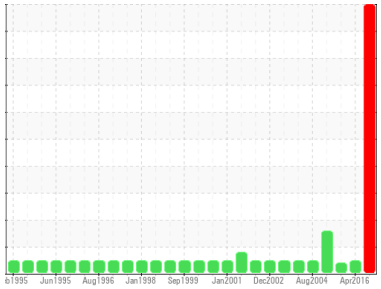
# PROBLEM SUMMARY

Sample Rating Trend

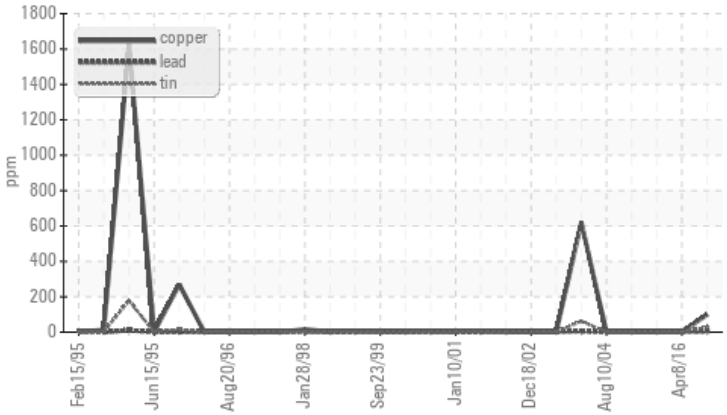


**WEAR**

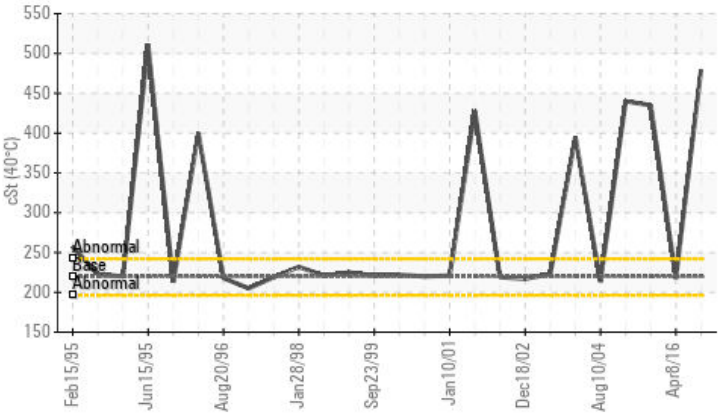
Area
## 46 BROWN STOCK
Machine Id
## 1A LINE WASHER - REDUCER (S/N 465101)
Component
**Gear Reducer**
Fluid
**MOBIL MOBILGEAR 600 XP 220 (5 GAL)**

## COMPONENT CONDITION SUMMARY

Non-ferrous Metals




Viscosity @ 40°C




## RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | SEVERE | NORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Copper | ppm | ASTM D5185(m) | >50 | **99** | <1 | 1 |
| Tin | ppm | ASTM D5185(m) | >5 | **29** | 0 | <1 |
| Visc @ 40°C | cSt | ASTM D7279(m) | 220 | **479** | 218 | 435 |

**Customer Id:** STANAC
**Sample No.:** WC
**Lab Number:** 02605458
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

*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. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Check Fluid Source | --- | --- | ? | Confirm the source of the lubricant being utilized for top-up/fill. |

## HISTORICAL DIAGNOSIS

**08 Apr 2016 Diag: Wes Davis**

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the component. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

**29 Jul 2010 Diag: Kevin Marson**

VISCOSITY

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the component. Viscosity of sample indicates oil is within ISO 460 range, advise investigate. The oil viscosity is higher than normal. This plus the additive levels indicates the addition of a different brand, or type of oil.

view report

**18 Jan 2010 Diag: Bill Quesnel**

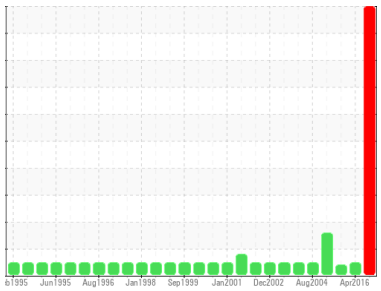
WEAR PARTICLES

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.The wear metals levels (ppm values) are normal, however, the ferrogram contained moderate quantities of ferrous red oxide (rust) particles. Red oxides are more commonly reffered to as rust and are typically caused by water present in the lubricant (either currently or in the recent past). There is no indication of any contamination in the component. The condition of oil is suitable for further service. Viscosity of sample indicates oil is within ISO 460 range, advise investigate.

view report

# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
## 46 BROWN STOCK
Machine Id
## 1A LINE WASHER - REDUCER (S/N 465101)
Component
**Gear Reducer**
Fluid
**MOBIL MOBILGEAR 600 XP 220 (5 GAL)**

## DIAGNOSIS

**Recommendation**
We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

**Wear**
Copper and tin ppm levels are severe.

**Contamination**
There is no indication of any contamination in the oil.

**Fluid Condition**
Viscosity of sample indicates oil is within ISO 460 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. 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 | | **WC** | WC | WC782365 |
| Sample Date | | Client Info | | **19 Dec 2023** | 08 Apr 2016 | 29 Jul 2010 |
| 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** | NORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | | **0** | 9 | 34 |
| Iron | ppm | ASTM D5185(m) | >250 | **20** | 16 | 36 |
| Chromium | ppm | ASTM D5185(m) | >5 | **0** | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >5 | **1** | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | **<1** | 0 | <1 |
| Lead | ppm | ASTM D5185(m) | >50 | **4** | 0 | <1 |
| Copper | ppm | ASTM D5185(m) | >50 | **99** | <1 | 1 |
| Tin | ppm | ASTM D5185(m) | >5 | **29** | 0 | <1 |
| Antimony | ppm | ASTM D5185(m) | >5 | **0** | 0 | <1 |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |

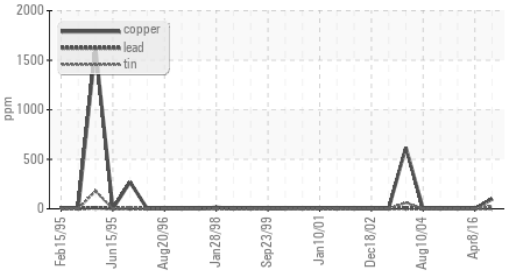
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | | **<1** | 34 | 8 |
| Barium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | **0** | <1 | 0 |
| Manganese | ppm | ASTM D5185(m) | | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | | **<1** | 0 | <1 |
| Calcium | ppm | ASTM D5185(m) | | **<1** | 3 | 7 |
| Phosphorus | ppm | ASTM D5185(m) | | **408** | 331 | ▲ 739 |
| Zinc | ppm | ASTM D5185(m) | | **19** | 1 | 4 |
| Sulfur | ppm | ASTM D5185(m) | | ▲ **106** | 13595 | ▲ 1012 |
| Lithium | ppm | ASTM D5185(m) | | **2** | <1 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >60 | **13** | 3 | 16 |
| Sodium | ppm | ASTM D5185(m) | | **1** | <1 | 1 |
| Potassium | ppm | ASTM D5185(m) | >20 | **1** | 0 | <1 |

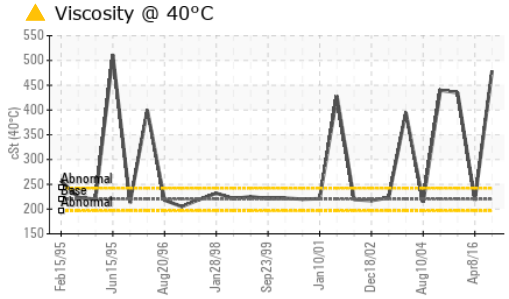
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | | **0.26** | 0.59 | ▲ 0.29 |

# OIL ANALYSIS REPORT

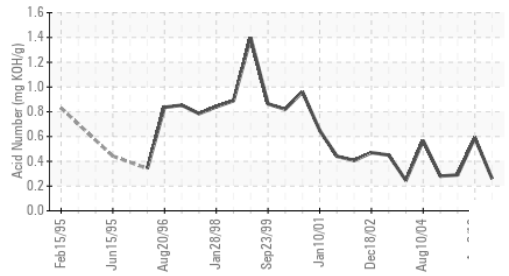
Non-ferrous Metals



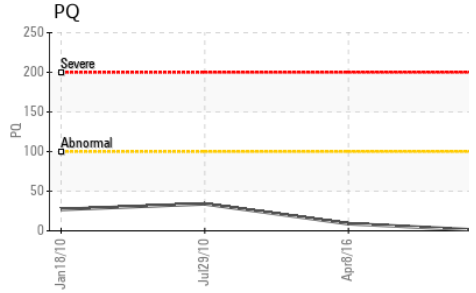

Viscosity @ 40°C




Acid Number

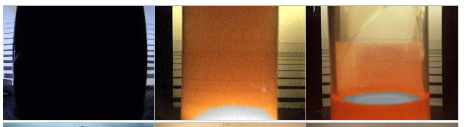



PQ



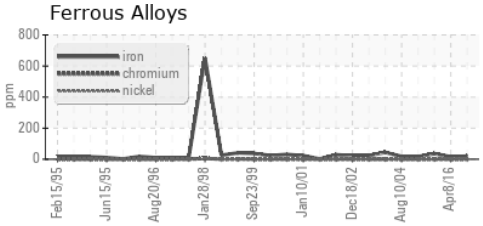

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **LIGHT** | VLITE | LIGHT |
| Yellow Metal | scalar | Visual* | NONE | **VLITE** | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Silt | scalar | Visual* | NONE | **LIGHT** | NONE | NONE |
| Debris | scalar | Visual* | NONE | **NONE** | VLITE | 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* | >0.2 | **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) | 220 | ▲ **479** | 218 | ▲ 435 |

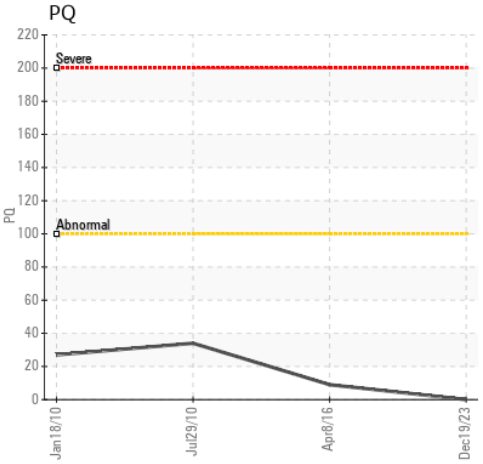
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

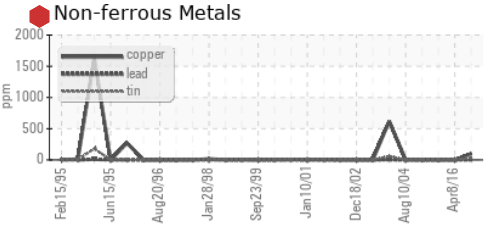
Ferrous Alloys



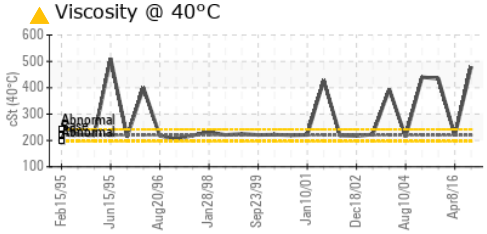

PQ



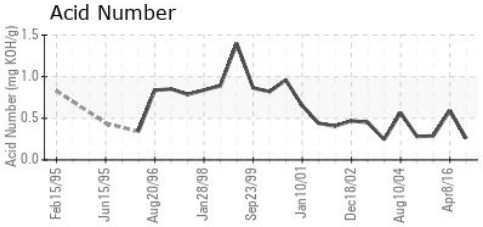

Non-ferrous Metals




Viscosity @ 40°C




Acid Number




ISO 17025:2017 Accredited Laboratory

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 | | |
| **Sample No.** | : WC | **Recieved** | : 27 Dec 2023 |
| **Lab Number** | : 02605458 | **Diagnosed** | : 28 Dec 2023 |
| **Unique Number** | : 5698543 | **Diagnostician** | : Kevin Marson |
| **Test Package** | : IND 2 | | |

*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.*


**AV GROUP NB INC.**
103 PINDER ROAD,, NACKAWIC MILL
NACKAWIC, NB
CA E6G 1W4
Contact: Basil Fadulalla
basil.fadulalla@adityabirla.com
T:
F: