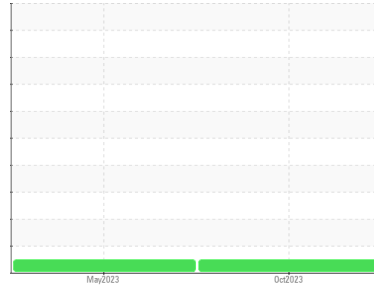




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
WC-9817-0103-5 Chiller #3
 Component
Chiller
 Fluid
YORK TYPE K (--- GAL)

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. 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 suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|----------|
| Sample Number | Client Info | | WC0836517 | WC0784782 | --- |
| Sample Date | Client Info | | 12 Oct 2023 | 03 May 2023 | --- |
| Machine Age | hrs | Client Info | 0 | 98816 | --- |
| Oil Age | hrs | Client Info | 0 | 0 | --- |
| Oil Changed | Client Info | | N/A | N/A | --- |
| Sample Status | | | NORMAL | NORMAL | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|----------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >8 | 0 | 0 | --- |
| Chromium | ppm | ASTM D5185m >2 | 0 | 0 | --- |
| Nickel | ppm | ASTM D5185m | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185m | 0 | 0 | --- |
| Silver | ppm | ASTM D5185m >2 | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m >3 | 0 | 6 | --- |
| Lead | ppm | ASTM D5185m >2 | 0 | 0 | --- |
| Copper | ppm | ASTM D5185m >8 | 8 | 5 | --- |
| Tin | ppm | ASTM D5185m >4 | <1 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | --- |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | --- |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 0 | 0 | --- |
| Barium | ppm | ASTM D5185m | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | --- |
| Manganese | ppm | ASTM D5185m | <1 | 0 | --- |
| Magnesium | ppm | ASTM D5185m | 0 | 2 | --- |
| Calcium | ppm | ASTM D5185m | 1 | 0 | --- |
| Phosphorus | ppm | ASTM D5185m | <1 | 0 | --- |
| Zinc | ppm | ASTM D5185m | 0 | 0 | --- |
| Sulfur | ppm | ASTM D5185m | 2 | 0 | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >15 | 9 | 8 | --- |
| Sodium | ppm | ASTM D5185m | <1 | 0 | --- |
| Potassium | ppm | ASTM D5185m >20 | 0 | 1 | --- |
| Water | % | ASTM D6304 >0.01 | 0.033 | 0.045 | --- |
| ppm Water | ppm | ASTM D6304 >100 | 330.8 | 457.2 | --- |

FLUID CLEANLINESS

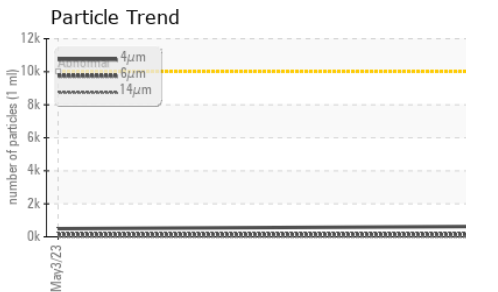
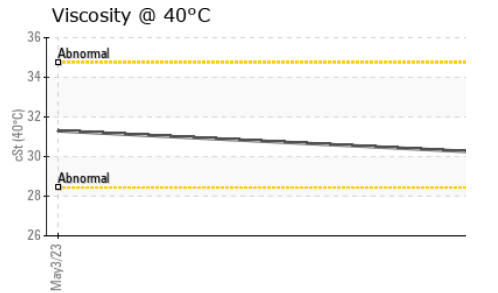
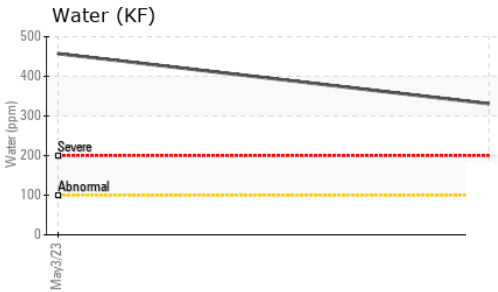
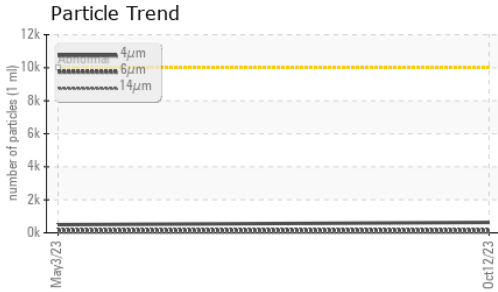
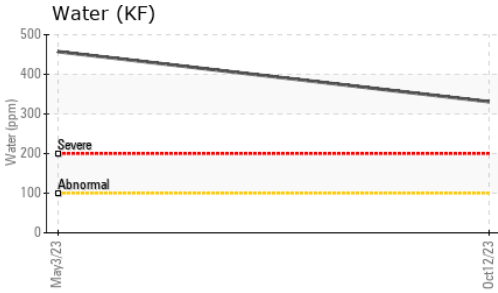
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >10000 | 630 | 494 | --- |
| Particles >6µm | ASTM D7647 | >2500 | 156 | 147 | --- |
| Particles >14µm | ASTM D7647 | >320 | 14 | 14 | --- |
| Particles >21µm | ASTM D7647 | >80 | 3 | 3 | --- |
| Particles >38µm | ASTM D7647 | >20 | 0 | 0 | --- |
| Particles >71µm | ASTM D7647 | >4 | 0 | 0 | --- |
| Oil Cleanliness | ISO 4406 (c) | >20/18/15 | 16/14/11 | 16/14/11 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.012 | 0.016 | --- |



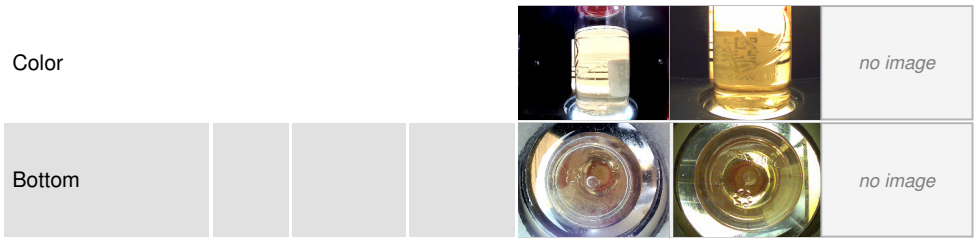
OIL ANALYSIS REPORT



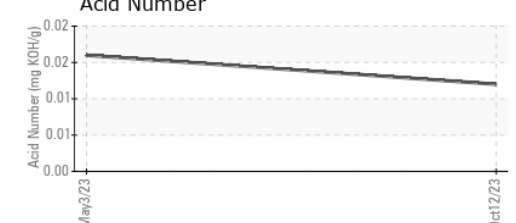
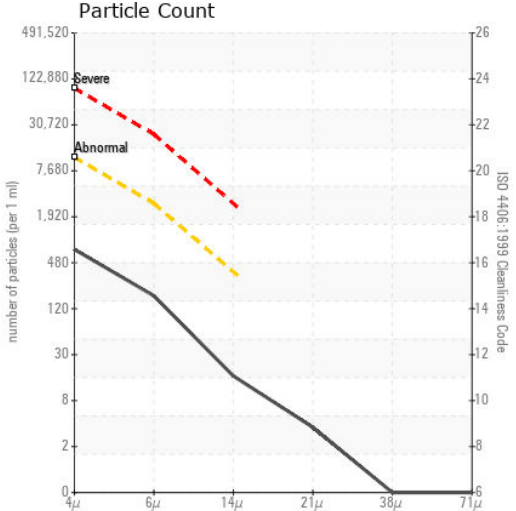
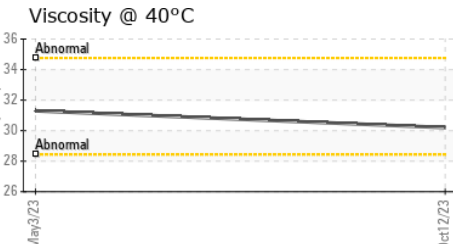
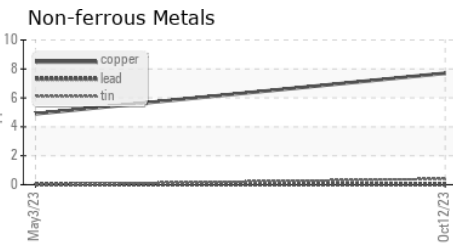
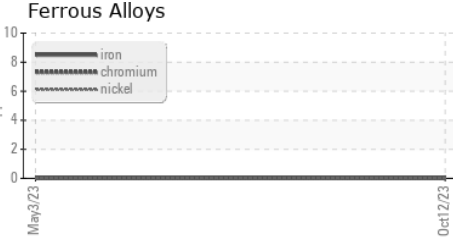
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| Silt | scalar | *Visual | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.01 | NEG | --- |
| Free Water | scalar | *Visual | | NEG | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 30.2 | 31.3 | --- |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0836517
Lab Number : 05979019
Unique Number : 10696314
Test Package : PLANT

Chugach Consolidated Solutions - NSA
 10840 Guilford Road, Suites 406-407
 Annapolis Junction, MD
 US 20701
 Contact: Susan Nord
 susan.nord@chugachgov.com
 T: (301)688-6363
 F: (443)479-5666

Certificate L2367
 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)