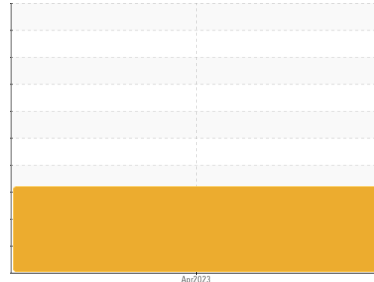




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
USPI 1580-150
 Component
New (Unused) Oil
 Fluid
{not provided} (--- GAL)

DIAGNOSIS

▲ Recommendation

This is a baseline read-out on the submitted sample. Please note that this is a corrected copy for laboratory data updates.

▲ Contamination

Elemental level of silicon (Si) above normal. There is a light concentration of water present in the oil. The amount and size of particulates present in the system are acceptable.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|----------|----------|
| Sample Number | Client Info | | | USP05828577 | --- | --- |
| Sample Date | Client Info | | | 24 Apr 2023 | --- | --- |
| Machine Age | hrs | Client Info | | 0 | --- | --- |
| Oil Age | hrs | Client Info | | 0 | --- | --- |
| Oil Changed | Client Info | | | N/A | --- | --- |
| Sample Status | | | | MARGINAL | --- | --- |

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

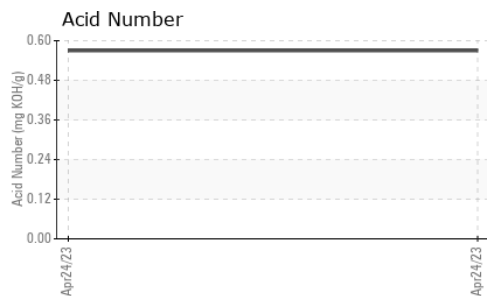
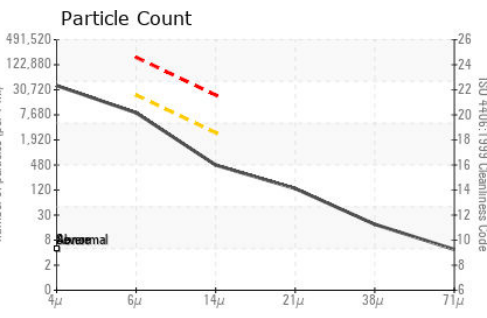
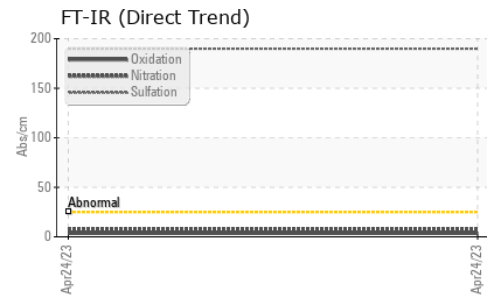
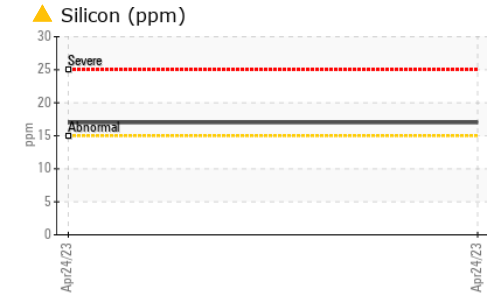
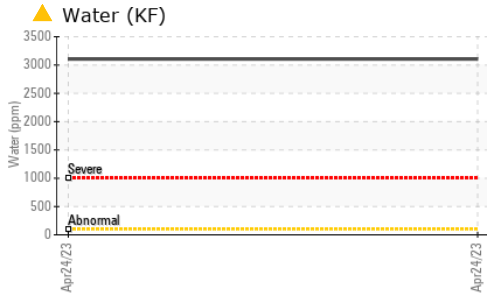
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | | 2 | --- | --- |
| Barium | ppm | ASTM D5185m | | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 0 | --- | --- |
| Manganese | ppm | ASTM D5185m | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 3 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 10 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 1805 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 0 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 1038 | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|-----------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >15 | ▲ 17 | --- | --- |
| Sodium | ppm | ASTM D5185m | | 3 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 3 | --- | --- |
| Water | % | ASTM D6304 | | ▲ 0.310 | --- | --- |
| ppm Water | ppm | ASTM D6304 | | ▲ 3104.9 | --- | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------|-------------|------------|--------------|----------|----------|
| Soot % | % | *ASTM D7844 | | 0.4 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | | 7.4 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | | 189.9 | --- | --- |



OIL ANALYSIS REPORT



| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|-------------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | | 33682 | --- | --- |
| Particles >6µm | ASTM D7647 | >20000 | 7489 | --- | --- |
| Particles >14µm | ASTM D7647 | >2500 | 420 | --- | --- |
| Particles >21µm | ASTM D7647 | >640 | 115 | --- | --- |
| Particles >38µm | ASTM D7647 | >160 | 16 | --- | --- |
| Particles >71µm | ASTM D7647 | >40 | 4 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | >--/21/18 | 22/20/16 | --- | --- |

| FLUID DEGRADATION | method | limit/base | current | history1 | history2 |
|-------------------|----------------------|------------|-------------|----------|----------|
| Oxidation | Abs/.1mm *ASTM D7414 | | 3.6 | --- | --- |
| Acid Number (AN) | mg KOH/g ASTM D8045 | | 0.57 | --- | --- |

| 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 | | NEG | --- | --- |
| Free Water | scalar *Visual | | NEG | --- | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|------------------|------------|--------------|----------|----------|
| Visc @ 40°C | cSt ASTM D445 | | 159.8 | --- | --- |
| Visc @ 100°C | cSt ASTM D445 | | 29.81 | --- | --- |
| Viscosity Index (VI) | Scale ASTM D2270 | | 228 | --- | --- |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
| Color | | | | no image | no image |
| Bottom | | | | no image | no image |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP05828577 **Received** : 24 Apr 2023
Lab Number : **05828577** **Tested** : 01 May 2023
Unique Number : 10442070 **Diagnosed** : 01 May 2023 - Doug Bogart
Test Package : IND 2 (Additional Tests: FT-IR, ICP-NewOil, KV100, VI)

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)

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