# OIL ANALYSIS REPORT

Sample Rating Trend


**VISCOSITY**

Machine Id
## BUBBLE PERFORATOR
Component
**Gearbox**
Fluid
**SHELL OMALA 220 (--- GAL)**

## DIAGNOSIS

**▲ Recommendation**
Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

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

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

**▲ Fluid Condition**
Viscosity of sample indicates oil is within ISO 320 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 condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0763603** | --- | --- |
| Sample Date | | Client Info | | **29 Dec 2022** | --- | --- |
| Machine Age | yrs | Client Info | | **0** | --- | --- |
| Oil Age | yrs | Client Info | | **0** | --- | --- |
| Oil Changed | | Client Info | | **N/A** | --- | --- |
| Sample Status | | | | **ABNORMAL** | --- | --- |

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

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | | **0** | --- | --- |
| Iron | ppm | ASTM D5185(m) | >200 | **2** | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >15 | **0** | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >15 | **<1** | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Silver | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >25 | **<1** | --- | --- |
| Lead | ppm | ASTM D5185(m) | >100 | **0** | --- | --- |
| Copper | ppm | ASTM D5185(m) | >200 | **4** | --- | --- |
| Tin | ppm | ASTM D5185(m) | >25 | **0** | --- | --- |
| Antimony | ppm | ASTM D5185(m) | >5 | **<1** | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | --- | --- |

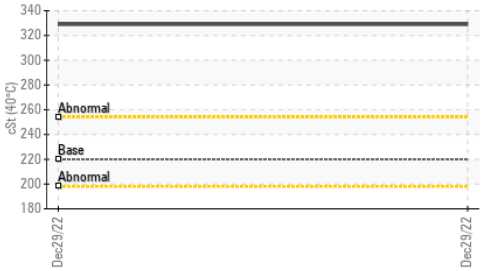
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 4.4 | **<1** | --- | --- |
| Barium | ppm | ASTM D5185(m) | 0.0 | **0** | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Manganese | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Calcium | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | 215 | **163** | --- | --- |
| Zinc | ppm | ASTM D5185(m) | 0 | **<1** | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | 7039 | ▲ **79** | --- | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >50 | **3** | --- | --- |
| Sodium | ppm | ASTM D5185(m) | | **5** | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | --- | --- |

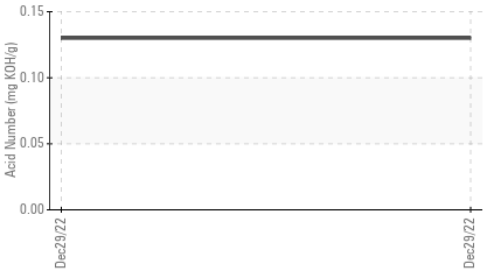
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | | **0.13** | --- | --- |

# OIL ANALYSIS REPORT

Viscosity @ 40°C



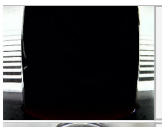

Acid Number




PQ

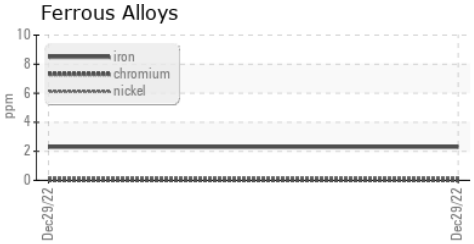

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | **VLITE** | --- | --- |
| Precipitate | scalar | Visual* | NONE | **NONE** | --- | --- |
| Silt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

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 220 | ▲ **329** | --- | --- |

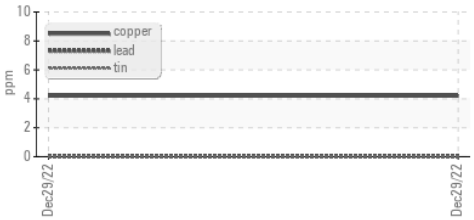
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | *no image* | *no image* |
| Bottom | | |  | *no image* | *no image* |

## GRAPHS

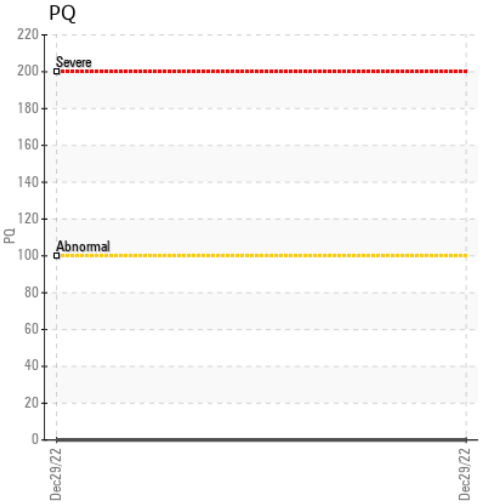
Ferrous Alloys



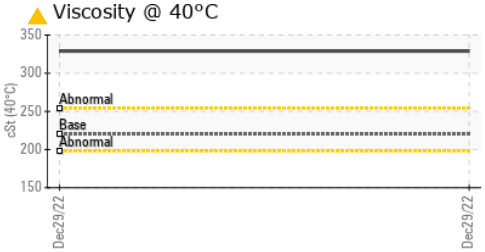

Non-ferrous Metals



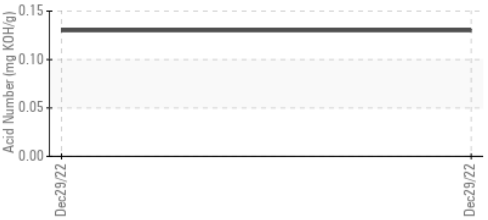

PQ




Viscosity @ 40°C




Acid Number




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0763603 **Received** : 13 Jan 2023
**Lab Number** : 02533198 **Tested** : 16 Jan 2023
**Unique Number** : 5514197 **Diagnosed** : 16 Jan 2023 - Kevin Marson
**Test Package** : IND 2 ( Additional Tests: TAN Man )

*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.*

**Ivex Protective Packaging**
930 Britannia Rd E
Mississauga, ON
CA L4W 5M7
Contact: Terry Earle
Terry.Earle@ivexpackaging.com
T: (905)795-8887
F: