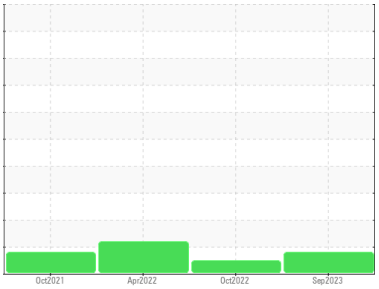
# PROBLEM SUMMARY

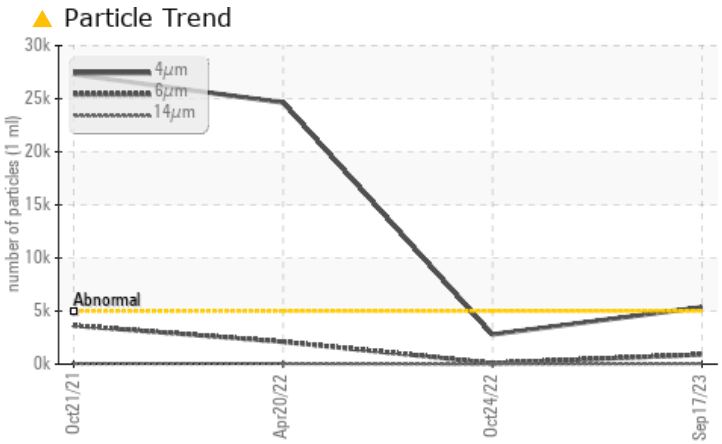
Sample Rating Trend




ISO

Machine Id
**68HYDPACK005**
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 32 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | NORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **5365** | 2799 | ▲ 24637 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **20/17/12** | 19/14/9 | ▲ 22/18/13 |

**Customer Id:** GLEONA
**Sample No.:** PC0062293
**Lab Number:** 02593242
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
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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 recommend you service the filters on this component. |
| Alert | --- | --- | ? | Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. |
| Information Required | --- | --- | ? | Please specify the brand, type, and viscosity of the oil on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. |

## HISTORICAL DIAGNOSIS

NORMAL

**24 Oct 2022 Diag: Wes Davis**

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

ISO

**20 Apr 2022 Diag: Wes Davis**

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. Particles >4µm and oil cleanliness are abnormally high. Particles >6µm are notably 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

ISO

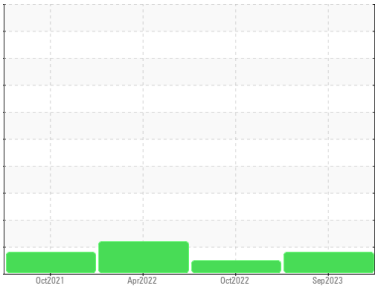
**21 Oct 2021 Diag: Wes Davis**

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) AW HYDRAULIC OIL ISO 32. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Particles >4µm 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

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
**68HYDPACK005**
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 32 (--- GAL)**

## DIAGNOSIS

**Recommendation**

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

**Wear**

All component wear rates are normal.

**Contamination**

There is a light 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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PC0062293** | PC0052960 | PC0052985 |
| Sample Date | | Client Info | | **17 Sep 2023** | 24 Oct 2022 | 20 Apr 2022 |
| 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 | | | | **ATTENTION** | NORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >20 | **1** | 1 | 1 |
| Chromium | ppm | ASTM D5185(m) | >20 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >20 | **0** | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | **<1** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | **0** | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >20 | **<1** | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >20 | **6** | 5 | 4 |
| Tin | ppm | ASTM D5185(m) | >20 | **0** | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | | **0** | <1 | <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) | 5 | **0** | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | 5 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 5 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 25 | **1** | 1 | <1 |
| Calcium | ppm | ASTM D5185(m) | 200 | **41** | 42 | 44 |
| Phosphorus | ppm | ASTM D5185(m) | 300 | **301** | 321 | 323 |
| Zinc | ppm | ASTM D5185(m) | 370 | **385** | 375 | 392 |
| Sulfur | ppm | ASTM D5185(m) | 2500 | **834** | 846 | 857 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

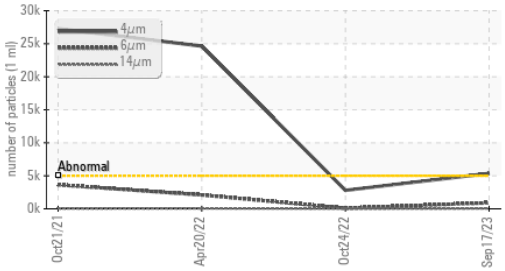
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **<1** | <1 | <1 |
| Sodium | ppm | ASTM D5185(m) | | **0** | <1 | 0 |
| Potassium | ppm | ASTM D5185(m) | >20 | **0** | <1 | <1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **5365** | 2799 | ▲ 24637 |
| Particles >6µm | | ASTM D7647 | >1300 | **906** | 95 | ▲ 2101 |
| Particles >14µm | | ASTM D7647 | >160 | **40** | 3 | 55 |
| Particles >21µm | | ASTM D7647 | >40 | **5** | 1 | 12 |
| Particles >38µm | | ASTM D7647 | >10 | **0** | 0 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **20/17/12** | 19/14/9 | ▲ 22/18/13 |

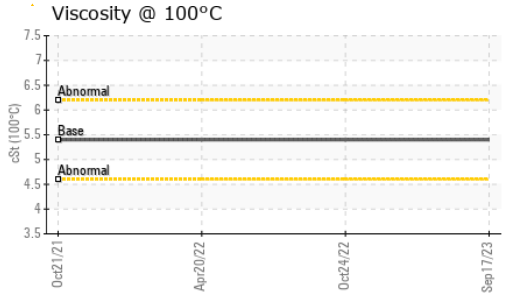
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.57 | **0.35** | 0.38 | 0.41 |

# OIL ANALYSIS REPORT

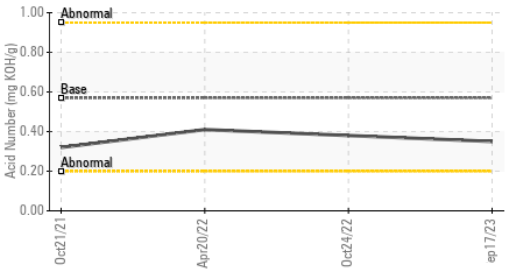
Particle Trend



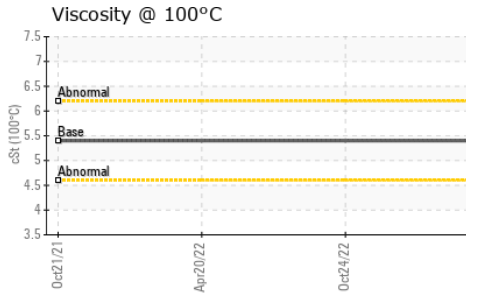

Viscosity @ 100°C



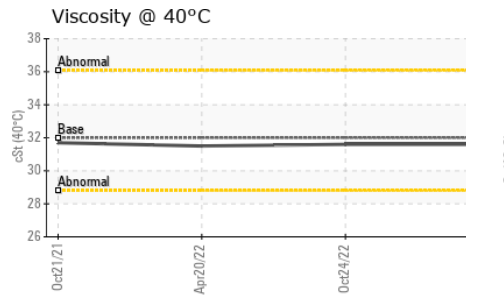

Acid Number




Viscosity @ 100°C



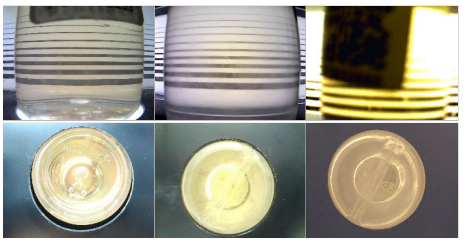

Viscosity @ 40°C




| 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 | 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* | >0.05 | **NEG** | NEG | NEG |
| Free Water | scalar | Visual* | | **NEG** | NEG | NEG |

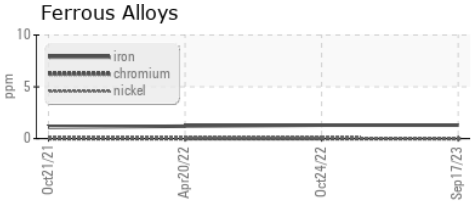
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 32 | **31.6** | 31.6 | 31.5 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 5.4 | **5.4** | 5.4 | 5.4 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 102 | **104** | 104 | 105 |

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

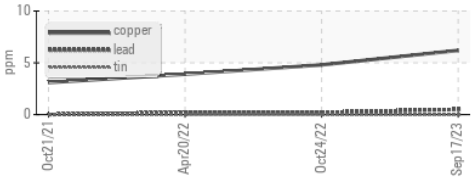


## GRAPHS

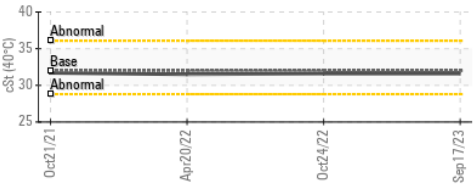
Ferrous Alloys



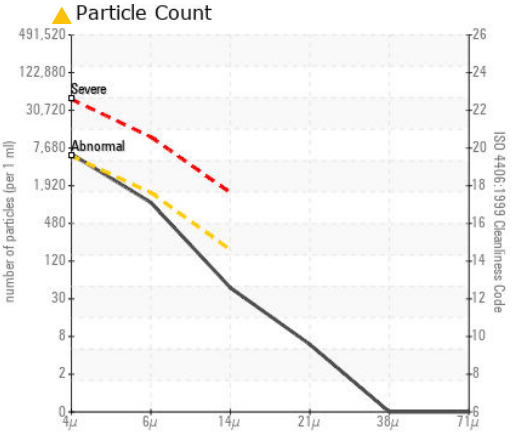

Non-ferrous Metals



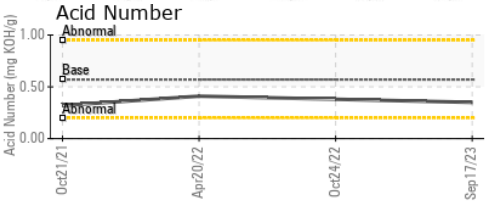

Viscosity @ 40°C




Particle Count




Acid Number




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : PC0062293 **Received** : 01 Nov 2023
**Lab Number** : 02593242 **Diagnosed** : 02 Nov 2023
**Unique Number** : 5670321 **Diagnostician** : Wes Davis
**Test Package** : IND 2 ( Additional Tests: KV100, VI )

*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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