



OIL ANALYSIS REPORT

| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
ALS 70P
 Component
New (Unused) Oil
 Fluid
{not provided} (--- LTR)

RECOMMENDATION

This is a baseline read-out on the submitted sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | DC0031129 | DC0031414 | DC0031384 |
| Sample Date | | Client Info | | 27 Dec 2023 | 22 Nov 2023 | 24 Oct 2023 |
| Machine Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Age | mls | Client Info | | 0 | 0 | 0 |
| Filter Age | mls | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

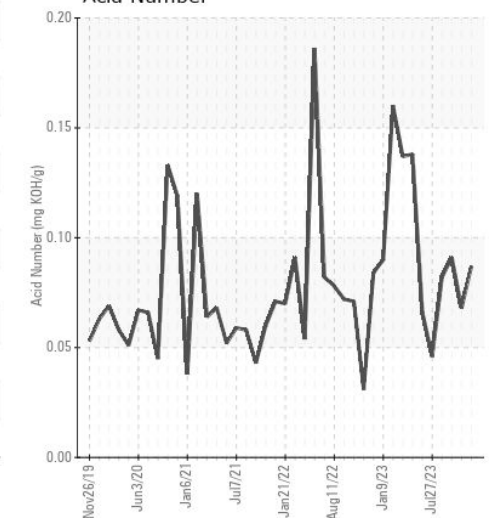
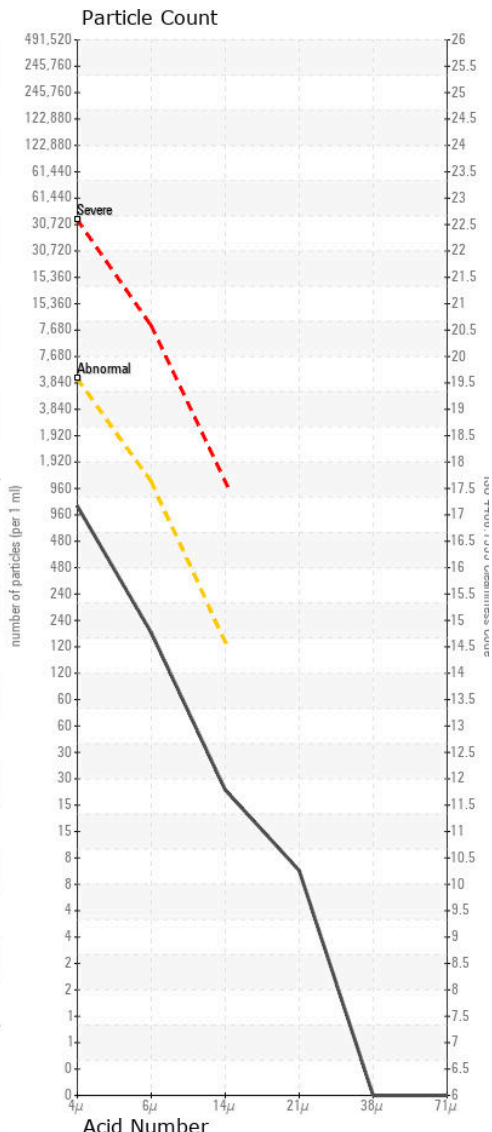
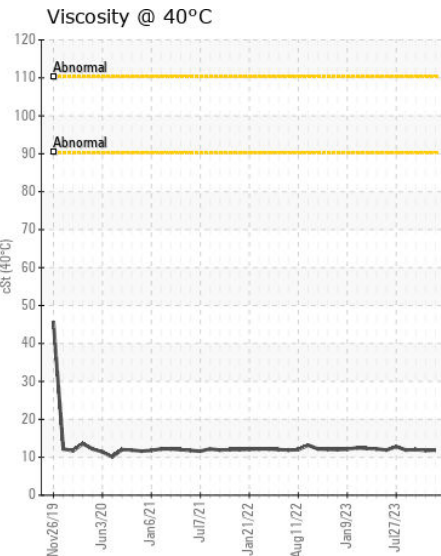
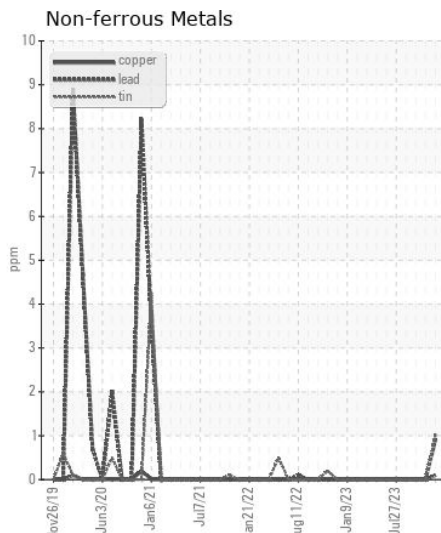
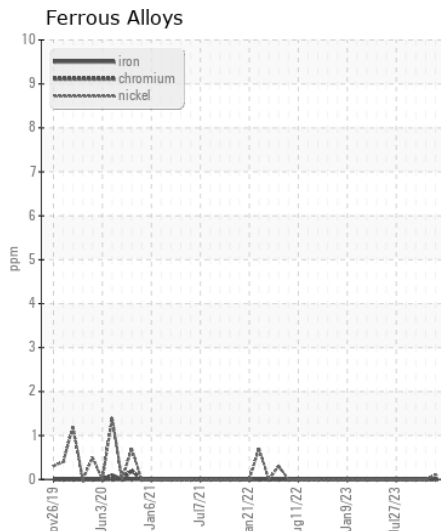
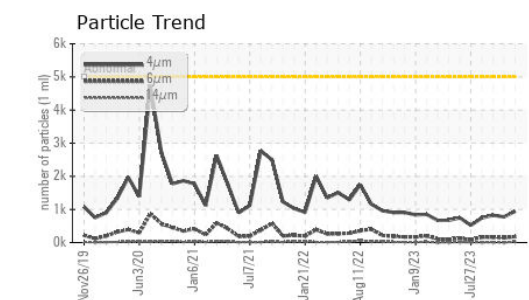
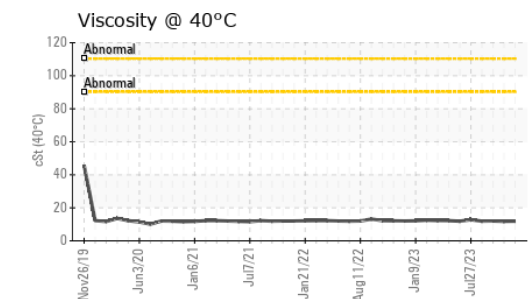
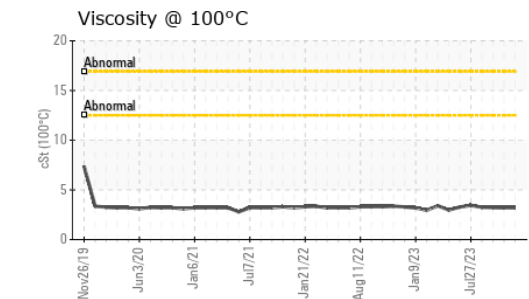
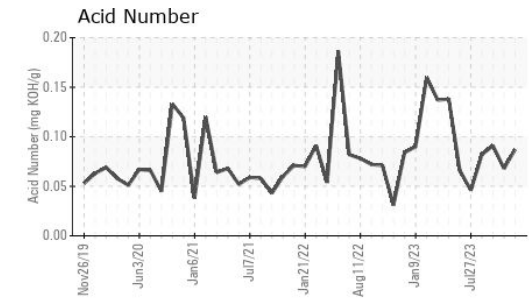
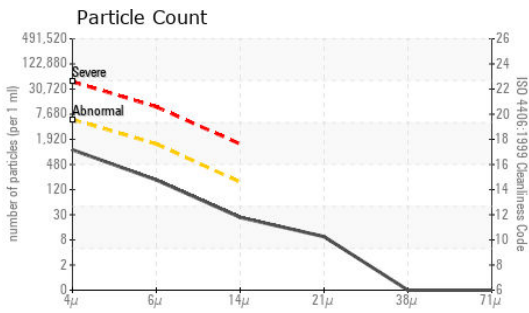
| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Chromium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Tin | ppm | ASTM D5185m | | 1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

| | | | | | | |
|------------------|--------|--------------|-----------|-----------------|----------|----------|
| Silicon | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 0 | 0 |
| Water | | WC Method | | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >5000 | 944 | 776 | 825 |
| Particles >6µm | | ASTM D7647 | >1300 | 180 | 146 | 162 |
| Particles >14µm | | ASTM D7647 | >160 | 23 | 5 | 10 |
| Particles >21µm | | ASTM D7647 | >40 | 8 | 1 | 2 |
| Particles >38µm | | ASTM D7647 | >10 | 0 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 17/15/12 | 17/14/10 | 17/15/10 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | | NEG | NEG | NEG |

FLUID CONDITION

| | | | | | | |
|----------------------|----------|-------------|--|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | | 1 | <1 | 0 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | 2 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | | <1 | <1 | 1 |
| Phosphorus | ppm | ASTM D5185m | | 3 | 5 | 0 |
| Zinc | ppm | ASTM D5185m | | 0 | 0 | 2 |
| Sulfur | ppm | ASTM D5185m | | 906 | 938 | 811 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.087 | 0.068 | 0.091 |
| Visc @ 40°C | cSt | ASTM D445 | | 11.9 | 11.8 | 12.00 |
| Visc @ 100°C | cSt | ASTM D445 | | 3.18 | 3.2 | 3.22 |
| Viscosity Index (VI) | Scale | ASTM D2270 | | 136 | 142 | 140 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0031129 **Received** : 10 Jan 2024
Lab Number : 06057104 **Diagnosed** : 12 Jan 2024
Unique Number : 10823053 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: FT-IR, KV100, PrtCount, VI)

THE UNITED OIL COMPANY - OPERATIONS
 4405 E. BALTIMORE ST
 BALTIMORE, MD
 US 21224
 Contact: MICHELLE HORNING

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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