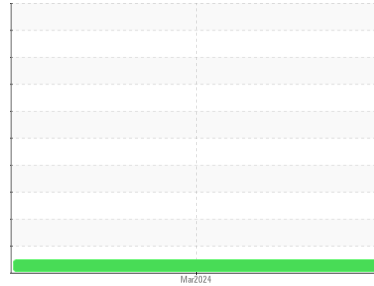


Area
QUANDRA COOLANT
Machine Id
SULLIVAN PALATEK 1612090005 - KERFORD LIMESTONE UNIT 2
Component
Compressor



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

Moderate concentration of visible dirt/debris present in the oil. There is a moderate amount of visible silt present in the sample.

Fluid Condition

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

SAMPLE INFORMATION method limit/base current history1 history2

| | | | | |
|---------------|-------------|--------------------|--------------|-----|
| Sample Number | Client Info | UCS06131460 | --- | --- |
| Sample Date | Client Info | 08 Mar 2024 | --- | --- |
| Machine Age | hrs | Client Info | 20745 | --- |
| Oil Age | hrs | Client Info | 0 | --- |
| Oil Changed | Client Info | Changed | --- | --- |
| Sample Status | | NORMAL | --- | --- |

CONTAMINATION method limit/base current history1 history2

| | | | | | |
|-------|-----------|------|------------|-----|-----|
| Water | WC Method | >0.8 | NEG | --- | --- |
|-------|-----------|------|------------|-----|-----|

WEAR METALS method limit/base current history1 history2

| | | | | | | |
|----------|-----|-------------|-----|--------------|-----|-----|
| Iron | ppm | ASTM D5185m | >50 | 1 | --- | --- |
| Chromium | ppm | ASTM D5185m | >10 | <1 | --- | --- |
| Nickel | ppm | ASTM D5185m | | <1 | --- | --- |
| Titanium | ppm | ASTM D5185m | | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >25 | 2 | --- | --- |
| Lead | ppm | ASTM D5185m | >25 | <1 | --- | --- |
| Copper | ppm | ASTM D5185m | >50 | <1 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | --- | --- |
| Cadmium | ppm | ASTM D5185m | | <1 | --- | --- |

ADDITIVES method limit/base current history1 history2

| | | | | | | |
|------------|-----|-------------|-----|--------------|-----|-----|
| Boron | ppm | ASTM D5185m | 2 | 0 | --- | --- |
| Barium | ppm | ASTM D5185m | 525 | 651 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 10 | <1 | --- | --- |
| Manganese | ppm | ASTM D5185m | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | 5 | <1 | --- | --- |
| Calcium | ppm | ASTM D5185m | 10 | 8 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 250 | 103 | --- | --- |
| Zinc | ppm | ASTM D5185m | 100 | 0 | --- | --- |
| Sulfur | ppm | ASTM D5185m | 400 | 426 | --- | --- |

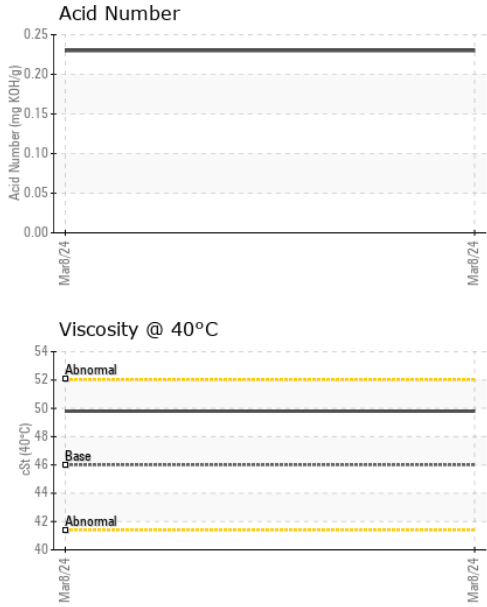
CONTAMINANTS method limit/base current history1 history2

| | | | | | | |
|-----------|-----|-------------|-----|----------|-----|-----|
| Silicon | ppm | ASTM D5185m | >25 | 2 | --- | --- |
| Sodium | ppm | ASTM D5185m | | 8 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | --- | --- |

FLUID DEGRADATION method limit/base current history1 history2

| | | | | | | |
|------------------|----------|------------|--|-------------|-----|-----|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.23 | --- | --- |
|------------------|----------|------------|--|-------------|-----|-----|

OIL ANALYSIS REPORT



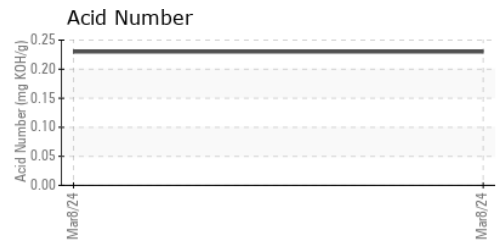
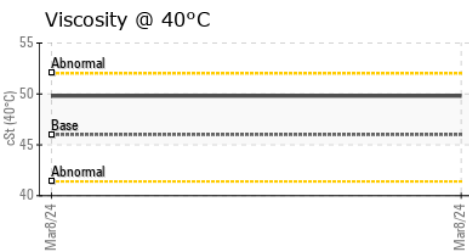
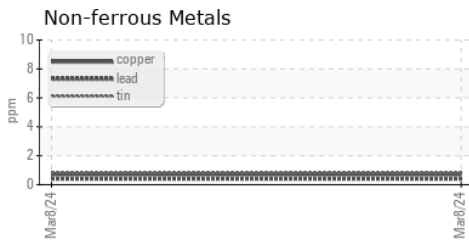
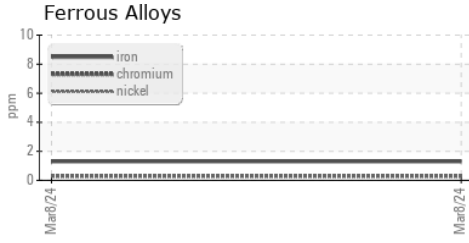
| VISUAL | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|--------------|----------|-----|
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- | --- |
| Silt | scalar | *Visual | NONE | MODER | --- | --- |
| Debris | scalar | *Visual | NONE | MODER | --- | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- | --- |
| Odor | scalar | *Visual | NORML | NORML | --- | --- |
| Emulsified Water | scalar | *Visual | >0.8 | NEG | --- | --- |
| Free Water | scalar | *Visual | | NEG | --- | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|-------------|----------|-----|
| Visc @ 40°C | cSt | ASTM D445 | 46 | 49.8 | --- | --- |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|

| | | | | | |
|--------|--|--|--|----------|----------|
| Color | | | | no image | no image |
| Bottom | | | | no image | no image |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : UCS06131460 **Received** : 27 Mar 2024
Lab Number : **06131460** **Tested** : 28 Mar 2024
Unique Number : 10950925 **Diagnosed** : 01 Apr 2024 - Don Baldrige
Test Package : IND 2

RASMUSSEN AIR & GAS ENERGY
 655 240TH STREET
 WATERLOO, NE
 US 68069
 Contact: CHASE SVOBODA
 chase.svoboda@rage-energy.com
 T: (402)614-9926
 F:

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)