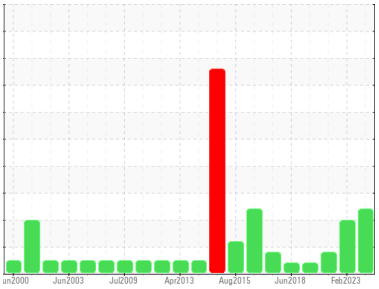
# PROBLEM SUMMARY

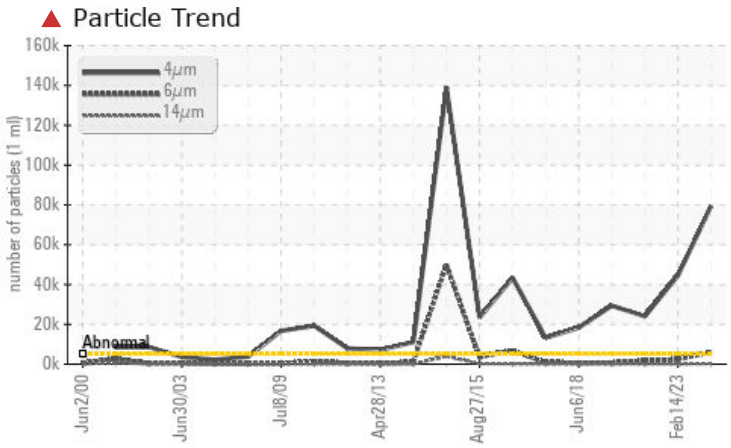
Sample Rating Trend

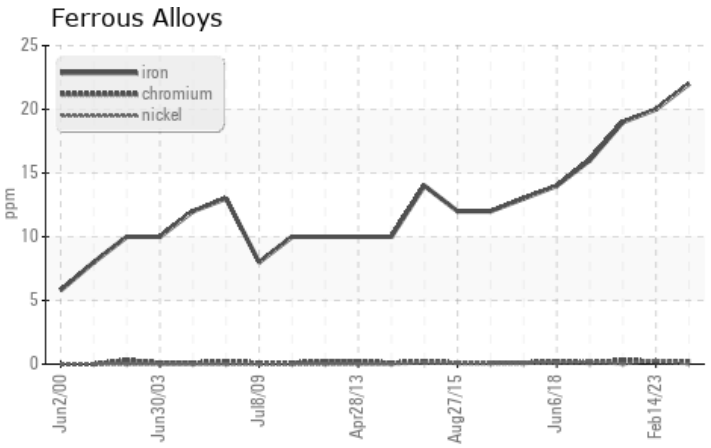


ISO

Area
**1220 Birchmount**
Machine Id
**B3 NISSAI**
Component
**Hydraulic System**
Fluid
**SUNOCO SUNVIS 846 ISO 46 (400 LTR)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

Check seals and/or filters for points of contaminant entry. 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. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | SEVERE | SEVERE | ABNORMAL |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **79377** | ▲ 44561 | ▲ 24040 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **6027** | ● 2431 | ● 1704 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **23/20/15** | ▲ 23/18/13 | ▲ 22/18/13 |

**Customer Id:** MARSCA
**Sample No.:** WC0921781
**Lab Number:** 02623409
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
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Kevin.Marson@wearcheck.com

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## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Filter | --- | --- | ? | We recommend you service the filters on this component. |
| Resample | --- | --- | ? | Resample in 30-45 days to monitor this situation. |
| Check Breathers | --- | --- | ? | 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. |
| Check Seals | --- | --- | ? | Check seals and/or filters for points of contaminant entry. |

## HISTORICAL DIAGNOSIS

**14 Feb 2023 Diag: Kevin Marson**

ISO

Check seals and/or filters for points of contaminant entry. 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. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >4µm and oil cleanliness are severely 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

**12 Apr 2021 Diag: Kevin Marson**

ISO

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Particles >4µm are abnormally high. Particles >6µm are notably high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

**07 May 2019 Diag: Kevin Marson**

ISO

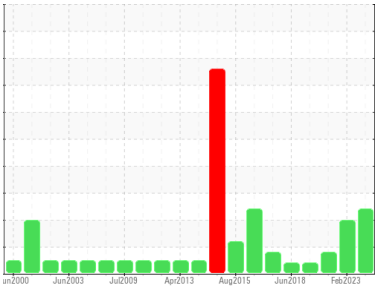
We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Particles >4µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

# OIL ANALYSIS REPORT

Area
**1220 Birchmount**
Machine Id
**B3 NISSAI**
Component
**Hydraulic System**
Fluid
**SUNOCO SUNVIS 846 ISO 46 (400 LTR)**

Sample Rating Trend




ISO

## DIAGNOSIS

**Recommendation**
Check seals and/or filters for points of contaminant entry. 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. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

**Wear**
An increase in the iron level is noted. All other 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 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 | | **WC0921781** | WC0788526 | WC0576751 |
| Sample Date | | Client Info | | **19 Mar 2024** | 14 Feb 2023 | 12 Apr 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 | | | | **SEVERE** | SEVERE | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.05 | **NEG** | NEG | NEG |

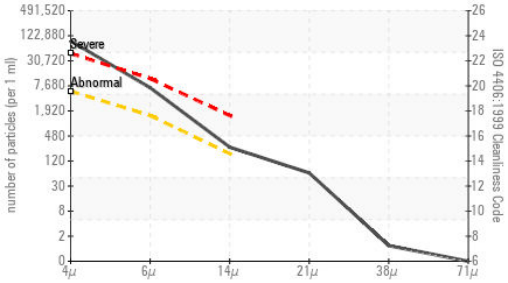
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | | **0** | 0 | --- |
| Iron | ppm | ASTM D5185(m) | >20 | **22** | 20 | 19 |
| Chromium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >20 | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >20 | **0** | 0 | <1 |
| Lead | ppm | ASTM D5185(m) | >20 | **<1** | <1 | 1 |
| Copper | ppm | ASTM D5185(m) | >20 | **19** | 18 | 16 |
| Tin | ppm | ASTM D5185(m) | >20 | **0** | <1 | <1 |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| 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) | | **0** | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | | **3** | 3 | 4 |
| Molybdenum | ppm | ASTM D5185(m) | | **0** | 0 | <1 |
| Manganese | ppm | ASTM D5185(m) | | **2** | 3 | 3 |
| Magnesium | ppm | ASTM D5185(m) | | **21** | 21 | 23 |
| Calcium | ppm | ASTM D5185(m) | | **133** | 141 | 141 |
| Phosphorus | ppm | ASTM D5185(m) | | **346** | 381 | 337 |
| Zinc | ppm | ASTM D5185(m) | | **423** | 416 | 436 |
| Sulfur | ppm | ASTM D5185(m) | | **2262** | 2457 | 2522 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

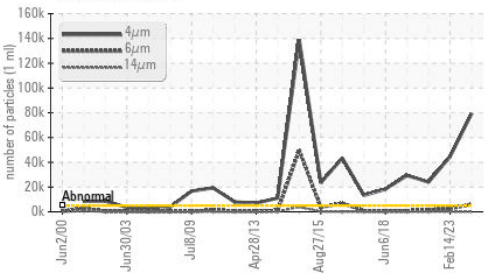
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **0** | 1 | 1 |
| Sodium | ppm | ASTM D5185(m) | | **19** | 20 | 21 |
| Potassium | ppm | ASTM D5185(m) | >20 | **1** | 1 | 1 |

# OIL ANALYSIS REPORT

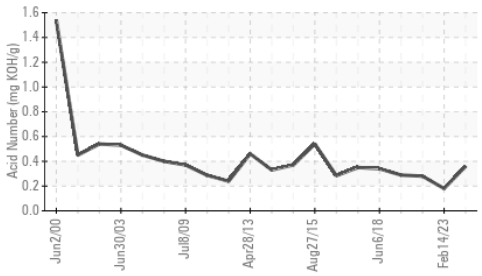
Particle Count



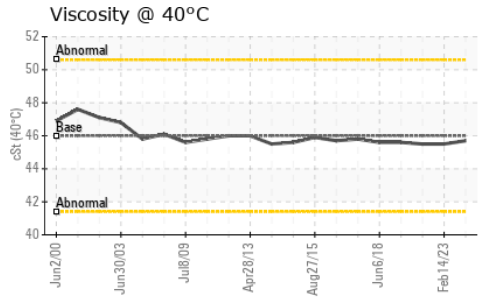

Particle Trend




Acid Number




Viscosity @ 40°C




PQ


| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **79377** | ▲ 44561 | ▲ 24040 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **6027** | ● 2431 | ● 1704 |
| Particles >14µm | | ASTM D7647 | >160 | ● **228** | 65 | 52 |
| Particles >21µm | | ASTM D7647 | >40 | **55** | 13 | 12 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **23/20/15** | ▲ 23/18/13 | ▲ 22/18/13 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | | **0.36** | 0.18 | 0.28 |

| 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) | 46.0 | **45.7** | 45.5 | 45.5 |

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

ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0921781
**Lab Number** : 02623409
**Unique Number** : 5748528
**Test Package** : IND 2 ( Additional Tests: PQ, TAN Man )

**Received** : 20 Mar 2024
**Tested** : 21 Mar 2024
**Diagnosed** : 21 Mar 2024 - Kevin Marson

*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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