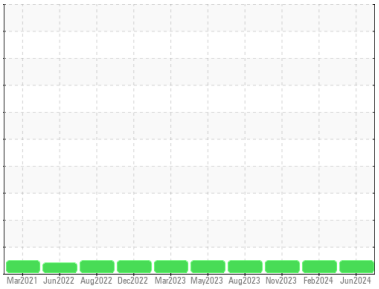
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## KELL_U1 KELL_U1_P1
Component
**Drive End Pump**
Fluid
**SHELL TELLUS S2 MX 32 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

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

**Contamination**
The water content is negligible. There is no indication of any contamination in the oil.

**Fluid Condition**
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 | | **RP0037027** | RP0036972 | RP0027358 |
| Sample Date | | Client Info | | **12 Jun 2024** | 16 Feb 2024 | 01 Nov 2023 |
| 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 | | | | **NORMAL** | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >90 | **11** | 12 | 6 |
| Chromium | ppm | ASTM D5185m | >5 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | **<1** | <1 | <1 |
| Titanium | ppm | ASTM D5185m | >3 | **<1** | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **<1** | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >7 | **3** | <1 | 2 |
| Lead | ppm | ASTM D5185m | >12 | **<1** | <1 | <1 |
| Copper | ppm | ASTM D5185m | >30 | **1** | 1 | <1 |
| Tin | ppm | ASTM D5185m | >9 | **1** | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **<1** | <1 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | | **1** | 5 | <1 |
| Molybdenum | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | | **65** | 59 | 66 |
| Calcium | ppm | ASTM D5185m | | **14** | 18 | 18 |
| Phosphorus | ppm | ASTM D5185m | | **306** | 223 | 292 |
| Zinc | ppm | ASTM D5185m | | **366** | 324 | 352 |

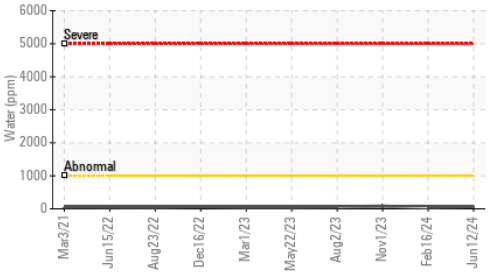
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >60 | **1** | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **1** | <1 | <1 |
| Water | % | ASTM D6304 | >.1 | **0.006** | 0.003 | 0.007 |
| ppm Water | ppm | ASTM D6304 | >1000 | **69** | 39 | 78.6 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.31** | 0.30 | 0.28 |

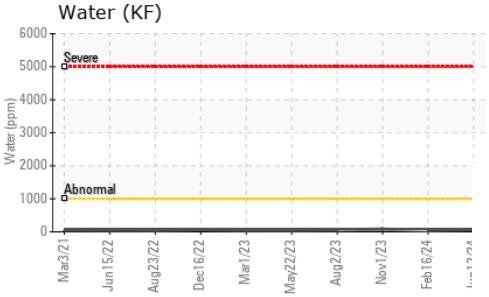
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

# OIL ANALYSIS REPORT

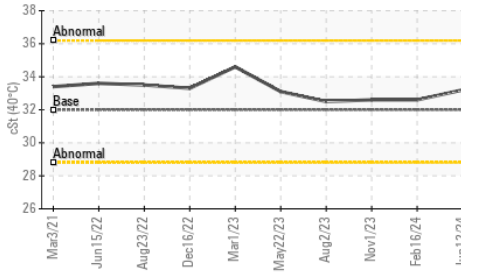
Water (KF)




Water (KF)

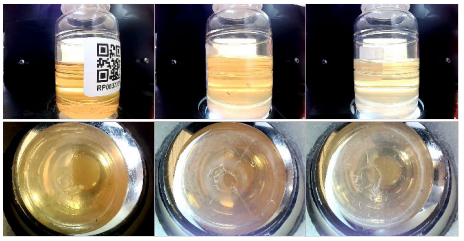



Viscosity @ 40°C



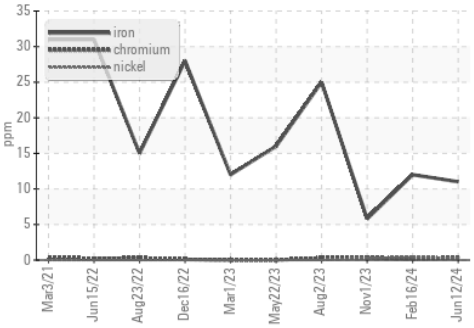

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 32.0 | **33.2** | 32.6 | 32.6 |

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

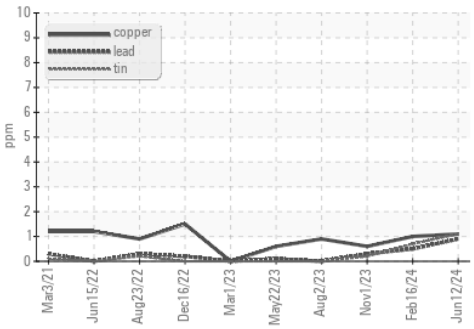


## GRAPHS

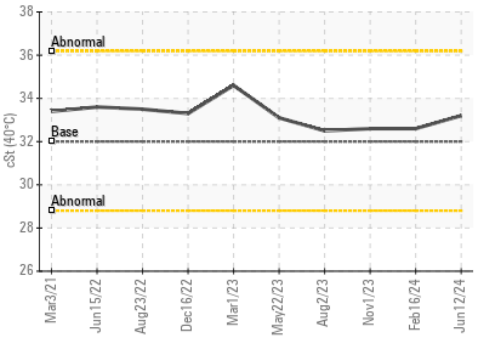
Ferrous Alloys



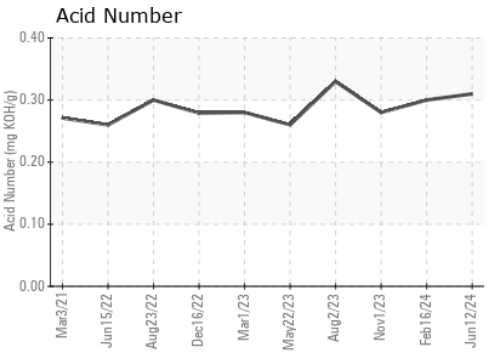

Non-ferrous Metals




Viscosity @ 40°C




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : RP0037027
**Lab Number** : 06217365
**Unique Number** : 11090229
**Test Package** : IND 2

**Received** : 21 Jun 2024
**Tested** : 25 Jun 2024
**Diagnosed** : 25 Jun 2024 - Don Baldridge

**ENERGY TRANSFER - KELLYBURG**
833 KELLYBURG ROAD
TROUT RUN, PA
US 17771
Contact: JERRY HIGGINS
T: (610)858-3838
F:

*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)*

Report Id: ENETRO [WUSCAR] 06217365 (Generated: 06/25/2024 12:50:26) Rev: 1

Submitted By: Nicolas Pucci