



OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Queen`s University - Q01100
 Machine Id
AG214
 Component
Hydraulic System
 Fluid
{not provided} (--- GAL)

DIAGNOSIS

Recommendation

This is a baseline read-out on the submitted sample.

Wear

{not applicable}

Contamination

{not applicable}

Fluid Condition

{not applicable}

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|------------------|-------------|-------------|-----------------------|----------|----------|
| Machine ID | Client Info | | D70 Turbine #2 | --- | --- |
| Department | Client Info | | Sales | --- | --- |
| Sample From | Client Info | | Machine | --- | --- |
| Production Stage | Client Info | | Initial | --- | --- |
| Sent to WC | Client Info | | 01/03/2024 | --- | --- |
| Sample Number | Client Info | | E30001081 | --- | --- |
| Sample Date | Client Info | | 07 Dec 2023 | --- | --- |
| Machine Age | hrs | Client Info | 0 | --- | --- |
| Oil Age | hrs | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | N/A | --- | --- |
| Sample Status | | | NORMAL | --- | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|---------------|---------|--------------|----------|
| Iron | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Nickel | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | --- |
| Silver | ppm | ASTM D5185(m) | | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | <1 | --- |
| Lead | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Copper | ppm | ASTM D5185(m) | >20 | <1 | --- |
| Tin | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Antimony | ppm | ASTM D5185(m) | | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | 0 | --- |

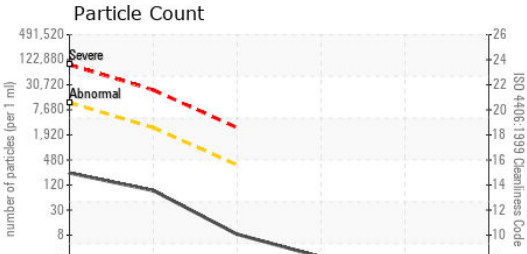
ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|---------------|---------|--------------|----------|
| Boron | ppm | ASTM D5185(m) | | 0 | --- |
| Barium | ppm | ASTM D5185(m) | | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | | 0 | --- |
| Magnesium | ppm | ASTM D5185(m) | | 0 | --- |
| Calcium | ppm | ASTM D5185(m) | | 0 | --- |
| Phosphorus | ppm | ASTM D5185(m) | | 29 | --- |
| Zinc | ppm | ASTM D5185(m) | | 2 | --- |
| Sulfur | ppm | ASTM D5185(m) | | 527 | --- |
| Lithium | ppm | ASTM D5185(m) | | <1 | --- |

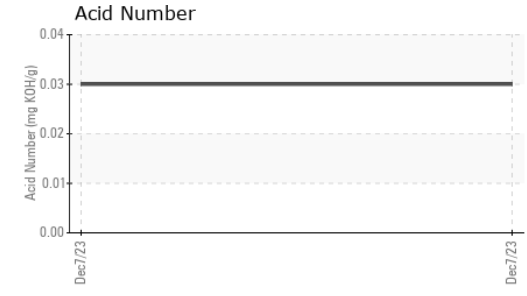
CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|---------------|---------|--------------|----------|
| Silicon | ppm | ASTM D5185(m) | >15 | 0 | --- |
| Sodium | ppm | ASTM D5185(m) | | 0 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | --- |
| Water | % | ASTM D6304* | >0.05 | 0.002 | --- |
| ppm Water | ppm | ASTM D6304* | >500 | 16 | --- |

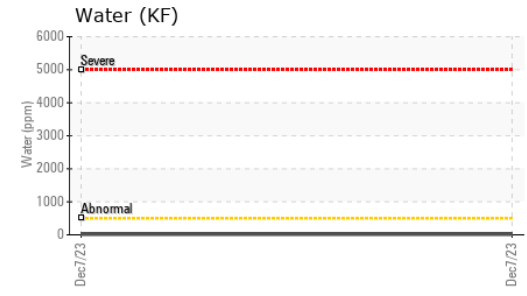
OIL ANALYSIS REPORT



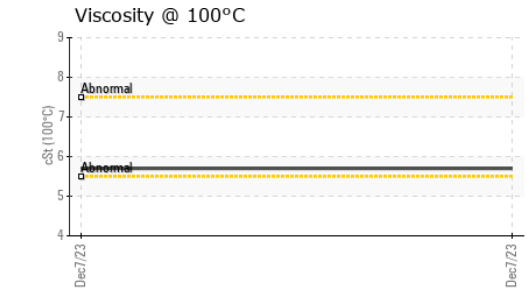
| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|-------------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >10000 | 206 | --- | --- |
| Particles >6µm | ASTM D7647 | >2500 | 78 | --- | --- |
| Particles >14µm | ASTM D7647 | >320 | 7 | --- | --- |
| Particles >21µm | ASTM D7647 | >80 | 2 | --- | --- |
| Particles >38µm | ASTM D7647 | >20 | 0 | --- | --- |
| Particles >71µm | ASTM D7647 | >4 | 0 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | >20/18/15 | 15/13/10 | --- | --- |



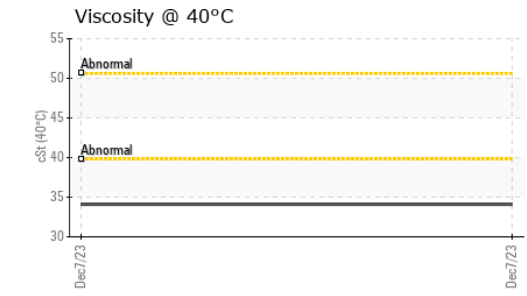
| FLUID DEGRADATION | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.03 | --- | --- |




| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- |
| 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* | >0.05 | NEG | --- |
| Free Water | scalar | Visual* | | NEG | --- |



| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|--------|---------------|-------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 34.1 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 5.7 | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 106 | --- | --- |



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



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : E30001081 **Received** : 05 Jan 2024
Lab Number : **02606776** **Diagnosed** : 09 Jan 2024
Unique Number : 5707862 **Diagnostician** : Tatiana Sorkina
Test Package : IND 2 (Additional Tests: KF, KV100, VI)

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 Cobourg, ON
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To discuss this sample report, contact Customer Service at 1-905-372-2251.
 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.