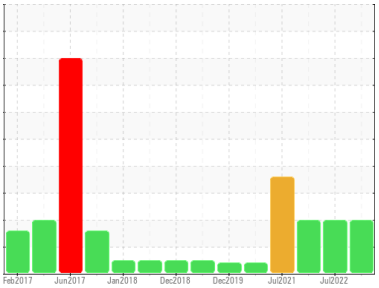
# PROBLEM SUMMARY

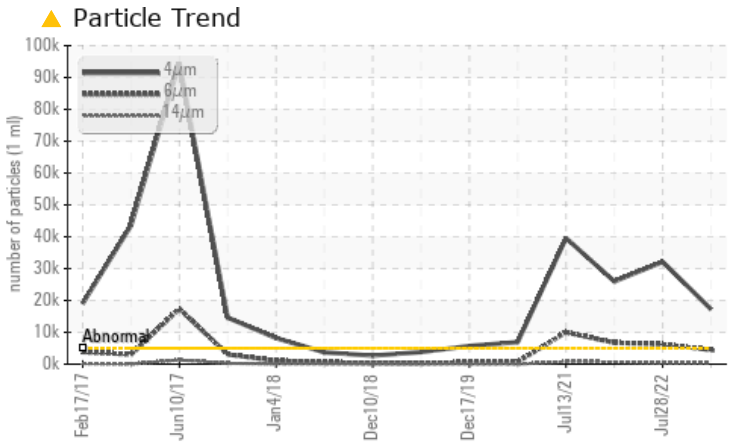
Sample Rating Trend




ISO

Machine Id
## F6579 POWER PACKAGE TANK
Component
**Tank Hydraulic System**
Fluid
**IRVING HYDRAULIC OIL LP 32 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **17247** | ▲ 32120 | ▲ 25968 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **4430** | ▲ 6250 | ▲ 6731 |
| Particles >14µm | | ASTM D7647 | >160 | ▲ **361** | ▲ 368 | ▲ 685 |
| Particles >21µm | | ASTM D7647 | >40 | ▲ **113** | ▲ 91 | ▲ 234 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **21/19/16** | ▲ 22/20/16 | ▲ 22/20/17 |

**Customer Id:** HIBSTJ
**Sample No.:** PP
**Lab Number:** 02592669
**Test Package:** MAR 2

*To manage this report scan the QR code*

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wesd@wearcheck.ca

*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 Filter | --- | --- | ? | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Information Required | --- | --- | ? | NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. |
| Filter Fluid | --- | --- | ? | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. |

## HISTORICAL DIAGNOSIS

**28 Jul 2022 Diag: Wes Davis**

ISO

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

**29 Aug 2021 Diag: Wes Davis**

ISO

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >4µm are abnormally high. Particles >38µm are abnormally high. Particles >6µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

**13 Jul 2021 Diag: Wes Davis**

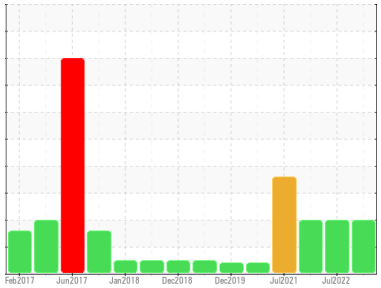
ISO

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Particles >6µm are severely high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >4µm are abnormally high. Particles >38µm are notably high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## F6579 POWER PACKAGE TANK
Component
**Tank Hydraulic System**
Fluid
**IRVING HYDRAULIC OIL LP 32 (--- GAL)**

## DIAGNOSIS

**Recommendation**

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

**Wear**

All component wear rates are normal.

**Contamination**

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil.

**Fluid Condition**

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PP** | PP | WC |
| Sample Date | | Client Info | | **29 Oct 2023** | 28 Jul 2022 | 29 Aug 2021 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >20 | **<1** | <1 | <1 |
| Chromium | ppm | ASTM D5185(m) | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >10 | **<1** | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | **<1** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >10 | **0** | <1 | 0 |
| Lead | ppm | ASTM D5185(m) | >20 | **<1** | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >20 | **<1** | 0 | <1 |
| Tin | ppm | ASTM D5185(m) | >10 | **0** | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |

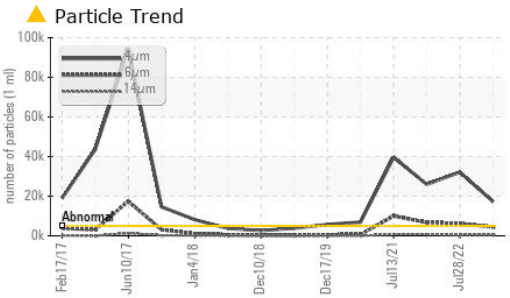
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | | **<1** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |
| Calcium | ppm | ASTM D5185(m) | | **34** | 47 | 49 |
| Phosphorus | ppm | ASTM D5185(m) | | **338** | 324 | 356 |
| Zinc | ppm | ASTM D5185(m) | 400 | **423** | 411 | 430 |
| Sulfur | ppm | ASTM D5185(m) | | **1373** | 1805 | 2107 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

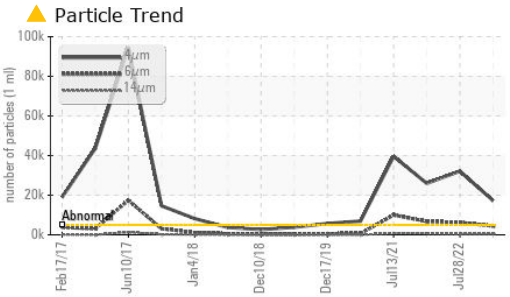
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **0** | 0 | 0 |
| Sodium | ppm | ASTM D5185(m) | | **2** | 2 | 2 |
| Potassium | ppm | ASTM D5185(m) | >20 | **0** | <1 | <1 |

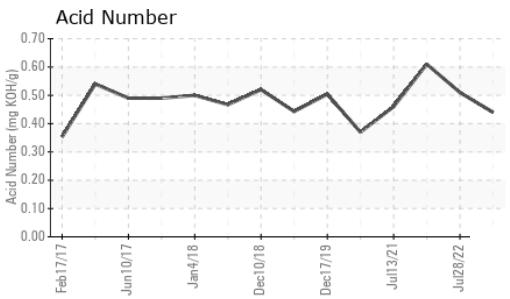
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **17247** | ▲ 32120 | ▲ 25968 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **4430** | ▲ 6250 | ▲ 6731 |
| Particles >14µm | | ASTM D7647 | >160 | ▲ **361** | ▲ 368 | ▲ 685 |
| Particles >21µm | | ASTM D7647 | >40 | ▲ **113** | ▲ 91 | ▲ 234 |
| Particles >38µm | | ASTM D7647 | >10 | **12** | 5 | ▲ 24 |
| Particles >71µm | | ASTM D7647 | >3 | **2** | 0 | 4 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **21/19/16** | ▲ 22/20/16 | ▲ 22/20/17 |

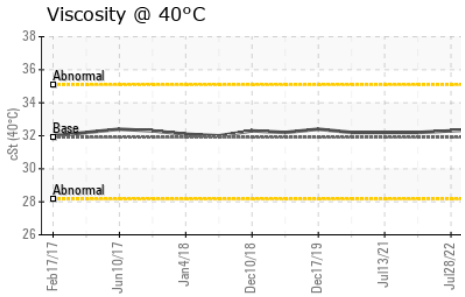
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | | **0.44** | 0.51 | 0.61 |

# OIL ANALYSIS REPORT



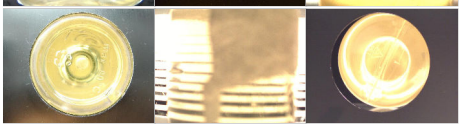



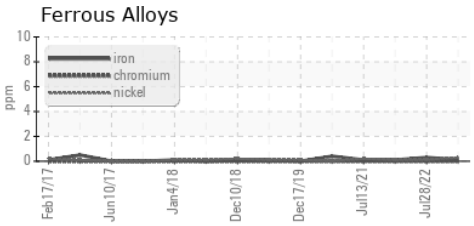



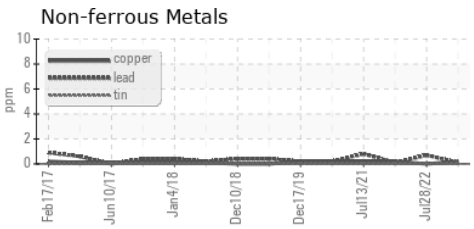

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | NONE |
|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

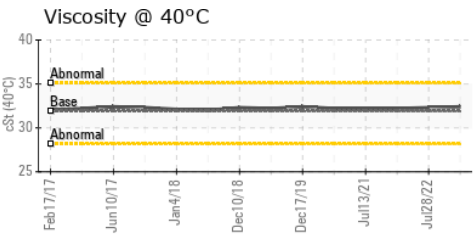
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 31.9 | **32.4** | 32.3 | 32.2 |

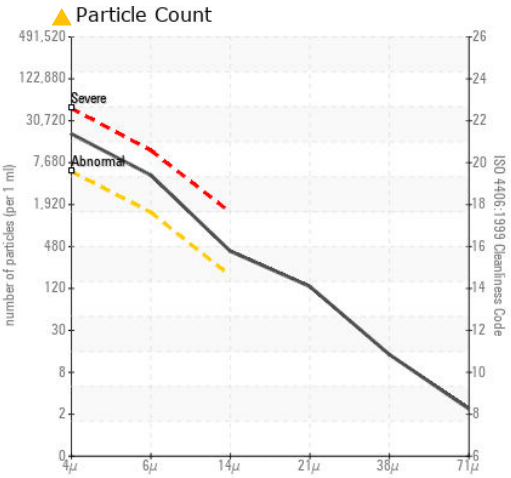
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

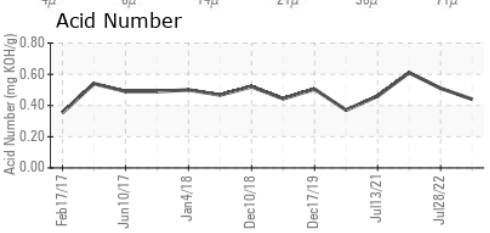
## GRAPHS




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : PP
**Lab Number** : 02592669
**Unique Number** : 5669748
**Test Package** : MAR 2

**Received** : 30 Oct 2023
**Diagnosed** : 31 Oct 2023
**Diagnostician** : Wes Davis

*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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