

No relevant graphs to display

RECOMMENDATION

The operation of this unit should be monitored by a service engineer. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

| PROBLEMATIC TEST RESULTS | | | | | | | | |
|--------------------------|-----|---------------|----|------------|--|--|--|--|
| Sample Status | | | | ABNORMAL | | | | |
| Iron | ppm | ASTM D5185(m) | >8 | <u> </u> | | | | |
| Tin | ppm | ASTM D5185(m) | >4 | A 3 | | | | |

Customer Id: GTT0000370 Sample No.: GTT0001201 Lab Number: 02602970 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Bill Quesnel CLS,OMA II,MLA-III,LLA-I +1 (289)291-4641 x4641 Bill.Quesnel@wearcheck.com

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| RECOMMENDED AG | CTIONS | | | |
|----------------------|--------|------|---------|---|
| Action | Status | Date | Done By | Description |
| Resample | | | ? | We recommend an early resample to monitor this condition. |
| Information Required | | | ? | Please specify the brand, type, and viscosity of the oil on your next sample. |

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

IFS31004] Machine Id CARRIER NIVM BOIS LEGER

Chiller Fluid

REFRIGERATION OIL (POE) (--- GAL)

DIAGNOSIS

Recommendation

The operation of this unit should be monitored by a service engineer. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

🔺 Wear

Iron and tin ppm levels are abnormal. The tin level suggests that bearing wear is indicated. Check the system for the cause of high iron content, such as cylinder wear, valve wear or system residues.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

| Sample Status Image: method Imit/base current history1 history2 Iron ppm ASTM D5185(m) >8 7 Chromium ppm ASTM D5185(m) >2 0 Nickel ppm ASTM D5185(m) >2 0 Nickel ppm ASTM D5185(m) >2 <1 Nickel ppm ASTM D5185(m) >2 <1 Aluminum ppm ASTM D5185(m) >2 0 Lead ppm ASTM D5185(m) >3 <1 Copper ppm ASTM D5185(m) >4 3 Vanadium ppm ASTM D5185(m) 0 ADDITIVES method Iimit/base current history1 history2 Boron ppm ASTM D5185(m) | | | | | | | |
|--|------------------|----------|---------------|------------|-------------|----------|----------|
| Sample Number Client Info GTT0001201 Sample Date Client Info 0 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Sample Status Client Info N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASIM D5185(m) >2 0 Nickel ppm ASIM D5185(m) >2 0 Silver ppm ASIM D5185(m) >2 0 Aluminum | | | | | Dec2023 | | |
| Sample Date Client Info 01 Dec 2023 Machine Age hrs Client Info 0 Oll Age hrs Client Info 0 Sample Status Client Info N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >8 7 Nickel ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 1 Aluminum ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >2 0 Aluminum ppm ASTM D5185(m) >4 3 Astim | SAMPLE INFORM | ATION | method | limit/base | current | history1 | history2 |
| Machine Age hrs Client Info 0 Dil Age hrs Client Info 0 Sample Status Client Info N/A WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185(m) >8 7 Chromium ppm ASTM D5185(m) >2 0 Nickel ppm ASTM D5185(m) >2 1 Nickel ppm ASTM D5185(m) >2 1 Aluminum ppm ASTM D5185(m) >2 0 Copper ppm ASTM D5185(m) >2 0 Antimony ppm ASTM D5185(m) >4 3 Antimony ppm ASTM D5185(m) 0 < | Sample Number | | Client Info | | GTT0001201 | | |
| Dil Age hrs Client Info 0 Oll Changed Client Info N/A Sample Status method limit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM DS185(m) >2 0 Nickel ppm ASTM DS185(m) >2 0 Nickel ppm ASTM DS185(m) >2 1 Aluminum ppm ASTM DS185(m) >2 0 Aluminum ppm ASTM DS185(m) >2 0 Aluminum ppm ASTM DS185(m) >2 0 Aluminum ppm ASTM DS185(m) >4 3 Astim DS185(m) >0 < | | | Client Info | | 01 Dec 2023 | | |
| Dil Changed Client Info N/A Sample Status method limit/base current history1 history2 WEAR METALS method limit/base current history1 WEAR METALS method limit/base current history1 WeAR METALS method limit/base current history1 Nickel ppm ASTM D5185(m) >2 0 Nickel ppm ASTM D5185(m) >2 <1 | Machine Age | hrs | Client Info | | 0 | | |
| Sample Status method limit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185(m) >2 0 Nickel ppm ASTM 05185(m) <1 | Oil Age | hrs | Client Info | | 0 | | |
| WEAR METALS method limit/base current history1 history2 iron ppm ASTM D5185(m) >8 7 Chromium ppm ASTM D5185(m) <2 | Oil Changed | | Client Info | | N/A | | |
| ron ppm ASTM D5185(m) >8 7 Chromium ppm ASTM D5185(m) <1 | Sample Status | | | | ABNORMAL | | |
| Chromium ppm ASTM D5/85(m) >2 0 Nickel ppm ASTM D5/85(m) <1 | WEAR METALS | | method | limit/base | current | history1 | history2 |
| Nickel ppm ASTM D5185(m) <1 Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) >2 <1 | Iron | ppm | ASTM D5185(m) | >8 | <u> </u> | | |
| Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) >2 <1 | Chromium | ppm | ASTM D5185(m) | >2 | 0 | | |
| Silver ppm ASTM D5185(m) >2 <1 | Nickel | ppm | ASTM D5185(m) | | <1 | | |
| Aluminum ppm ASTM D5185(m) >3 <1 | Titanium | ppm | ASTM D5185(m) | | 0 | | |
| Lead ppm ASTM D5185(m) >2 0 Copper ppm ASTM D5185(m) >8 <1 | Silver | ppm | ASTM D5185(m) | >2 | <1 | | |
| Copper ppm ASTM D5185(m) >8 <1 Tin ppm ASTM D5185(m) >4 3 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 Molybdenum ppm ASTM D5185(m) 0 0 Maganese ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Sulfur ppm ASTM D5185(m) 0 | Aluminum | ppm | ASTM D5185(m) | >3 | <1 | | |
| Tin ppm ASTM D5185(m) >4 A 3 Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 Sulfur ppm ASTM D5185(m) 250 0 Sulfur <t< td=""><td>Lead</td><td>ppm</td><td>ASTM D5185(m)</td><td>>2</td><td>0</td><td></td><td></td></t<> | Lead | ppm | ASTM D5185(m) | >2 | 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 Maganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 Calcium ppm ASTM D5185(m) 0 Sulfur ppm ASTM D5185(m) 0 </td <td>Copper</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td>>8</td> <td><1</td> <td></td> <td></td> | Copper | ppm | ASTM D5185(m) | >8 | <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) 0 <1 | Tin | ppm | ASTM D5185(m) | >4 | <u> </u> | | |
| BerylliumppmASTM D5185(m)0CadmiumppmASTM D5185(m)0ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)0<1 | Antimony | ppm | ASTM D5185(m) | | 0 | | |
| CadmiumppmASTM D5185(m)0ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)0<1 | Vanadium | ppm | ASTM D5185(m) | | 0 | | |
| ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)0<1 | Beryllium | ppm | ASTM D5185(m) | | 0 | | |
| Boron ppm ASTM D5185(m) 0 <1 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 10 0 Calcium ppm ASTM D5185(m) 250 0 Phosphorus ppm ASTM D5185(m) 0 Sulfur ppm ASTM D5185(m) 0 31 Sulfur ppm ASTM D5185(m) >15 4 Sulfur ppm ASTM D5185(m) >15 4 Sulfur ppm ASTM D5185(m) </td <td>Cadmium</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td></td> <td>0</td> <td></td> <td></td> | Cadmium | ppm | ASTM D5185(m) | | 0 | | |
| Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 10 0 Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 0 Zinc ppm ASTM D5185(m) 0 <-1 | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 10 0 Calcium ppm ASTM D5185(m) 250 0 Phosphorus ppm ASTM D5185(m) 250 0 Zinc ppm ASTM D5185(m) 0 <1 | Boron | ppm | ASTM D5185(m) | 0 | <1 | | |
| Maganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 0 Zinc ppm ASTM D5185(m) 0 <1 | Barium | ppm | ASTM D5185(m) | 0 | 0 | | |
| Magnesium ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 0 Zinc ppm ASTM D5185(m) 0 <1 | Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | | |
| Calcium ppm ASTM D5185(m) 10 0 Phosphorus ppm ASTM D5185(m) 250 0 Zinc ppm ASTM D5185(m) 0 <1 | Manganese | ppm | ASTM D5185(m) | 0 | 0 | | |
| Phosphorus ppm ASTM D5185(m) 250 0 Zinc ppm ASTM D5185(m) 0 <1 Sulfur ppm ASTM D5185(m) 400 31 Lithium ppm ASTM D5185(m) 400 31 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 4 Sodium ppm ASTM D5185(m) >20 6 Potassium ppm ASTM D5185(m) >20 66 FLUID DEGRADATION method limit/base current history1 history2 | Magnesium | ppm | ASTM D5185(m) | 0 | 0 | | |
| Zinc ppm ASTM D5185(m) 0 <1 Sulfur ppm ASTM D5185(m) 400 31 Lithium ppm ASTM D5185(m) 400 31 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >15 4 Sodium ppm ASTM D5185(m) >20 6 Potassium ppm ASTM D6304* >200 66 FLUID DEGRADATION method limit/base current history1 history2 | Calcium | ppm | ASTM D5185(m) | 10 | 0 | | |
| SulfurppmASTM D5185(m)40031LithiumppmASTM D5185(m)4CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>154SodiumppmASTM D5185(m)>206PotassiumppmASTM D5185(m)>2066FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2 | Phosphorus | ppm | ASTM D5185(m) | 250 | 0 | | |
| LithiumppmASTM D5185(m)<1CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>154SodiumppmASTM D5185(m)2PotassiumppmASTM D5185(m)>206PotassiumppmASTM D5185(m)>2066FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2 | Zinc | ppm | ASTM D5185(m) | 0 | <1 | | |
| CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)>154SodiumppmASTM D5185(m)2PotassiumppmASTM D5185(m)>206ppm WaterppmASTM D6304*>20066FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2 | Sulfur | ppm | ASTM D5185(m) | 400 | 31 | | |
| Silicon ppm ASTM D5185(m) >15 4 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 6 ppm Water ppm ASTM D6304* >200 66 FLUID DEGRADATION method limit/base current history1 history2 | Lithium | ppm | ASTM D5185(m) | | <1 | | |
| Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 6 ppm Water ppm ASTM D6304* >200 66 FLUID DEGRADATION method limit/base current history1 history2 | CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Potassium ppm ASTM D5185(m) >20 6 ppm Water ppm ASTM D6304* >200 66 FLUID DEGRADATION method limit/base current history1 history2 | Silicon | ppm | ASTM D5185(m) | >15 | 4 | | |
| PotassiumppmASTM D5185(m)>206ppm WaterppmASTM D6304*>20066FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2 | Sodium | | ASTM D5185(m) | | 2 | | |
| FLUID DEGRADATION method limit/base current history1 history2 | Potassium | | ASTM D5185(m) | >20 | 6 | | |
| | ppm Water | ppm | ASTM D6304* | >200 | 66 | | |
| Acid Number (AN) mg KOH/g ASTM D974* 0.07 0.02 | FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| | Acid Number (AN) | mg KOH/g | ASTM D974* | 0.07 | 0.02 | | |







OIL ANALYSIS REPORT

| 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 | | |
| FLUID PROPERT | IES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D7279(m) | | 79.3 | | |
| SAMPLE IMAGES | 6 | method | limit/base | current | history1 | history2 |
| Color | | | | | no image | no image |
| Bottom | | | | | no image | no image |
| GRAPHS | | | | | | |



Sample No. : GTT0001201 Recieved : 13 Dec 2023 Att: Accounts Payable, 41-6635 Kitimat Road : 02602970 Lab Number Diagnosed : 15 Dec 2023 Unique Number : 5696055 Diagnostician : Bill Quesnel Test Package : IND 2 (Additional Tests: KV40) To discuss this sample report, contact Customer Service at 1-905-847-9300 Ext 26. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Damages: Seller shall in no event be liable for special, incidental, or consequential damages, of a commercial nature, resulting from any cause.

CA L5N 6J2 Contact: Service Manager T:

Mississauga, ON

Climatemp System Ltd.

Report Id: GTT0000370 [WCAMIS] 02602970 (Generated: 12/15/2023 17:10:39) Rev: 1

Contact/Location: Service Manager - GTT0000370

F: