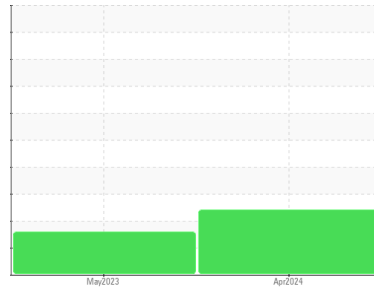


OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
LC-39A HANGAR HPU - H
 Component
Hydraulic System
 Fluid
{not provided} (5000 GAL)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a moderate amount of silt (particulates < 6 microns in size) present in the oil. Elemental level of silicon (Si) above normal.

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 | | | ST44773 | ST44769 | --- |
| Sample Date | Client Info | | | 24 Apr 2024 | 03 May 2023 | --- |
| Machine Age | hrs | Client Info | | 0 | 0 | --- |
| Oil Age | hrs | Client Info | | 0 | 0 | --- |
| Oil Changed | Client Info | | | N/A | N/A | --- |
| Sample Status | | | | ABNORMAL | ABNORMAL | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|----------|----------|----------|
| Iron | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Nickel | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Silver | ppm | ASTM D5185m | | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Lead | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Copper | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Tin | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | --- |

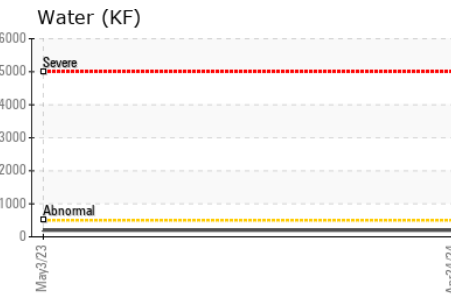
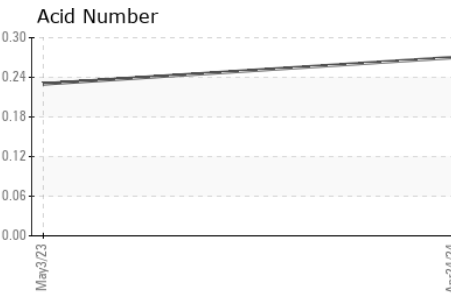
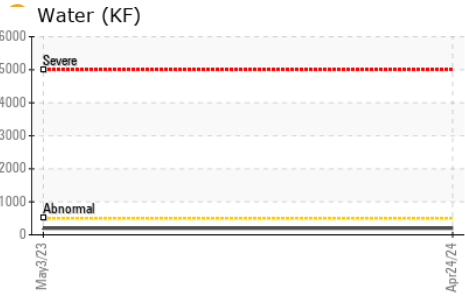
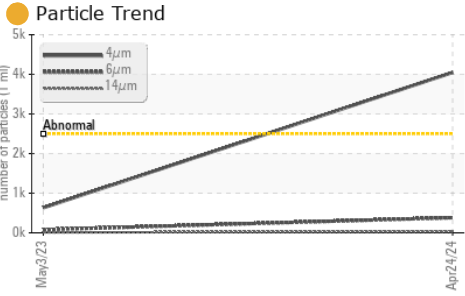
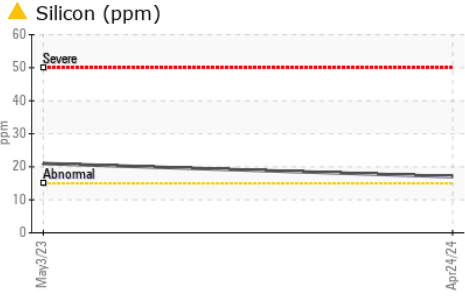
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | | 0 | 0 | --- |
| Barium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | --- |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | --- |
| Magnesium | ppm | ASTM D5185m | | <1 | <1 | --- |
| Calcium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Phosphorus | ppm | ASTM D5185m | | 14 | 14 | --- |
| Zinc | ppm | ASTM D5185m | | 0 | 0 | --- |
| Sulfur | ppm | ASTM D5185m | | 86 | 0 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >15 | ▲ 17 | ▲ 21 | --- |
| Sodium | ppm | ASTM D5185m | | <1 | 0 | --- |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 0 | --- |
| Water | % | ASTM D6304 | >0.05 | 0.020 | 0.020 | --- |
| ppm Water | ppm | ASTM D6304 | >500 | 200 | 200.1 | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-------------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >2500 | ● 4048 | 632 | --- |
| Particles >6µm | | ASTM D7647 | >640 | 382 | 79 | --- |
| Particles >14µm | | ASTM D7647 | >80 | 30 | 9 | --- |
| Particles >21µm | | ASTM D7647 | >20 | 8 | 2 | --- |
| Particles >38µm | | ASTM D7647 | >4 | 0 | 0 | --- |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | ● 19/16/12 | 16/13/10 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.27 | 0.23 | --- |

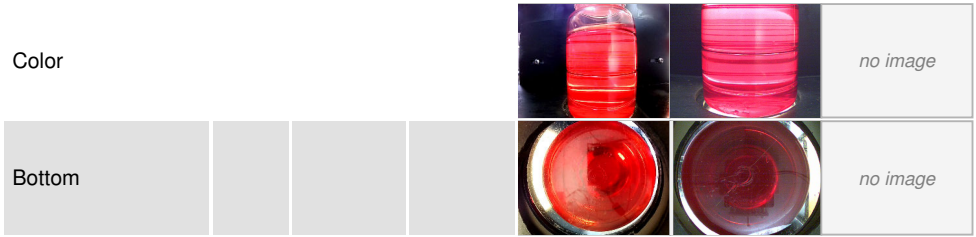
OIL ANALYSIS REPORT



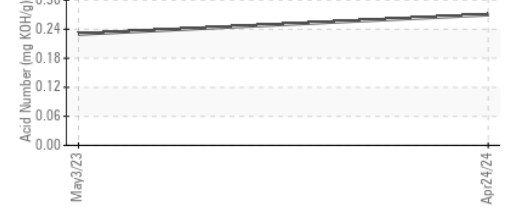
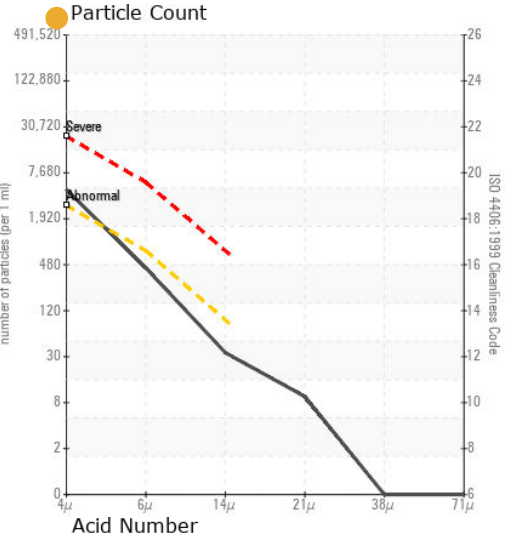
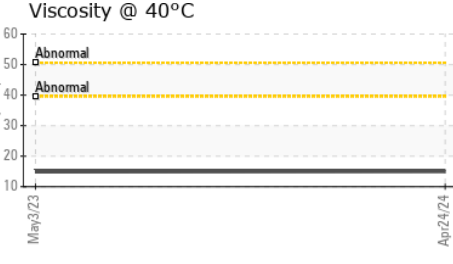
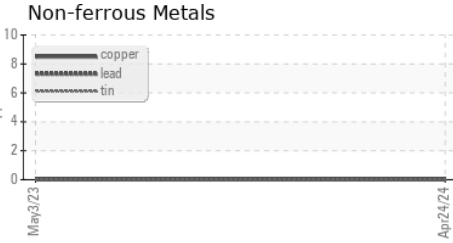
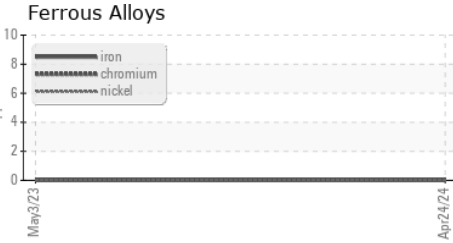
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| Silt | scalar | *Visual | NONE | 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 | >0.05 | NEG | --- |
| Free Water | scalar | *Visual | | NEG | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 15.0 | 14.9 | --- |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ST44773
Lab Number : 06160376
Unique Number : 10995799
Test Package : IND 2 (Additional Tests: KF)
Received : 25 Apr 2024
Tested : 01 May 2024
Diagnosed : 01 May 2024 - Jonathan Hester

SPACE X
 620 MAGELLAN RD
 CAPE CANAVERAL, FL
 US 32920
 Contact: GREGORY HILL
 gregory.hill@spacex.com
 T: (561)707-4677
 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)