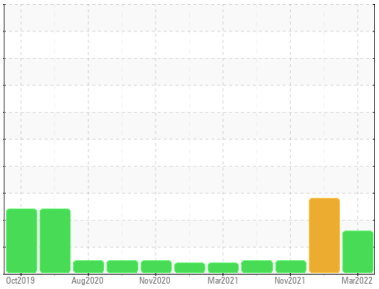
# PROBLEM SUMMARY

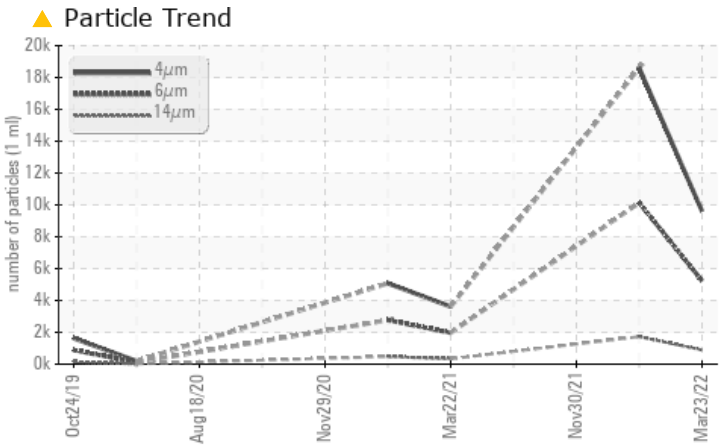
Sample Rating Trend




ISO

Area
**GUAY SON [CONHER]**
Machine Id
**IBACO NANDO**
Component
**Bottom Diesel Engine**
Fluid
**Xtra Rev 15W-40 (160 LTR)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor. (
Customer Sample Comment: Add particule count )

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | ABNORMAL | NORMAL |
|---|---|---|---|---|---|---|
| Particles >6µm | | ASTM D7647 | >5000 | ▲ **5235** | ▲ 10135 | --- |
| Particles >14µm | | ASTM D7647 | >640 | ▲ **891** | ▲ 1725 | --- |
| Particles >21µm | | ASTM D7647 | >160 | ▲ **300** | ▲ 581 | --- |
| Particles >38µm | | ASTM D7647 | >40 | ▲ **46** | ▲ 90 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/16 | ▲ **20/17** | ▲ 21/18 | --- |


**Customer Id:** CONHERKL
**Sample No.:** KL0009215
**Lab Number:** 05505980
**Test Package:** FLEET

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

**24 Feb 2022 Diag: Jonathan Hester**

DEGRADATION

We recommend that you drain the oil and perform a filter service on this component if not already done. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The BN level is low. The condition of the oil is acceptable for the time in service.

view report

**30 Nov 2021 Diag: Angela Borella**

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

**19 Oct 2021 Diag: Jonathan Hester**

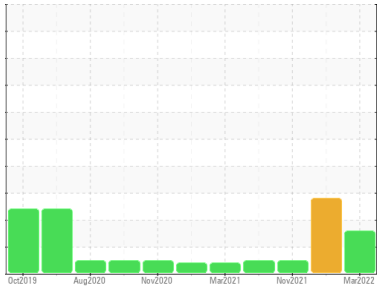
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Area
**GUAY SON [CONHER]**
Machine Id
**IBACO NANDO**
Component
**Bottom Diesel Engine**
Fluid
**Xtra Rev 15W-40 (160 LTR)**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor. ( Customer Sample Comment: Add particule count )

**Wear**
All component wear rates are normal.

**Contamination**
There is a moderate amount of particulates present in the oil.

**Fluid Condition**
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **KL0009215** | KL0009127 | KL0009004 |
| Sample Date | | Client Info | | **23 Mar 2022** | 24 Feb 2022 | 30 Nov 2021 |
| Machine Age | hrs | Client Info | | **0** | 8994 | 8020 |
| Oil Age | hrs | Client Info | | **447** | 2140 | 1166 |
| Oil Changed | | Client Info | | **N/A** | Not Changd | Not Changd |
| Sample Status | | | | **ATTENTION** | ABNORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | <1.0 |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **63** | 56 | 24 |
| Chromium | ppm | ASTM D5185m | >20 | **5** | 6 | 1 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **<1** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | **6** | 6 | 3 |
| Lead | ppm | ASTM D5185m | >40 | **6** | 4 | 1 |
| Copper | ppm | ASTM D5185m | >330 | **72** | 93 | 80 |
| Tin | ppm | ASTM D5185m | >15 | **1** | 1 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

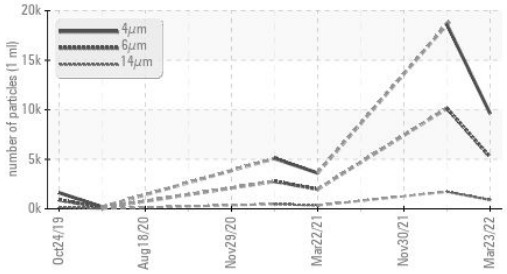
| ADDITIVES | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **63** | 28 | 122 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **114** | 115 | 116 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | **566** | 562 | 508 |
| Calcium | ppm | ASTM D5185m | | **1669** | 1679 | 1657 |
| Phosphorus | ppm | ASTM D5185m | | **901** | 885 | 899 |
| Zinc | ppm | ASTM D5185m | | **1080** | 1161 | 1049 |
| Sulfur | ppm | ASTM D5185m | | **2650** | 2947 | 2584 |

| CONTAMINANTS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **18** | 20 | 22 |
| Sodium | ppm | ASTM D5185m | | **55** | 52 | 29 |
| Potassium | ppm | ASTM D5185m | >20 | **4** | 6 | 3 |

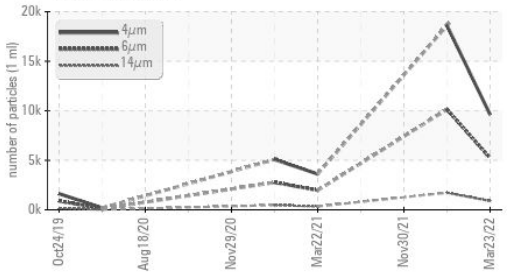
| INFRA-RED | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **1.2** | 1.2 | 0.7 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **11.0** | 10.4 | 9.3 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **30.1** | 30.6 | 26.5 |

# OIL ANALYSIS REPORT

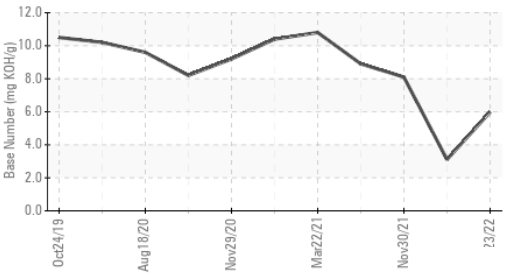
Particle Trend



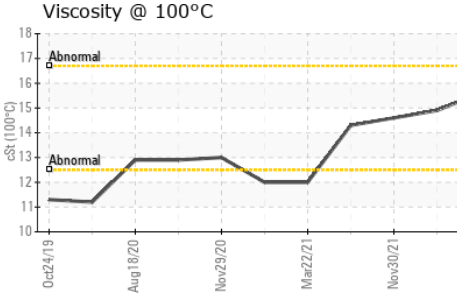

Particle Trend




Base Number




Viscosity @ 100°C




| FLUID CLEANLINESS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **9609** | 18604 | --- |
| Particles >6µm | | ASTM D7647 | >5000 | ▲ **5235** | ▲ 10135 | --- |
| Particles >14µm | | ASTM D7647 | >640 | ▲ **891** | ▲ 1725 | --- |
| Particles >21µm | | ASTM D7647 | >160 | ▲ **300** | ▲ 581 | --- |
| Particles >38µm | | ASTM D7647 | >40 | ▲ **46** | ▲ 90 | --- |
| Particles >71µm | | ASTM D7647 | >10 | **5** | 9 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/16 | ▲ **20/17** | ▲ 21/18 | --- |

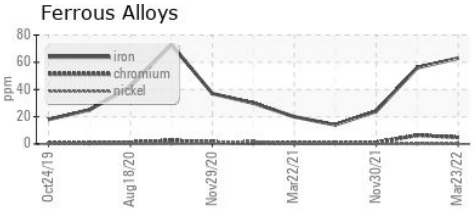
| FLUID DEGRADATION | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **24.9** | 24.8 | 19.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **5.98** | ▲ 3.11 | 8.1 |

| VISUAL | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| 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 | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

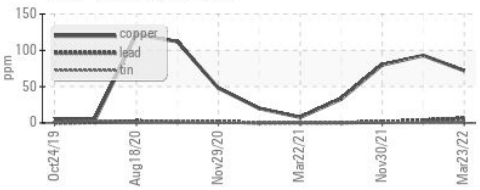
| FLUID PROPERTIES | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | | **15.6** | 14.9 | 14.6 |

## GRAPHS

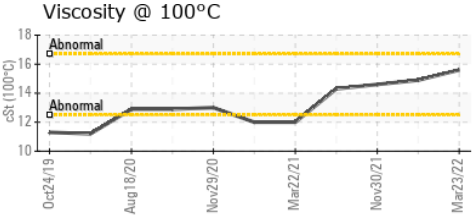
Ferrous Alloys



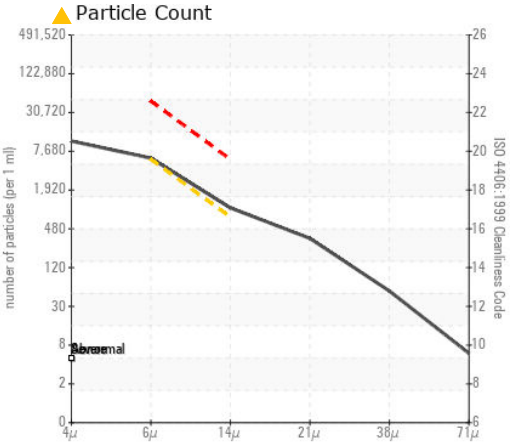

Non-ferrous Metals



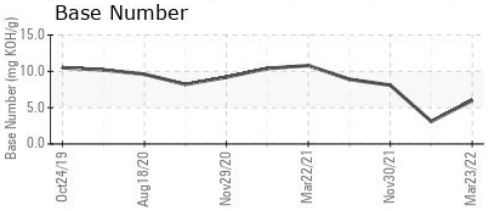

Viscosity @ 100°C




Particle Count




Base Number




ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KL0009215 **Received** : 30 Mar 2022
**Lab Number** : 05505980 **Diagnosed** : 31 Mar 2022
**Unique Number** : 9915254 **Diagnostician** : Doug Bogart
**Test Package** : FLEET ( Additional Tests: PrtCount )

*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)*


JUAREZ 348
HERMOSILLO,
MX 83140
Contact: EDUARDO GARCIA
egarcia.comsa@gmail.com
T: (526)622-1581 x:81
F: x: