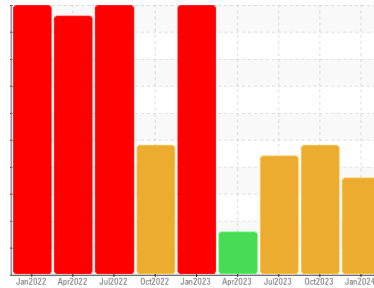




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Area
FP-010
 Machine Id
B59276 - CONVEYOR KSI INCLINE SCREW RAW PROD KSI #11
 Component
Gearbox
 Fluid
PETRO CANADA SYNDURO SHB ISO 460 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear

All component wear rates are normal.

Contamination

Appearance is hazy. High concentration of visible dirt/debris present in the oil. There is a high amount of visible silt present in the sample. There is a moderate concentration of water present in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0885543 | WC0838657 | WC0826113 |
| Sample Date | Client Info | | 14 Jan 2024 | 13 Oct 2023 | 13 Jul 2023 |
| Machine Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | Not Changd | N/A |
| Sample Status | | | ABNORMAL | SEVERE | SEVERE |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >200 | 49 | 103 | 86 |
| Chromium | ppm | ASTM D5185m >15 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m >15 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >25 | 0 | <1 | <1 |
| Lead | ppm | ASTM D5185m >100 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m >200 | <1 | 0 | <1 |
| Tin | ppm | ASTM D5185m >25 | 0 | 2 | <1 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 0 | 5 | 0 |
| Barium | ppm | ASTM D5185m 5.0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 1 | <1 | 2 |
| Magnesium | ppm | ASTM D5185m 5.0 | <1 | 1 | 2 |
| Calcium | ppm | ASTM D5185m 5.0 | 4 | 10 | 5 |
| Phosphorus | ppm | ASTM D5185m 60 | 59 | 83 | 460 |
| Zinc | ppm | ASTM D5185m 5.0 | 0 | 0 | 1 |
| Sulfur | ppm | ASTM D5185m 1900 | 1877 | 2275 | 133 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|----------------|----------|----------|
| Silicon | ppm | ASTM D5185m >50 | 2 | 4 | 20 |
| Sodium | ppm | ASTM D5185m | 5 | 33 | 9 |
| Potassium | ppm | ASTM D5185m >20 | 0 | 2 | 0 |
| Water | % | ASTM D6304 >0.2 | ▲ 0.536 | ● 5.82 | ● 1.18 |
| ppm Water | ppm | ASTM D6304 >2000 | ▲ 5360 | ● 58200 | ● 11800 |

FLUID CLEANLINESS

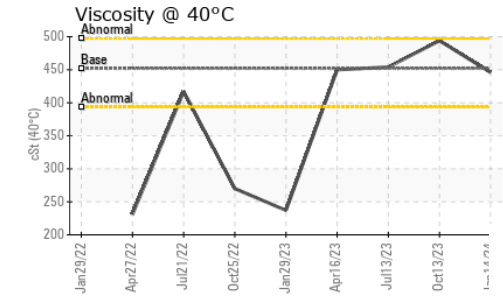
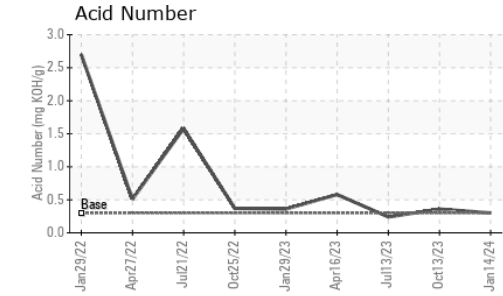
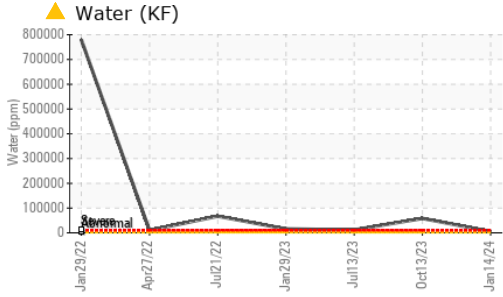
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|---------|----------|----------|
| Particles >4µm | ASTM D7647 | >20000 | --- | --- | --- |
| Particles >6µm | ASTM D7647 | >5000 | --- | --- | --- |
| Particles >14µm | ASTM D7647 | >640 | --- | --- | --- |
| Particles >21µm | ASTM D7647 | >160 | --- | --- | --- |
| Particles >38µm | ASTM D7647 | >40 | --- | --- | --- |
| Particles >71µm | ASTM D7647 | >10 | --- | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | --- | --- | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.3 | 0.30 | 0.36 | 0.24 |



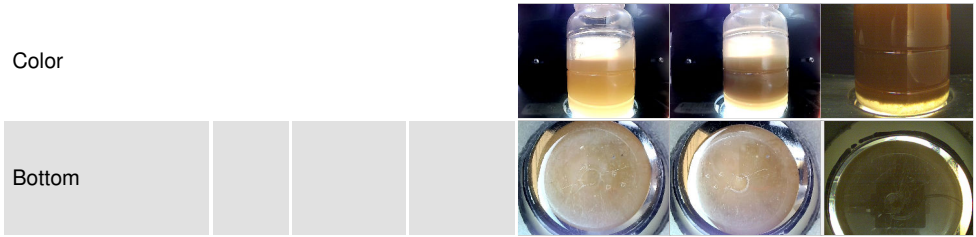
OIL ANALYSIS REPORT



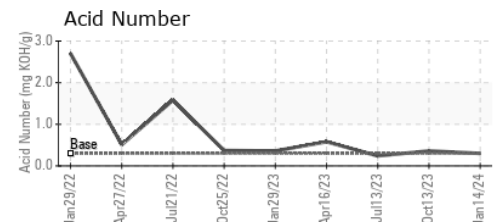
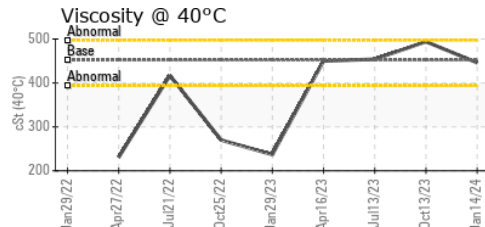
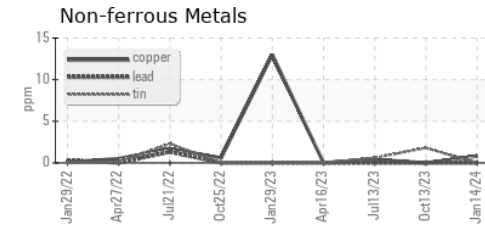
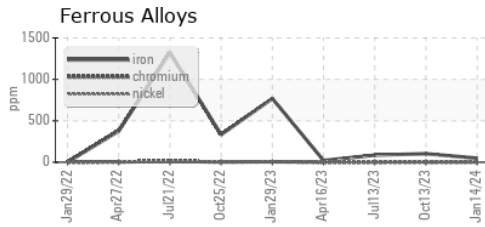
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | ▲ HEAVY | ▲ HEAVY | NONE |
| Debris | scalar | *Visual | ▲ HEAVY | NONE | ▲ MODER |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | ▲ HAZY | ▲ MILKY | ▲ MILKY |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | 0.2% | 0.2% |
| Free Water | scalar | *Visual | NEG | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 452 | 446 | 494 | 454 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0885543 **Received** : 19 Jan 2024
Lab Number : 06065574 **Tested** : 07 Feb 2024
Unique Number : 10836956 **Diagnosed** : 07 Feb 2024 - Doug Bogart
Test Package : IND 2 (Additional Tests: KF, PrtCount)

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 AUSTIN, MN
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 Contact: RYAN LOWE
 rslowe@hormel.com
 T: (507)437-5674
 F: (507)437-9805

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)