copper ppm ASTM D5185m >10 <1 <1 0 Vanadium ppm ASTM D5185m <1 <1 0 0 </th <td>Oil Changed</td> <td></td> <td>Client Info</td> <td></td> <th>Changed</th> <td>Changed</td> <td>Changed</td> | Oil Changed | | Client Info | | Changed | Changed | Changed |
| Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 <1 | Sample Status | | | | NORMAL | NORMAL | NORMAL |
| WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 <1 0 0 Chromium ppm ASTM D5185m >10 <1 0 0 Nickel ppm ASTM D5185m >3 <1 0 0 Silver ppm ASTM D5185m >3 <1 0 0 Silver ppm ASTM D5185m >10 1 0 <1 Aluminum ppm ASTM D5185m >10 <1 0 <1 Lead ppm ASTM D5185m >10 <1 0 <1 Copper ppm ASTM D5185m >10 <1 <1 0 Antimony ppm ASTM D5185m >10 <1 <1 0 Antimony ppm ASTM D5185m <1 0 0 <1 Cadmium ppm ASTM D5185m <1 0 0 | CONTAMINATIO | N | method | limit/base | current | history1 | history2 |
| Iron | Water | | WC Method | >0.05 | NEG | NEG | NEG |
| Chromium ppm ASTM D5185m >10 <1 | WEAR METALS | | method | limit/base | current | history1 | history2 |
| Nickel | Iron | ppm | ASTM D5185m | >50 | <1 | 0 | 0 |
| Titanium ppm ASTM D5185m >3 <1 | Chromium | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Silver ppm ASTM D5185m >2 1 0 <1 | Nickel | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum ppm ASTM D5185m >10 1 0 <1 | Titanium | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Lead ppm ASTM D5185m >10 <1 | Silver | ppm | ASTM D5185m | >2 | 1 | 0 | <1 |
| Copper ppm ASTM D5185m >50 4 4 2 Tin ppm ASTM D5185m >10 <1 <1 0 Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 <1 Boron ppm ASTM D5185m 90 0 0 0 Barium ppm ASTM D5185m <1 0 0 0 Molybdenum ppm ASTM D5185m <1 <1 0 0 Magnesium ppm ASTM D5185m <1 <1 0 0 Magnesium ppm ASTM D5185m 2 0 0 0 Phosphorus ppm ASTM D5185m <1 <1 <1 8 Zinc ppm | Aluminum | ppm | ASTM D5185m | >10 | 1 | 0 | <1 |
| Tin ppm ASTM D5185m >10 <1 <1 0 Antimony ppm ASTM D5185m >10 <1 0 Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m <1 0 Cadmium ppm ASTM D5185m <1 0 ADDITIVES method limit/base current history1 history Boron ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m <1 0 Manganese ppm ASTM D5185m <1 0 Magnesium ppm ASTM D5185m 90 <1 0 Magnesium ppm ASTM D5185m 90 <1 0 Magnesium ppm ASTM D5185m 90 <1 2 Calcium ppm ASTM D5185m 90 <1 2 Calcium ppm ASTM D5185m 2 0 0 0 Phosphorus ppm ASTM D5185m 2 0 0 0 Sulfur ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 19528 21428 15991 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 <1 0 <1 <1 CONTAMINANTS method limit/base current history1 history FLUID DEGRADATION method limit/base current history1 history | Lead | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Antimony ppm ASTM D5185m 0 0 ADDTIVES method limit/base current history1 history1 history2 1 1 1 1 1 1 1 1 1 1 1 2 1 | Copper | ppm | ASTM D5185m | >50 | 4 | 4 | 2 |
| Vanadium ppm ASTM D5185m <1 | Tin | ppm | ASTM D5185m | >10 | <1 | <1 | 0 |
| Cadmium ppm ASTM D5185m <1 | Antimony | ppm | ASTM D5185m | | | | |
| ADDITIVES method limit/base current history1 history Boron ppm ASTM D5185m 0 0 <1 Barium ppm ASTM D5185m 90 0 0 0 Molybdenum ppm ASTM D5185m <1 0 0 0 Manganese ppm ASTM D5185m <1 <1 0 0 Magnesium ppm ASTM D5185m 90 <1 2 <1 0 Calcium ppm ASTM D5185m 2 0 0 0 0 Phosphorus ppm ASTM D5185m <1 <1 8 8 Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 19528 21428 15991 CONTAMINANTS method limit/base current history1 history Sodium ppm ASTM D5185m >25 <1 0< | Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Boron ppm ASTM D5185m 0 0 <1 | Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Barium ppm ASTM D5185m 90 0 0 0 Molybdenum ppm ASTM D5185m <1 0 0 Manganese ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m 90 <1 2 <1 Calcium ppm ASTM D5185m 2 0 0 0 Phosphorus ppm ASTM D5185m <1 <1 8 Zinc ppm ASTM D5185m 0 0 0 Sulfur ppm ASTM D5185m 19528 21428 15991 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 <1 0 <1 <1 Sodium ppm ASTM D5185m >20 <1 <1 0 FLUID DEGRADATION method limit/base current history1 history1 | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185m <1 | Boron | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Manganese ppm ASTM D5185m <1 | Barium | ppm | ASTM D5185m | 90 | 0 | 0 | 0 |
| Magnesium ppm ASTM D5185m 90 <1 | Molybdenum | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Calcium ppm ASTM D5185m 2 0 0 0 Phosphorus ppm ASTM D5185m <1 | Manganese | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Phosphorus ppm ASTM D5185m <1 | Magnesium | ppm | ASTM D5185m | 90 | <1 | 2 | <1 |
| Zinc ppm ASTM D5185m 0 0 0 0 Sulfur ppm ASTM D5185m 19528 21428 15991 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 <1 | Calcium | ppm | ASTM D5185m | 2 | 0 | 0 | 0 |
| Sulfur ppm ASTM D5185m 19528 21428 15991 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 <1 0 <1 Sodium ppm ASTM D5185m 0 <1 <1 Potassium ppm ASTM D5185m >20 <1 <1 0 FLUID DEGRADATION method limit/base current history1 history | Phosphorus | ppm | ASTM D5185m | | <1 | <1 | 8 |
| CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 <1 0 <1 Sodium ppm ASTM D5185m 0 <1 <1 Potassium ppm ASTM D5185m >20 <1 <1 0 FLUID DEGRADATION method limit/base current history1 history | Zinc | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silicon ppm ASTM D5185m >25 <1 | Sulfur | ppm | ASTM D5185m | | 19528 | 21428 | 15991 |
| Sodium ppm ASTM D5185m 0 <1 | CONTAMINANTS | 6 | method | limit/base | current | history1 | history2 |
| Potassium ppm ASTM D5185m >20 <1 <1 0 FLUID DEGRADATION method limit/base current history1 history | Silicon | ppm | ASTM D5185m | >25 | <1 | 0 | <1 |
| FLUID DEGRADATION method limit/base current history1 history | Sodium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| | Potassium | ppm | ASTM D5185m | >20 | <1 | <1 | 0 |
| Acid Number (AN) mg KOH/g ASTM D8045 0.4 0.49 0.47 0.52 | FLUID DEGRADA | NOITA | method | limit/base | current | history1 | history2 |
| | Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | 0.49 | 0.47 | 0.52 |



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 PROPERTIES | | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D445 | 46 | 44.7 | 44.0 | 43.8 |
| SAMPLE IMAGES | | method | limit/base | current | history1 | history2 |
| Color | | | | | | |
| Bottom | | | | | | |







Certificate 12367

Laboratory Sample No.

Test Package : IND 2

: UDI0000290 Lab Number : 06194205 Unique Number : 11056328

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 29 May 2024

Tested : 30 May 2024 Diagnosed

: 30 May 2024 - Wes Davis

DELTA INDUSTRIES - DOWNERS GROVE 2201 CURTISS STREET DOWNERS GROVE, IL US 60515

Contact: MICHAEL FERRIS

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)

F: (630)960-3931

Report Id: UCDELDOW [WUSCAR] 06194205 (Generated: 05/30/2024 17:54:57) Rev: 1

Contact/Location: MICHAEL FERRIS - UCDELDOW