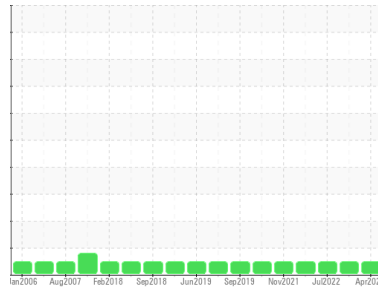




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

System 31 - Crude Separator System

Machine Id

N-3104B TRANSFORMER, COALESCER STEP UP 600V 3 PH

Component

Transformer Oil

Fluid

IRVING TRANSFORMER OIL (--- LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Contamination

Insufficient sample was received to conduct all the routine laboratory tests. The water content is negligible. There is no indication of any contamination in the transformer oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the transformer oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | PP | PP | PP |
| Sample Date | Client Info | | 04 Apr 2024 | 16 Apr 2023 | 28 Jul 2022 |
| 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 D5185(m) >125 | 0 | 0 | 0 |
| Chromium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) >5 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185(m) >30 | 0 | 2 | <1 |
| Copper | ppm | ASTM D5185(m) >10 | <1 | 0 | 0 |
| Tin | ppm | ASTM D5185(m) >2 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|---------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Calcium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185(m) | 0 | 0 | <1 |
| Zinc | ppm | ASTM D5185(m) | <1 | <1 | <1 |
| Sulfur | ppm | ASTM D5185(m) | 879 | 896 | 896 |
| Lithium | ppm | ASTM D5185(m) | <1 | <1 | <1 |

CONTAMINANTS

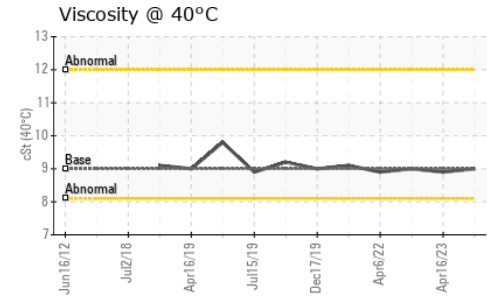
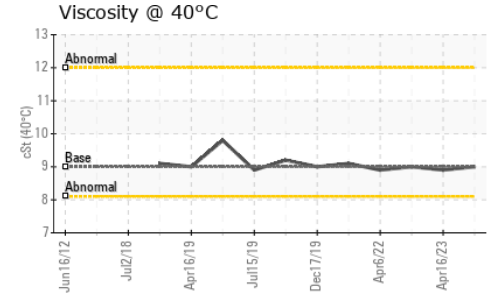
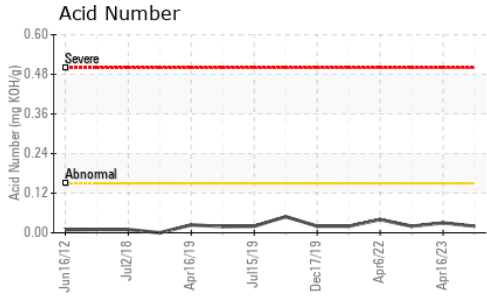
| | method | limit/base | current | history1 | history2 |
|-----------|--------|---------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) >25 | 0 | 0 | 0 |
| Sodium | ppm | ASTM D5185(m) | <1 | 0 | 0 |
| Potassium | ppm | ASTM D5185(m) >20 | <1 | 0 | <1 |
| Water | % | ASTM D6304* >0.0035 | 0.001 | 0.001 | 0.001 |
| ppm Water | ppm | ASTM D6304* >35 | 10 | 7.9 | 9.0 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.02 | 0.03 | 0.02 |



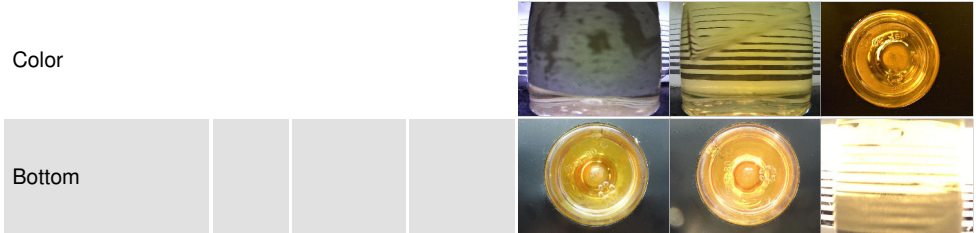
OIL ANALYSIS REPORT



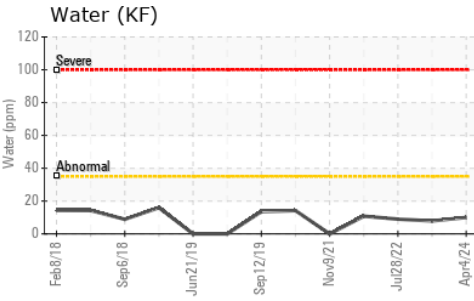
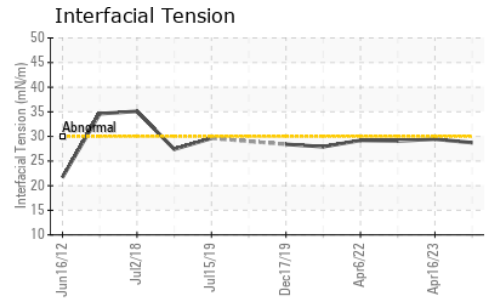
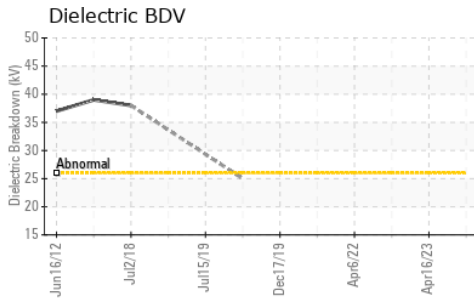
| VISUAL | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|--------------|----------|-------|
| White Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | NONE | NONE |
| Silt | scalar | Visual* | NONE | NONE | NONE | NONE |
| Debris | scalar | Visual* | NONE | NONE | VLITE | NONE |
| Sand/Dirt | scalar | Visual* | NONE | VLITE | NONE | NONE |
| Appearance | scalar | Visual* | NORML | NORML | NORML | NORML |
| Odor | scalar | Visual* | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.0035 | NEG | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|---------------------|----------------------|------------|----------------|----------|----------|
| Specific Gravity | ASTM D4052(e) | 0.865 | 0.873 | 0.874 | 0.874 |
| Visc @ 40°C | cSt ASTM D7279(m) | 9 | 9 | 8.9 | 9 |
| Interfacial Tension | mN/m ASTM D971(e)* | | 28.72 | 29.45 | 29.08 |
| ASTM Color | scalar ASTM D1500(e) | | <1.5 | 1.0 | <1.5 |

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP
Lab Number : 02626988
Unique Number : 5760120
Test Package : TRF 1 (Additional Tests: ICP, KV40, Spat)

HIBERNIA MGMT & DEVELOPMENT CO. LTD
 SUITE 1000,, 100 NEW GOWER STREET
 ST.JOHNS, NL
 CA A1C 6K3

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.

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