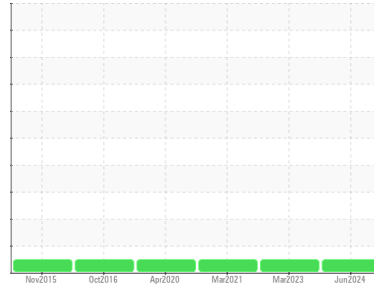




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

[001355-1]

Machine Id

COSTCO 535 RACK C (S/N 12229500)

Component

Reciprocating Compressor

Fluid

EMKARATE RL 32H (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The water content is negligible. 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 INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0912797 | WC0794383 | WC0556280 |
| Sample Date | Client Info | | 11 Jun 2024 | 01 Mar 2023 | 05 Mar 2021 |
| Machine Age | mths | Client Info | 0 | 0 | 0 |
| Oil Age | mths | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|-------------|-------------------|----------|----------|----------|
| PQ | ASTM D8184* | | 0 | 0 | 0 |
| Iron | ppm | ASTM D5185(m) >50 | 7 | 3 | 3 |
| Chromium | ppm | ASTM D5185(m) >10 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) >25 | 0 | <1 | <1 |
| Lead | ppm | ASTM D5185(m) >25 | 0 | <1 | <1 |
| Copper | ppm | ASTM D5185(m) >50 | 3 | 5 | 5 |
| Tin | ppm | ASTM D5185(m) >15 | 0 | <1 | <1 |
| Antimony | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) 0 | <1 | <1 | 2 |
| Barium | ppm | ASTM D5185(m) 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) 0 | 0 | 0 | 0 |
| Calcium | ppm | ASTM D5185(m) 0 | 0 | 0 | <1 |
| Phosphorus | ppm | ASTM D5185(m) 5 | <1 | 0 | <1 |
| Zinc | ppm | ASTM D5185(m) 10 | 3 | 2 | 3 |
| Sulfur | ppm | ASTM D5185(m) 50 | 14 | 17 | 23 |
| Lithium | ppm | ASTM D5185(m) | <1 | <1 | <1 |

CONTAMINANTS

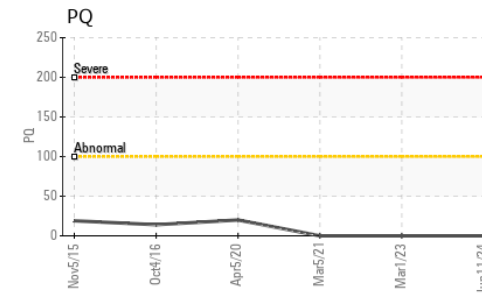
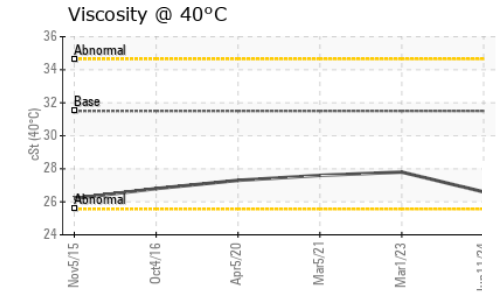
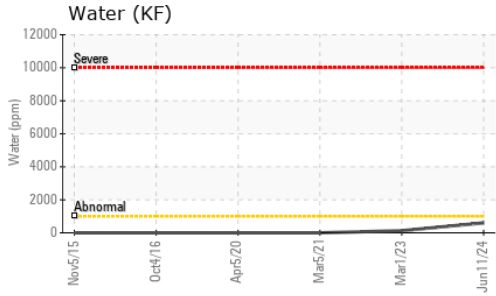
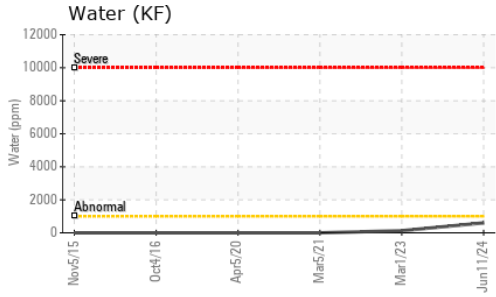
| | method | limit/base | current | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) >25 | 1 | 3 | 2 |
| Sodium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Potassium | ppm | ASTM D5185(m) >20 | 0 | <1 | <1 |
| Water | % | ASTM D6304* >0.1 | 0.060 | 0.012 | --- |
| ppm Water | ppm | ASTM D6304* >1000 | 603 | 127.8 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* .05 | 0.02 | 0.06 | 0.04 |



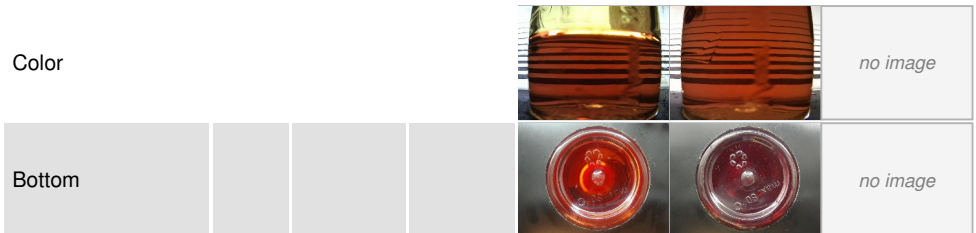
OIL ANALYSIS REPORT



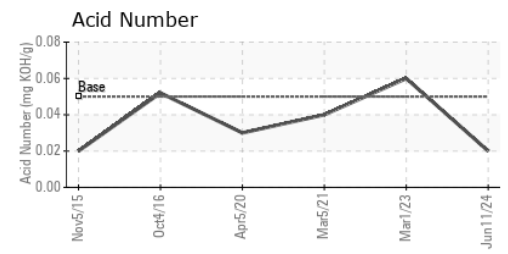
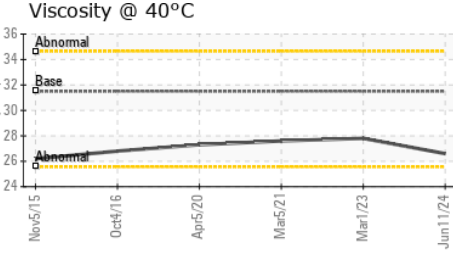
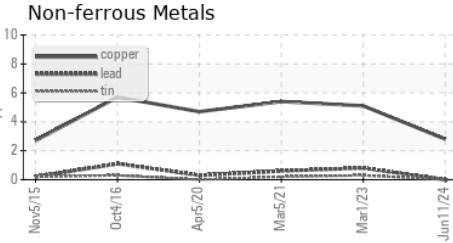
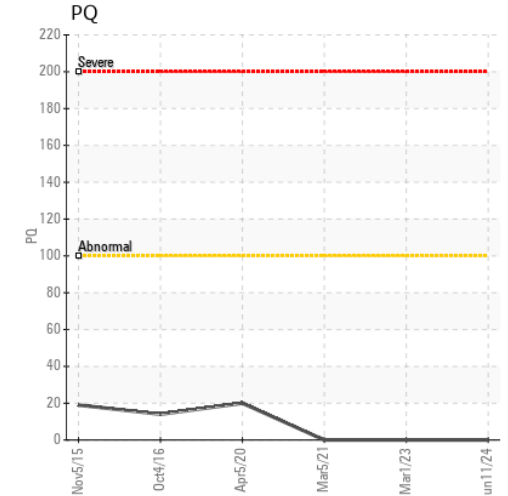
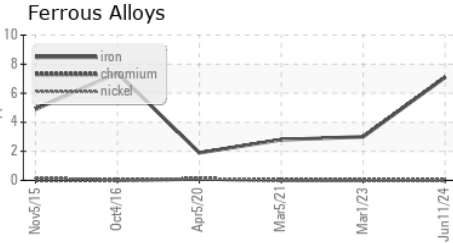
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | NONE |
| Silt | scalar | Visual* | NONE | NONE | NONE |
| Debris | scalar | Visual* | NONE | NONE | VLITE |
| Sand/Dirt | scalar | Visual* | NONE | VLITE | NONE |
| Appearance | scalar | Visual* | NORML | NORML | NORML |
| Odor | scalar | Visual* | NORML | FREON | FREON |
| Emulsified Water | scalar | Visual* | >0.1 | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 31.5 | 26.6 | 27.8 |

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



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0912797 **Received** : 12 Jun 2024
Lab Number : 02641428 **Tested** : 14 Jun 2024
Unique Number : 5798967 **Diagnosed** : 14 Jun 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: KF, TAN Man)

Neelands Group Limited
 4131 Palladium Way
 Burlington, ON
 CA L7M 0V9
 Contact: Mike Squires
 mike.squires@neelands.com
 T: (905)975-0794
 F: (905)334-7090

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.