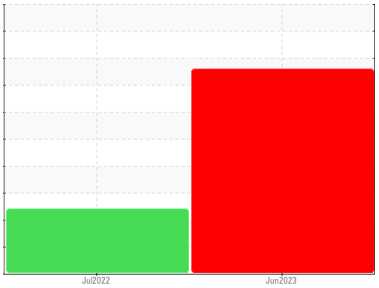
# PROBLEM SUMMARY

Sample Rating Trend

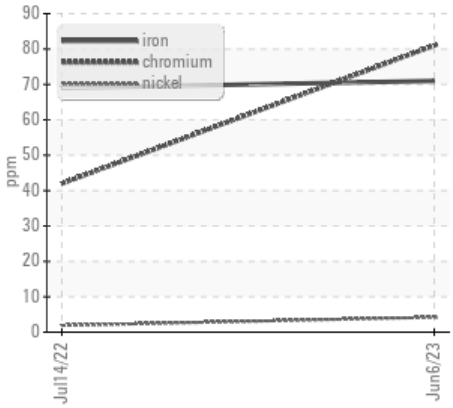



WEAR

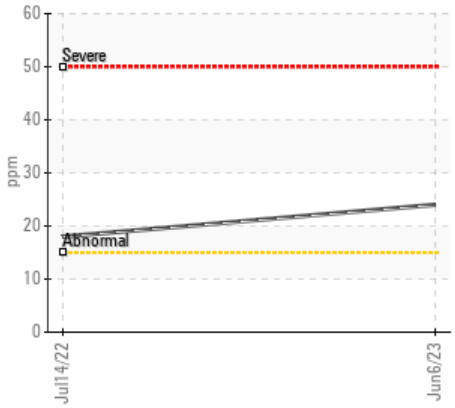
Area
**(C-GMJH)**
Machine Id
## [C-GMJH] LONG EZE L-17802-15
Component
**Piston Aircraft Engine**
Fluid
**SHELL AEROSHELL W 100 (6 LTR)**

## COMPONENT CONDITION SUMMARY

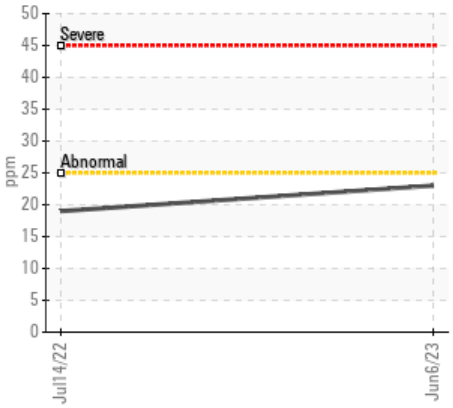
Ferrous Alloys




Silicon (ppm)




Aluminum (ppm)




## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check the engine magneto timing. We recommend that you drain the oil from the component if this has not already been done. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **SEVERE** | ABNORMAL | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **81** | 42 | --- |
| Silicon | ppm | ASTM D5185(m) | >15 | **24** | 18 | --- |

**Customer Id:** ITPLON
**Sample No.:** WC0766748
**Lab Number:** 02562901
**Test Package:** AVI 1

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
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*To change component or sample information:*
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Fluid | --- | --- | ? | We recommend that you drain the oil from the component if this has not already been done. |
| Change Filter | --- | --- | ? | Oil and filter change at the time of sampling has been noted. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Check Dirt Access | --- | --- | ? | We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. |
| Check Timing | --- | --- | ? | We advise that you check the engine magneto timing. |

## HISTORICAL DIAGNOSIS

**14 Jul 2022 Diag: Kevin Marson**

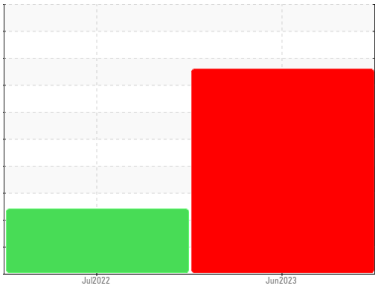
DIRT

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check the engine magneto timing. The oil change at the time of sampling has been noted. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.Chromium ppm levels are abnormal. Ring wear is indicated. There is a moderate concentration of dirt present in the oil. High amount of ingressed dirt has caused abrasive wear to the component. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

**view report**

# OIL ANALYSIS REPORT

Sample Rating Trend




WEAR

Area
## (C-GMJH)
Machine Id
## [C-GMJH] LONG EZE L-17802-15
Component
**Piston Aircraft Engine**
Fluid
**SHELL AEROSHELL W 100 (6 LTR)**

## DIAGNOSIS

**Recommendation**

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check the engine magneto timing. We recommend that you drain the oil from the component if this has not already been done. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

**Wear**

Chromium ppm levels are severe. Ring wear is indicated. A cylinder ring may be cracked or broken.

**Contamination**

There is a moderate concentration of dirt present in the oil. High amount of ingressed dirt has caused abrasive wear to the component.

**Fluid Condition**

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0766748** | WC0720984 | --- |
| Sample Date | | Client Info | | **06 Jun 2023** | 14 Jul 2022 | --- |
| TSN | hrs | Client Info | | **1963** | 1950 | --- |
| TSO | hrs | Client Info | | **229** | 1950 | --- |
| Oil Age | hrs | Client Info | | **13** | 10 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **SEVERE** | ABNORMAL | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >4.0 | **<1.0** | <1.0 | --- |
| Glycol | | WC Method | | **NEG** | NEG | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >90 | **71** | 69 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **81** | 42 | --- |
| Nickel | ppm | ASTM D5185(m) | >15 | **4** | 2 | --- |
| Titanium | ppm | ASTM D5185(m) | | **<1** | 0 | --- |
| Silver | ppm | ASTM D5185(m) | >5 | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >25 | **23** | 19 | --- |
| Lead | ppm | ASTM D5185(m) | >20000 | **2144** | 1468 | --- |
| Copper | ppm | ASTM D5185(m) | >25 | **20** | 10 | --- |
| Tin | ppm | ASTM D5185(m) | >30 | **<1** | <1 | --- |
| Antimony | ppm | ASTM D5185(m) | | **<1** | <1 | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | **3** | 4 | --- |

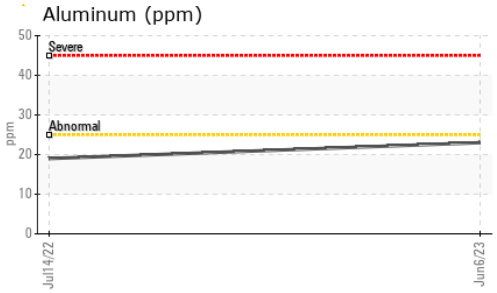
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | | **0** | <1 | --- |
| Barium | ppm | ASTM D5185(m) | 0 | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | | **<1** | <1 | --- |
| Magnesium | ppm | ASTM D5185(m) | 0 | **<1** | 2 | --- |
| Calcium | ppm | ASTM D5185(m) | 0 | **55** | 6 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 0 | **446** | 315 | --- |
| Zinc | ppm | ASTM D5185(m) | 0 | **19** | 13 | --- |
| Sulfur | ppm | ASTM D5185(m) | 3800 | **2692** | 1185 | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **24** | 18 | --- |
| Sodium | ppm | ASTM D5185(m) | | **<1** | <1 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | --- |

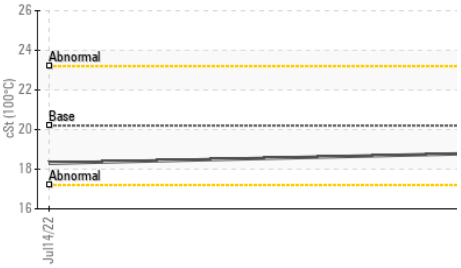
# OIL ANALYSIS REPORT

Silicon (ppm)

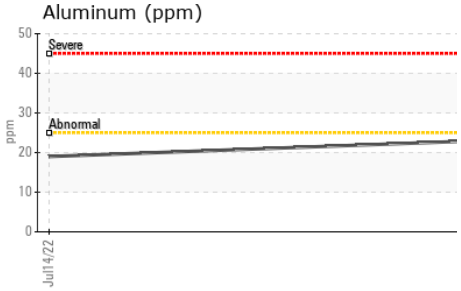

Aluminum (ppm)




Viscosity @ 100°C




Aluminum (ppm)

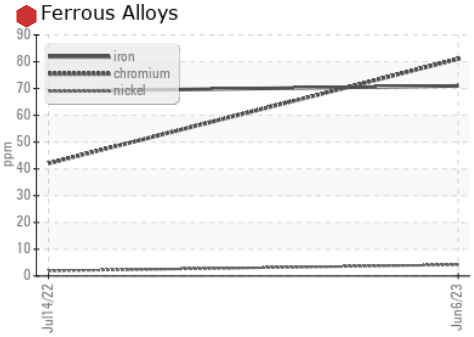



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Silt | scalar | Visual* | NONE | **NONE** | VLITE | --- |
| Debris | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Appearance | scalar | Visual* | NORML | **NORML** | NORML | --- |
| Odor | scalar | Visual* | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | Visual* | >0.1 | **NEG** | NEG | --- |
| Free Water | scalar | Visual* | | **NEG** | NEG | --- |

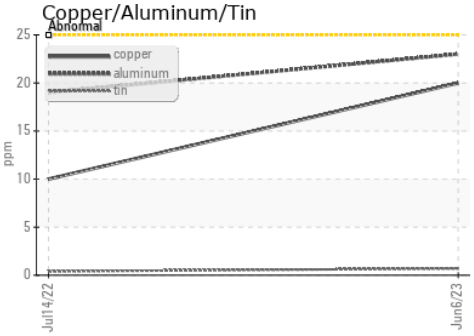
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D7279(m) | 20.2 | **18.8** | 18.3 | --- |

## GRAPHS

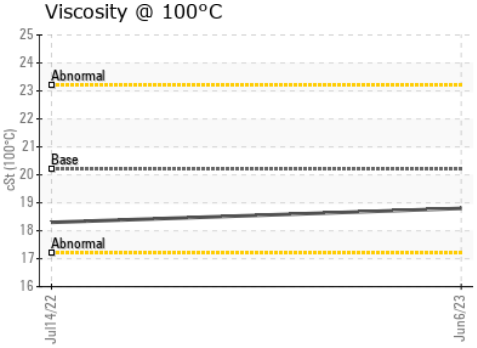
Ferrous Alloys




Copper/Aluminum/Tin




Viscosity @ 100°C




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0766748 **Received** : 08 Jun 2023
**Lab Number** : 02562901 **Diagnosed** : 08 Jun 2023
**Unique Number** : 5591942 **Diagnostician** : Kevin Marson
**Test Package** : AVI 1

*To discuss this sample report, contact Customer Service at 1-800-268-2131.*
*Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.*
*Validity of results and interpretation are based on the sample and information as supplied.*

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