

Machine Id **218010** Component **Diesel Engine** Fluid **PETRO CANADA DURON SAE 15W40 (--- GAL)**

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

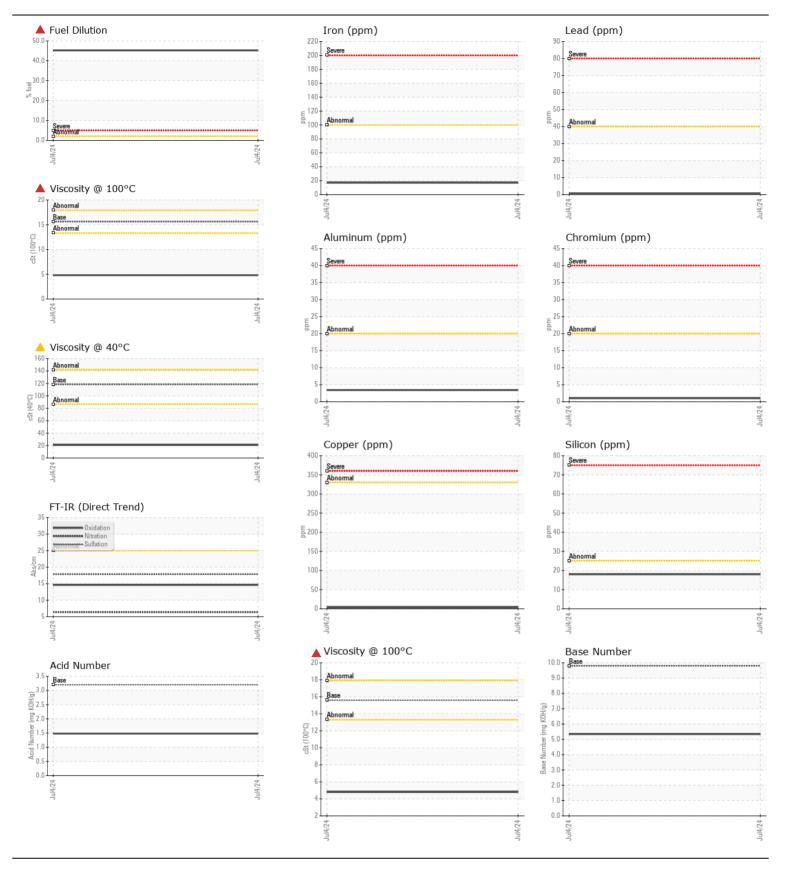
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.

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| Test UOM Method LimitAb Current History1 History2 Sample Number Client Info 0 4/u12244 Machine Age hrs Client Info 0 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Changed Client Info Not Changd Sample Status SEVERE Nokel ppm ASTM 5585(m) >10 Nokel ppm ASTM 5585(m) >20 1 Nokel ppm ASTM 5585(m) >30 0 Nokel ppm ASTM 5585(m) >30 4 Silver ppm ASTM 5585(m) >30 4 Vanadum ppm ASTM 558 | | | | | | | |
|---|----------------------|----------|---------------|-----------|---------------|----------|----------|
| Sample Number Client Info GFL0112448 Sample Date Client Info 0 Oil Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Changed Client Info Not Changd Sample Status SEVERE Iron ppm ASTM0585(m) >2.0 1 Nickel ppm ASTM0585(m) >2.0 1 Silver ppm ASTM0585(m) >2.0 3 Silver ppm ASTM0585(m) >2.0 3 Silver ppm ASTM0585(m) >2.0 3 Vanadium ppm ASTM0585(m) >2.0 4 -1 Vanadium ppm ASTM0585(m) >2.0 1 | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
| Machine Age Oil Age Filter Age hrs Client Info 0 Filter Age Oil Changed Client Info Not Changd Filter Changed Client Info Not Changd Sample Status SEVERE Iron ppm ASTM05185(m) >100 17 Nickel ppm ASTM05185(m) >4 <-1 Nickel ppm ASTM05185(m) >4 <-1 Silver ppm ASTM05185(m) >40 <1 Qapper ASTM05185(m) >40 <1 Auminum ppm ASTM05185(m) >40 <1 Vanadium ppm ASTM05185(m) >20 3 Wandium ppm ASTM05185(m) >20 1 | Sample Number | | Client Info | | GFL0112448 | | |
| Machine Age Oil Age Filter Age hrs Client Info 0 Filter Age Oil Changed Client Info Not Changd Sample Status SEVERE Iron ppm ASTM 05185(m) >100 17 Iron ppm ASTM 05185(m) >44 <1 Tranum ppm ASTM 05185(m) >44 <1 Nickel ppm ASTM 05185(m) >40 <1 Nickel ppm ASTM 05185(m) >40 <1 Aluminum ppm ASTM 05185(m) >40 <1 Lead ppm ASTM 05185(m) >20 3 Vanadium ppm ASTM 05185(m) >20 1 Vanadium ppm ASTM 05185(m) >20 1 Vanadium ppm <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>04 Jul 2024</th> <th></th> <th></th> | Sample Date | | Client Info | | 04 Jul 2024 | | |
| Oil Age hrs Client Info 0 Filter Age hrs Client Info Not Changed Coll Changed Client Info Not Changed Sample Status SEVERE Iron ppm ASTM D5185(m) >100 17 Chromium ppm ASTM D5185(m) >20 1 Silver ppm ASTM D5185(m) >3 0 Silver ppm ASTM D5185(m) >30 4 Silver ppm ASTM D5185(m) >40 <1 Copper ppm ASTM D5185(m) >40 -1 Yellow Metal scalar Yisual* NONE 0 Yellow Metal scalar Yisual* NONE NONE | | hrs | Client Info | | 0 | | |
| Oil Changed Client Info Not Changed Filter Changed Client Info Not Changed Sample Status SEVERE Iron ppm ASTMD5185(m) >20 1 Nickel ppm ASTMD5185(m) >20 1 Nickel ppm ASTMD5185(m) >4 1 Nickel ppm ASTMD5185(m) >3 0 Nickel ppm ASTMD5185(m) >30 0 Aluminum ppm ASTMD5185(m) >30 4 Vanadium ppm ASTMD5185(m) >30 4 Vanadium ppm ASTMD5185(m) >20 1 Vanadium ppm ASTMD5185(m) >20 1 Vanadium ppm ASTMD5185(m) >20 1 Vanadium | Oil Age | hrs | Client Info | | 0 | | |
| Oil Changed Client Info Not Changed Filter Changed Client Info Not Changed Sample Status SEVERE Iron ppm ASTMD5185(m) >20 1 Nickel ppm ASTMD5185(m) >20 1 Nickel ppm ASTMD5185(m) >4 1 Nickel ppm ASTMD5185(m) >3 0 Nickel ppm ASTMD5185(m) >30 0 Aluminum ppm ASTMD5185(m) >30 4 Vanadium ppm ASTMD5185(m) >30 4 Vanadium ppm ASTMD5185(m) >20 1 Vanadium ppm ASTMD5185(m) >20 1 Vanadium ppm ASTMD5185(m) >20 1 Vanadium | Filter Age | hrs | Client Info | | 0 | | |
| Filter Changed Sample Status Client Info Not Changed SEVERE Iron ppm ASTM D5185(m) >100 17 Iron ppm ASTM D5185(m) >20 1 Nickel ppm ASTM D5185(m) >4 <1 Nickel ppm ASTM D5185(m) >4 <1 Silver ppm ASTM D5185(m) >20 3 Lead ppm ASTM D5185(m) >30 4 Vanadium ppm ASTM D5185(m) >15 <1 Vanadium ppm ASTM D5185(m) >20 1 Vanadium ppm ASTM D5185(m) >20 18 Vanadium ppm ASTM D5185(m) >20 1 Vellow Metal scalar <t< th=""><th>-</th><th>-</th><th></th><th></th><th>Not Changd</th><th></th><th></th></t<> | - | - | | | Not Changd | | |
| Sample Status SEVERE Iron ppm ASTM D5185(m)<>100 17 Chromium ppm ASTM D5185(m) >20 1 Nickel ppm ASTM D5185(m) >20 1 Nickel ppm ASTM D5185(m) >20 3 Aluminum ppm ASTM D5185(m) >20 3 Lead ppm ASTM D5185(m) >30 4 Vanadium ppm ASTM D5185(m) >315 <1 Vanadium ppm ASTM D5185(m) >25 18 Vanadium ppm ASTM D5185(m) >20 1 Vanadium ppm ASTM D5185(m) >20 1 Vanadium ppm ASTM D5185(m) >20 1 | • | | Client Info | | • | | |
| Iron ppm ASTM D5185(m) >100 17 Chromium ppm ASTM D5185(m) >20 1 Nickel ppm ASTM D5185(m) >3 0 Titanium ppm ASTM D5185(m) >3 0 Aluminum ppm ASTM D5185(m) >40 <1 Lead ppm ASTM D5185(m) >40 <1 Vanadium ppm ASTM D5185(m) >15 <1 Vanadium ppm ASTM D5185(m) >20 0 Vanadium ppm ASTM D5185(m) >20 1 Vanadium ppm ASTM D5185(m) >20 1 Vanadium ppm ASTM D5185(m) >20 1 Yellow Metal scalar </th <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th> | | | | | - | | |
| Chromium ppm ASTM D5185(m) >40 1 Nickel ppm ASTM D5185(m) >4 <1 Silver ppm ASTM D5185(m) >40 <1 Aluminum ppm ASTM D5185(m) >40 <1 Lead ppm ASTM D5185(m) >40 <1 Copper ppm ASTM D5185(m) >40 <1 Vanadium ppm ASTM D5185(m) >50 <1 Vanadium ppm ASTM D5185(m) >0 Vanadium ppm ASTM D5185(m) >20 1 | | | | | | | |
| Nickel ppm ASTM D5185(m) >4 <1 | Iron | ppm | ASTM D5185(m) | >100 | 17 | | |
| Titanium ppm ASTM D5185(m) <1 | Chromium | ppm | ASTM D5185(m) | >20 | 1 | | |
| Silver ppm ASTM D5185(m) >3 0 Aluminum ppm ASTM D5185(m) >20 3 Lead ppm ASTM D5185(m) >40 Copper ppm ASTM D5185(m) >15 Vanadium ppm ASTM D5185(m) NONE Vanadium ppm ASTM D5185(m) S0 Vanadium ppm ASTM D5185(m) >20 1 Vanadium ppm ASTM D5185(m) >20 1 Yellow Metal scalar Visual* NONE Silicon ppm ASTM D5185(m) >20 1 Fuel % ASTM D7183 >20 NEG Sot % % ASTM D71624* >30 0 < | Nickel | ppm | ASTM D5185(m) | >4 | <1 | | |
| Aluminum ppm ASTM D5185(m) >20 3 Lead ppm ASTM D5185(m) >40 <1 Copper ppm ASTM D5185(m) >330 4 Vanadium ppm ASTM D5185(m) >15 <1 Vanadium ppm ASTM D5185(m) >15 <1 Vanadium ppm ASTM D5185(m) >20 1 Yellow Metal scalar Visual* NONE NONE Potassium ppm ASTM D5185(m)<>20 1 Water WC Method >0.2 NEG Sili Scalar Visual* NONE Sulfation Abs/.fmm ASTM D7624*<>30 0 | Titanium | ppm | ASTM D5185(m) | | <1 | | |
| Lead ppm ASTM D5185(m) >40 <1 | Silver | ppm | ASTM D5185(m) | >3 | 0 | | |
| Copper ppm ASTM D5185(m) >330 4 Tin ppm ASTM D5185(m) >15 <1 White Metal scalar Visual* NONE VLITE Yellow Metal scalar Visual* NONE NONE Silicon ppm ASTM D5185(m) >25 18 Potassium ppm ASTM D5185(m) >20 1 Fuel % ASTM D5185(m) >20 1 Water WC Method >0.2 NEG Soot % % ASTM D7624*<>20 6.4 Solfation Abs/cm ASTM D7614*<>30 0 Sulfation Abs/cm ASTM D7614*<>30 17.8 Sulfation Abs/cm NONE NONE <th>Aluminum</th> <th>ppm</th> <th>ASTM D5185(m)</th> <th>>20</th> <th>3</th> <th></th> <th></th> | Aluminum | ppm | ASTM D5185(m) | >20 | 3 | | |
| Copper ppm ASTM D5185(m) >330 4 Tin ppm ASTM D5185(m) >15 <1 White Metal scalar Visual* NONE VLITE Yellow Metal scalar Visual* NONE NONE Silicon ppm ASTM D5185(m) >25 18 Potassium ppm ASTM D5185(m) >20 1 Fuel % ASTM D5185(m) >20 1 Water WC Method >0.2 NEG Soot % % ASTM D7624*<>20 6.4 Solfation Abs/cm ASTM D7614*<>30 0 Sulfation Abs/cm ASTM D7614*<>30 17.8 Sulfation Abs/cm NONE NONE <th>Lead</th> <th></th> <th>ASTM D5185(m)</th> <th>>40</th> <th><1</th> <th></th> <th></th> | Lead | | ASTM D5185(m) | >40 | <1 | | |
| Tin ppm ASTM D5185(m) >15 <1 | Copper | | | >330 | 4 | | |
| Vanadium ppm ASTM D5185(m) 0 White Metal scalar Visual* NONE VLITE Yellow Metal scalar Visual* NONE NONE Silicon ppm ASTM D5185(m) >20 1 Potassium ppm ASTM D5185(m) >20 1 Fuel % ASTM D5185(m) >20 1 Water WC Method >0.2 NEG Glycol WC Method >0.2 NEG Sulfation Abs/.1mm ASTM D7624* >30 6.4 Sulfation Abs/.1mm ASTM D7624* >30 17.8 Sulfation Abs/.1mm ASTM D7624* >0.2 NORE Debris scalar Visual* </th <th></th> <th></th> <th></th> <th>>15</th> <th><1</th> <th></th> <th></th> | | | | >15 | <1 | | |
| White Metal scalar Visual* NONE VLITE Yellow Metal scalar Visual* NONE Silicon ppm ASTM D5185(m) >25 18 Potassium ppm ASTM D5185(m) >20 1 Fuel % ASTM D5185(m) >20 ▲ 45.2 Water WC Method >0.2 NEG Soot % % ASTM D7844* >3 0 Sulfation Abs/cm ASTM D7824* >20 6.4 Sulfation Abs/cm ASTM D7181* >30 17.8 Debris scalar Visual* NONE NORE Appearance scalar Visual* NORM NORML Boron ppm <td< th=""><th>Vanadium</th><th></th><th></th><th></th><th></th><th></th><th></th></td<> | Vanadium | | | | | | |
| Yellow Metal scalar Visual* NONE Silicon ppm ASTM D5185(m) >20 1 Potassium ppm ASTM D5185(m) >20 1 Fuel % ASTM D5783* >2.0 ▲ 45.2 Water WC Method NEG Glycol WC Method NEG Soot % % ASTM D7844* >3 0 Sulfation Abs/.1mm ASTM D7624* >20 6.4 Sulfation Abs/.1mm ASTM D7624* >30 17.8 Sulfation Abs/.1mm ASTM D7145* >30 17.8 Sulfation Abs/.1mm ASTM D7145* >30 17.8 Soditation </th <th></th> <th></th> <th></th> <th>NONE</th> <th>VLITE</th> <th></th> <th></th> | | | | NONE | VLITE | | |
| Potassium ppm ASTM D5185(m) >20 1 Fuel % ASTM D7593* >2.0 ▲ 45.2 Water WC Method >0.2 NEG Glycol WC Method >0.2 NEG Soot % % ASTM D7844* >3 0 Soot % % ASTM D7624* >20 6.4 Sulfation Abs/rm ASTM D764* >30 17.8 Sulfation Abs/rm ASTM D7415* >30 17.8 Sulfation Abs/rm ASTM D7415* >30 17.8 Sulfation Abs/rm NONE NONE Sand/Dirt scalar Visual* NORML NORML Appearance scalar Visual* <t< th=""><th>Yellow Metal</th><th>scalar</th><th>Visual*</th><th>NONE</th><th></th><th></th><th></th></t<> | Yellow Metal | scalar | Visual* | NONE | | | |
| Potassium ppm ASTM D5185(m) >20 1 Fuel % ASTM D7593* >2.0 ▲ 45.2 Water WC Method >0.2 NEG Glycol WC Method >0.2 NEG Soot % % ASTM D7844* >3 0 Soot % % ASTM D7624* >20 6.4 Sulfation Abs/rm ASTM D764* >30 17.8 Sulfation Abs/rm ASTM D7415* >30 17.8 Sulfation Abs/rm ASTM D7415* >30 17.8 Sulfation Abs/rm NONE NONE Sand/Dirt scalar Visual* NORML NORML Appearance scalar Visual* <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<> | | | | | | | |
| Fuel % ASTM D7593 >2.0 ▲ 45.2 Water WC Method >0.2 NEG Glycol WC Method >0.2 NEG Soot % % ASTM D7844* >3 0 Solt % % ASTM D7624* >20 6.4 Sulfation Abs/rm ASTM D7615* >30 17.8 Sulfation Abs/rm ASTM D7415* >30 17.8 Sulfation Abs/rm ASTM D7415* >30 17.8 Sulfation Abs/rm NONE NONE Band/Dirt scalar Visual* NORM NORML Appearance scalar Visual* NORML NORML Sodium ppm ASTM D5185(m) | Silicon | ppm | ASTM D5185(m) | >25 | 18 | | |
| Water WC Method >0.2 NEG Glycol WC Method NEG Soot % % ASTM D7844* >3 0 Nitration Abs/cm ASTM D7624* >20 6.4 Sulfation Abs/cm ASTM D7624* >30 17.8 Sulfation Abs/cm ASTM D7415* >30 17.8 Sulfation Abs/cm Visual* NONE NONE Debris scalar Visual* NONE NORE Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Boron ppm ASTM D5185(m) 1 4 Malybdenum ppm ASTM D5185(m) 1 < | Potassium | ppm | ASTM D5185(m) | >20 | 1 | | |
| Glycol WC Method NEG Soot % % ASTM D7844* >3 0 Nitration Abs/cm ASTM D7624* >20 6.4 Sulfation Abs/cm ASTM D7624* >20 6.4 Sulfation Abs/cm ASTM D7624* >30 17.8 Sulfation Abs/cm ASTM D7415* >30 17.8 Sulfation Abs/cm Visual* NONE NONE Debris scalar Visual* NORM NORML Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Boron ppm ASTM D5185(m) 1 4 Molybdenum ppm ASTM D5185(m) <th>Fuel</th> <th>%</th> <th>ASTM D7593*</th> <th>>2.0</th> <th>45.2</th> <th></th> <th></th> | Fuel | % | ASTM D7593* | >2.0 | 45.2 | | |
| Soot % % ASTM D7844* >3 0 Nitration Abs/cm ASTM D7624* >20 6.4 Sulfation Abs/tmm ASTM D7624* >20 6.4 Sulfation Abs/tmm ASTM D7624* >30 17.8 Sulfation Abs/tmm ASTM D715* >30 17.8 Silt scalar Visual* NONE NONE Debris scalar Visual* NOR NORML Appearance scalar Visual* NORML NORML Appearance scalar Visual* NORML NORML Odor scalar Visual* >0.2 NEG Boron ppm ASTM D5185(m) 1 <1 Malganese | Water | | WC Method | >0.2 | NEG | | |
| NitrationAbs/cmASTM D7624*>206.4SulfationAbs/tmASTM D7415*>3017.8SiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NORELIGHTAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLCdorscalarVisual*NORMLNORMLBoronppmASTM D5185(m)14BariumppmASTM D5185(m)1<1MaganeseppmASTM D5185(m)1<1MagnesiumppmASTM D5185(m)1010548PhosphorusppmASTM D5185(m)1150586ZincppmASTM D5185(m)1270655SulfurppmASTM D5185(m)20601365OxidationAbs/ImmASTM D5185(m)2061365SulfurppmASTM D5185(m)20.61365Visc @ 40°CCStASTM D279(m)118.220.8SulfurppmASTM D279(m)118.220.8 <td< th=""><th>Glycol</th><th></th><th>WC Method</th><th></th><th>NEG</th><th></th><th></th></td<> | Glycol | | WC Method | | NEG | | |
| Sulfation Abs/.tmm ASTM D7415* >30 17.8 Silt scalar Visual* NONE NONE Debris scalar Visual* NONE NONE Sand/Dirt scalar Visual* NONE LIGHT Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Godor scalar Visual* NORML NORML Boron ppm ASTM D5185(m) 1 4 Barium ppm ASTM D5185(m) 1 4 Molybdenum pm ASTM D5185(m) 1 -1 Magnesium ppm ASTM D5185(m) 1010 548 Zinc ppm< | Soot % | % | ASTM D7844* | >3 | 0 | | |
| SiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONELIGHTAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)14BoronppmASTM D5185(m)14BariumppmASTM D5185(m)1<1MolybdenumppmASTM D5185(m)1<1MagnesiumppmASTM D5185(m)1010548PhosphorusppmASTM D5185(m)1070621ZincppmASTM D5185(m)1270655SulfurppmASTM D5185(m)20601365QxidationAbs/1mmASTM D714*>2514.6Acid Number (AN)mg KOHgASTM D7279(m)118.220.8Visc @ 40°CCStASTM D7279(m)15.64.8 | Nitration | Abs/cm | ASTM D7624* | >20 | 6.4 | | |
| DebrisscalarVisual*NONENONESand/DirtscalarVisual*NONELIGHTAppearancescalarVisual*NORMLNORMLNORMLOdorscalarVisual*NORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)4BoronppmASTM D5185(m)14BariumppmASTM D5185(m)1<1MolybdenumppmASTM D5185(m)1<1MagneseppmASTM D5185(m)1<1MagnesiumppmASTM D5185(m)1010548PhosphorusppmASTM D5185(m)1070621ZincppmASTM D5185(m)1270655SulfurppmASTM D5185(m)20601365OxidationAbs/1mmASTM D7414*>2514.6Base Number (BN)mg KOHgASTM D7279(m)118.220.8Visc @ 40°CCStASTM D7279(m)15.64.8 | Sulfation | Abs/.1mm | ASTM D7415* | >30 | 17.8 | | |
| Sand/DirtscalarVisual*NONELIGHTAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)14BoronppmASTM D5185(m)14BariumppmASTM D5185(m)1<1MolybdenumppmASTM D5185(m)1<1MagnesiumppmASTM D5185(m)1<1PhosphorusppmASTM D5185(m)1010548ZincppmASTM D5185(m)1150586SulfurppmASTM D5185(m)12706555OxidationAbs/1mmASTM D5185(m)20601365Acid Number (AN)mg K0HgASTM D7414*>2514.6Base Number (BN)mg K0HgASTM D7279(m)118.220.8Visc @ 40°CCStASTM D7279(m)15.64.8 | Silt | scalar | Visual* | NONE | NONE | | |
| Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* >0.2 NEG Sodium ppm ASTM D5185(m) 4 Boron ppm ASTM D5185(m) 1 4 Barium ppm ASTM D5185(m) 1 Molybdenum ppm ASTM D5185(m) 1 Magnesium ppm ASTM D5185(m) 1010 548 Phosphorus ppm ASTM D5185(m) 1070 621 Zinc ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm | Debris | scalar | Visual* | NONE | NONE | | |
| Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* >0.2 NEG Sodium ppm ASTM D5185(m) 4 Boron ppm ASTM D5185(m) 1 4 Barium ppm ASTM D5185(m) 1 <1 Molybdenum ppm ASTM D5185(m) 1 <1 Magnesium ppm ASTM D5185(m) 1 <1 Viscalcium ppm ASTM D5185(m) 1010 548 Viscalcium ppm ASTM D5185(m) 1070 621 Phosphorus ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm | Sand/Dirt | scalar | Visual* | NONE | LIGHT | | |
| Emulsified Water scalar Visual* >0.2 NEG Sodium ppm ASTM D5185(m) 4 Boron ppm ASTM D5185(m) 1 4 Barium ppm ASTM D5185(m) 1 4 Molybdenum ppm ASTM D5185(m) 1 <1 Manganese ppm ASTM D5185(m) 1 <1 Magnesium ppm ASTM D5185(m) 1010 548 Calcium ppm ASTM D5185(m) 1070 621 Phosphorus ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm ASTM D7414* >25 14.6 Base Number (BN) mg KOH/g < | Appearance | scalar | Visual* | NORML | NORML | | |
| Sodium ppm ASTM D5185(m) 4 Boron ppm ASTM D5185(m) 1 4 Barium ppm ASTM D5185(m) 1 <1 Barium ppm ASTM D5185(m) 1 <1 Molybdenum ppm ASTM D5185(m) 60 32 Maganese ppm ASTM D5185(m) 1 <1 Magnesium ppm ASTM D5185(m) 1010 548 Calcium ppm ASTM D5185(m) 1070 621 Phosphorus ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 1270 655 Oxidation Abs/.1mm ASTM D5185(m) 2060 1365 Acid Number (AN) mg KOH/g ASTM D714* >25 14.6 | Odor | scalar | Visual* | NORML | NORML | | |
| Boron ppm ASTM D5185(m) 1 4 Barium ppm ASTM D5185(m) 1 <1 Molybdenum ppm ASTM D5185(m) 1 <1 Manganese ppm ASTM D5185(m) 1 <1 Magnesium ppm ASTM D5185(m) 1 <1 Calcium ppm ASTM D5185(m) 1010 548 Phosphorus ppm ASTM D5185(m) 1070 621 Zinc ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm ASTM D7414* >25 14.6 Base Number (BN) mg KOH/g ASTM D724* 3.2 1.48 Visc @ 40°C | Emulsified Water | scalar | Visual* | >0.2 | NEG | | |
| Boron ppm ASTM D5185(m) 1 4 Barium ppm ASTM D5185(m) 1 <1 Molybdenum ppm ASTM D5185(m) 1 <1 Manganese ppm ASTM D5185(m) 1 <1 Magnesium ppm ASTM D5185(m) 1 <1 Calcium ppm ASTM D5185(m) 1010 548 Phosphorus ppm ASTM D5185(m) 1070 621 Zinc ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm ASTM D7414* >25 14.6 Base Number (BN) mg KOH/g ASTM D724* 3.2 1.48 Visc @ 40°C | | | | | | | |
| Barium ppm ASTM D5185(m) 1 <1 | | ppm | | | | | |
| Molybdenum ppm ASTM D5185(m) 60 32 Manganese ppm ASTM D5185(m) 1 <1 Magnesium ppm ASTM D5185(m) 1010 548 Calcium ppm ASTM D5185(m) 1010 548 Phosphorus ppm ASTM D5185(m) 1070 621 Zinc ppm ASTM D5185(m) 1150 586 Sulfur ppm ASTM D5185(m) 1270 655 Oxidation Abs/.1mm ASTM D5185(m) 2060 1365 Acid Number (AN) mg KOH/g ASTM D7414* >25 14.6 Base Number (BN) mg KOH/g ASTM D724* 3.2 1.48 Visc @ 40°C CSt ASTM D7279(m) 118.2 20.8 < | | ppm | | | - | | |
| Manganese ppm ASTM D5185(m) 1 <1 | | | () | | | | |
| Magnesium ppm ASTM D5185(m) 1010 548 Calcium ppm ASTM D5185(m) 1070 621 Phosphorus ppm ASTM D5185(m) 1070 621 Zinc ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm ASTM D5185(m) 2060 1365 Acid Number (AN) mg KOH/g ASTM D7414* >25 14.6 Base Number (BN) mg KOH/g ASTM D2896* 9.8 5.34 Visc @ 40°C CSt ASTM D7279(m) 118.2 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 4.8 | Molybdenum | ppm | | 60 | 32 | | |
| Calcium ppm ASTM D5185(m) 1070 621 Phosphorus ppm ASTM D5185(m) 1150 586 Zinc ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm ASTM D5185(m) 2060 1365 Acid Number (AN) mg KOH/g ASTM D7414* >25 14.6 Base Number (BN) mg KOH/g ASTM D2896* 9.8 5.34 Visc @ 40°C CSt ASTM D7279(m) 118.2 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 4.8 | • | ppm | | | | | |
| Phosphorus ppm ASTM D5185(m) 1150 586 Zinc ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm ASTM D5185(m) 2060 1365 Acid Number (AN) mg KOHg ASTM D7414* >25 14.6 Base Number (BN) mg KOHg ASTM D2896* 9.8 5.34 Visc @ 40°C CSt ASTM D7279(m) 118.2 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 4.8 | - | ppm | | | | | |
| Zinc ppm ASTM D5185(m) 1270 655 Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm ASTM D71414* >25 14.6 Acid Number (AN) mg KOHg ASTM D7414* >25 14.8 Base Number (BN) mg KOHg ASTM D2896* 9.8 5.34 Visc @ 40°C cSt ASTM D7279(m) 118.2 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 4.8 | | ppm | | | | | |
| Sulfur ppm ASTM D5185(m) 2060 1365 Oxidation Abs/.1mm ASTM D71414* >25 14.6 Acid Number (AN) mg KOH/g ASTM D974* 3.2 1.48 Base Number (BN) mg KOH/g ASTM D2896* 9.8 5.34 Visc @ 40°C cSt ASTM D7279(m) 118.2 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 4.8 | | ppm | () | | | | |
| Oxidation Abs/.1mm ASTM D7414* >25 14.6 Acid Number (AN) mg KOH/g ASTM D974* 3.2 1.48 Base Number (BN) mg KOH/g ASTM D2896* 9.8 5.34 Visc @ 40°C cSt ASTM D7279(m) 118.2 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 4.8 | - | ppm | | | | | |
| Acid Number (AN) mg KOH/g ASTM D974* 3.2 1.48 Base Number (BN) mg KOH/g ASTM D2896* 9.8 5.34 Visc @ 40°C cSt ASTM D7279(m) 118.2 A 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 A 4.8 | | ppm | | | | | |
| Base Number (BN) mg KOH/g ASTM D2896* 9.8 5.34 Visc @ 40°C cSt ASTM D7279(m) 118.2 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 4.8 | | | | | | | |
| Visc @ 40°C cSt ASTM D7279(m) 118.2 20.8 Visc @ 100°C cSt ASTM D7279(m) 15.6 4.8 | | mg KOH/g | ASTM D974* | 3.2 | 1.48 | | |
| Visc @ 100°C cSt ASTM D7279(m) 15.6 🔺 4.8 | () | | | | 5.34 | | |
| | | | ASTM D7279(m) | 118.2 | A 20.8 | | |
| Viscosity Index (VI) Scale ASTM D2270* 139 160 | Visc @ 100°C | cSt | ASTM D7279(m) | 15.6 | 4 .8 | | |
| | Viscosity Index (VI) | Scale | ASTM D2270* | 139 | 160 | | |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County CALA Sample No. Received : GFL0112448 : 05 Jul 2024 220 Carmek Blvd Lab Number : 02645725 Tested : 08 Jul 2024 Rocky View County, AB ISO 17025:2017 Accredited : 08 Jul 2024 - Wes Davis CA T1X 1X1 Unique Number : 5803264 Diagnosed Laboratory Test Package : MOB 2 (Additional Tests: FuelDilution, KV40, PercentFuel, TAN Auto, TAN Man, VI, Visuchintact: GFL Calgary To discuss this sample report, contact Customer Service at 1-800-268-2131. calgarymaintenance@gflenv.com Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: F: (403)369-6163 Validity of results and interpretation are based on the sample and information as supplied.

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