



LUBE PLUS+

OIL ANALYSIS REPORT

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

Machine Id
HYUNDAI L-14
Component
Hydraulic System
Fluid
SAE 10W (50 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

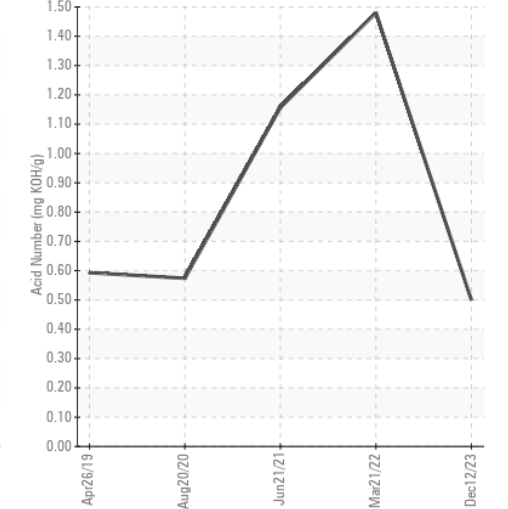
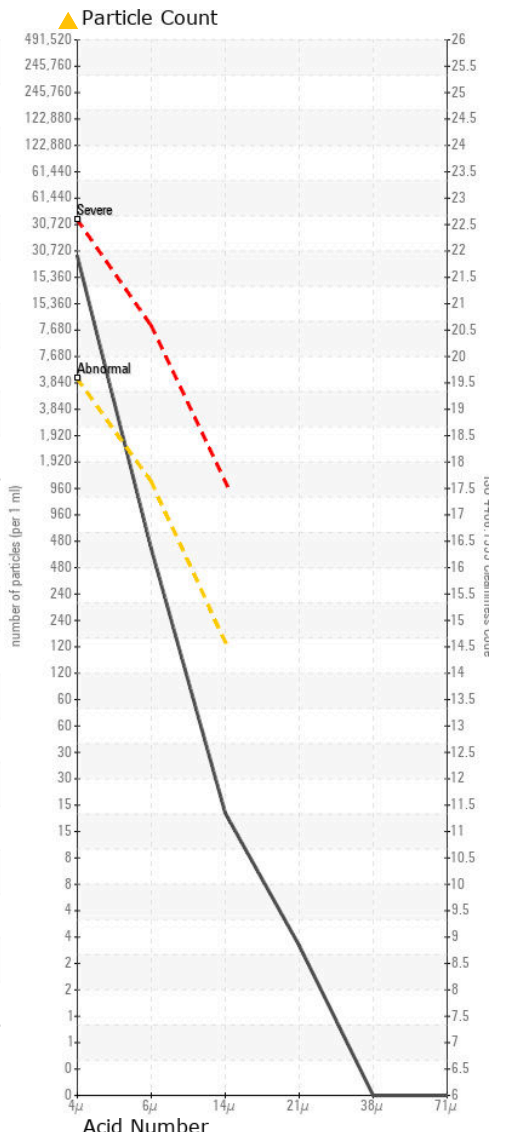
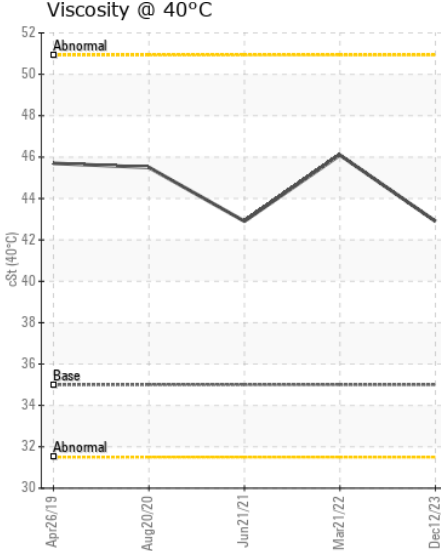
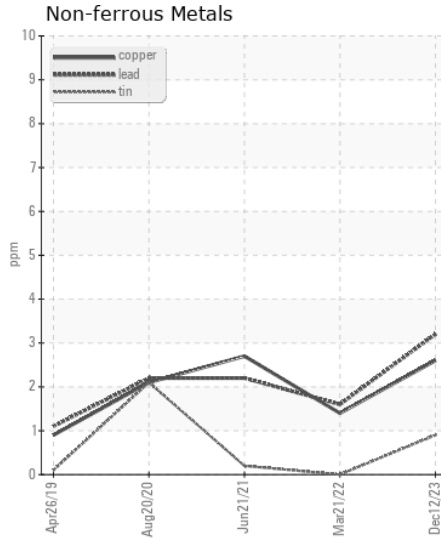
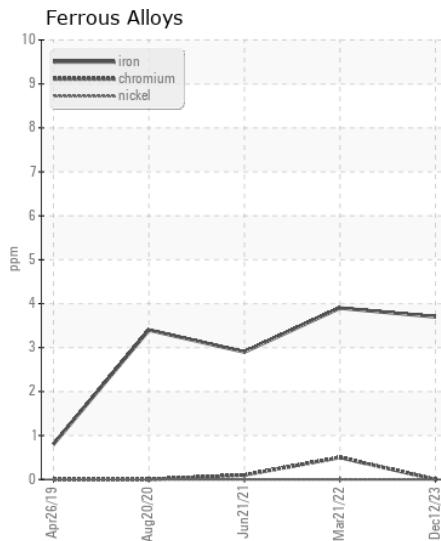
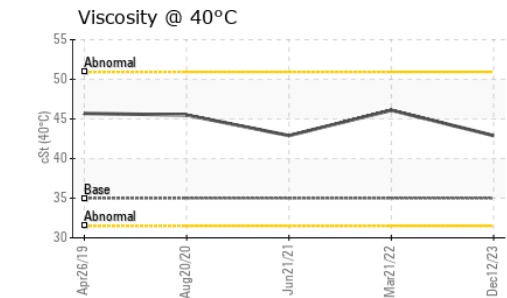
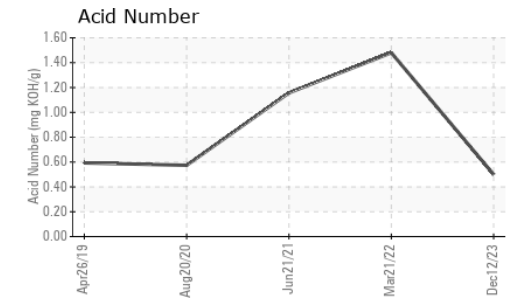
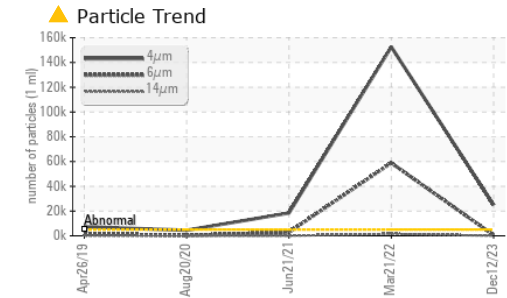
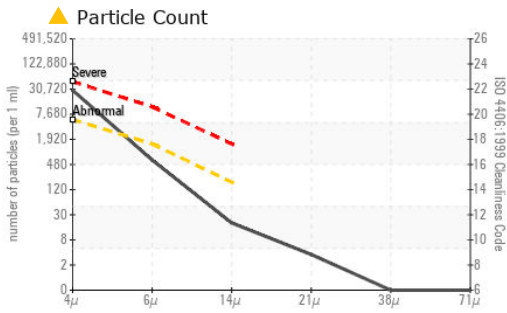
CONTAMINATION

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|------------------|----------|--------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LP0000525 | WC0570210 | WC0542390 |
| Sample Date | | Client Info | | 12 Dec 2023 | 21 Mar 2022 | 21 Jun 2021 |
| Machine Age | hrs | Client Info | | 9300 | 6160 | 4366 |
| Oil Age | hrs | Client Info | | 2140 | 1794 | 1500 |
| Filter Age | hrs | Client Info | | 2140 | 1794 | 1500 |
| Oil Changed | | Client Info | | Changed | Not Chngd | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | ABNORMAL | ABNORMAL | ABNORMAL |
| Iron | ppm | ASTM D5185m | >20 | 4 | 4 | 3 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | | <1 | <1 | 5 |
| Aluminum | ppm | ASTM D5185m | >10 | 4 | 3 | 2 |
| Lead | ppm | ASTM D5185m | >10 | 3 | 2 | 2 |
| Copper | ppm | ASTM D5185m | >75 | 3 | 1 | 3 |
| Tin | ppm | ASTM D5185m | >10 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | LIGHT | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >20 | 8 | 9 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 3 | <1 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >5000 | ▲ 24920 | ▲ 152560 | ▲ 18424 |
| Particles >6µm | | ASTM D7647 | >1300 | 540 | ▲ 58832 | ▲ 2874 |
| Particles >14µm | | ASTM D7647 | >160 | 17 | ▲ 1553 | 73 |
| Particles >21µm | | ASTM D7647 | >40 | 3 | ▲ 132 | 17 |
| Particles >38µm | | ASTM D7647 | >10 | 0 | 3 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ 22/16/11 | ▲ 24/23/18 | ▲ 21/19/13 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | VLITE | 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 | >0.1 | NEG | NEG | NEG |
| Sodium | ppm | ASTM D5185m | | 3 | 0 | 2 |
| Boron | ppm | ASTM D5185m | | 19 | 18 | 22 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 7 | 7 | 5 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 89 | 207 | 56 |
| Calcium | ppm | ASTM D5185m | | 2467 | 2547 | 2275 |
| Phosphorus | ppm | ASTM D5185m | | 962 | 1103 | 868 |
| Zinc | ppm | ASTM D5185m | | 1080 | 1247 | 967 |
| Sulfur | ppm | ASTM D5185m | | 3417 | 3344 | 2629 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.50 | 1.48 | 1.157 |
| Visc @ 40°C | cSt | ASTM D445 | 35.0 | 42.9 | 46.1 | 42.9 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0000525
Lab Number : 06045486
Unique Number : 10806094
Test Package : MOB 2
Received : 26 Dec 2023
Tested : 27 Dec 2023
Diagnosed : 28 Dec 2023 - Don Baldrige

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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)