

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION ABNORMAL

Machine Id CATERPILLAR 256-1700 Component Left Auger Pump Drive

GEAR OIL ISO 220 (--- GAL)

| Beample at the next service interval to monitor. Sample Data Client lind Potomson Potom Poton Potoms | RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|----------------|--------|---------------|-----------|-------------|----------|----------|
| Sample Date Client Info 99 Jan 2024 | Resample at the next service interval to monitor. | Sample Number | | Client Info | | PC0072508 | | |
| Oil Age Filter Age Filter Age Oil Chern InfoO00Filter Age Oil Chern InfoNAWEARIriter Changed Sample StatusClient InfoNAAll component wear rates are normal.Iriter Changed NickelND36NickelppmASTM (SISM)1000NickelppmASTM (SISM)100All component wear rates are normal.Iriter Changed NickelppmASTM (SISM)0NickelppmASTM (SISM)0AluminumppmASTM (SISM)0AluminumppmASTM (SISM)0QopeppmASTM (SISM)0 | | Sample Date | | Client Info | | 09 Jan 2024 | | |
| Filter AgeinsClient Info00NCARIronpromATIL05 By/mATIL05 By | | Machine Age | hrs | Client Info | | 5195 | | |
| Oil Changed Client Indo NA | | Oil Age | hrs | Client Info | | 0 | | |
| Fitter Changed Sample Status Client Into NAA number sample Status WEAR Iron ppm ASTV051819 >200 36 All component wear rates are normal. Iron ppm ASTV051819 >10 Nokel ppm ASTV051819 >10 All component wear rates are normal. Nokel ppm ASTV051819 0 Nokel ppm ASTV051819 0 All unintum ppm ASTV051819 0 Auminum ppm ASTV051819 0 Copper ppm ASTV051819 0 Venatium ppm ASTV05189 Copper ppm ASTV05189 Venatium | | Filter Age | hrs | Client Info | | 0 | | |
| Sample StatusNample StatusNample MailNample | | Oil Changed | | Client Info | | N/A | | |
| WEAR Iron ppm // MD056/m >200 36 All component wear rates are normal. Chromium ppm // MD056/m >10 C1 Nickel ppm // MD056/m >10 0 Titanium ppm // MD056/m >10 0 All unninum ppm // MD056/m 0 0 All unninum ppm // MD056/m 0 0 Lead ppm // MD056/m 0 0 Vanadium ppm // MD056/m 0 0 Vanadium ppm // MD056/m 0 0 Vanadium ppm // MD056/m NONE NONE Vanadium ppm // MD056/m NONE NONE Vanadium | | Filter Changed | | Client Info | | N/A | | |
| All component wear rates are normal. Chromium pm MSIM DSISS(n) -10 Nickel ppm ASIM DSISS(n) -10 0 Titanium ppm ASIM DSISS(n) -10 0 Silver ppm ASIM DSISS(n) 0 0 Aluminum ppm ASIM DSISS(n) 0 0 Aluminum ppm ASIM DSISS(n) 0 0 Aluminum ppm ASIM DSISS(n) 0 0 Copper ppm ASIM DSISS(n) 0 0 Vanadum ppm ASIM DSISS(n) 0 0 Vallow scalar Visual NONE NONE CONTAMINATION Silion scalar Visual NONE NONE There is no indication of any contamination in the oil. Silion scalar Visual NONE NON | | Sample Status | | | | ABNORMAL | | |
| All component wear rates are normal. Chromium pm MSIM DSISS(n) -10 Nickel ppm ASIM DSISS(n) -10 0 Titanium ppm ASIM DSISS(n) -10 0 Silver ppm ASIM DSISS(n) 0 0 Aluminum ppm ASIM DSISS(n) 0 0 Aluminum ppm ASIM DSISS(n) 0 0 Aluminum ppm ASIM DSISS(n) 0 0 Copper ppm ASIM DSISS(n) 0 0 Vanadum ppm ASIM DSISS(n) 0 0 Vallow scalar Visual NONE NONE CONTAMINATION Silion scalar Visual NONE NONE There is no indication of any contamination in the oil. Silion scalar Visual NONE NON | | | | | | | | |
| Nickel pm 4STM 05H8(n) >10 0.0 Titanium pp 4STM 05H8(n) 0.0 0.0 Silver pp 4STM 05H8(n) 0.0 0.0 Silver pp 4STM 05H8(n) 0.0 0.0 Aluminum pp 4STM 05H8(n) 0.0 0.0 Lead pm 4STM 05H8(n) 0.0 0.0 Copper pm 4STM 05H8(n) 0.0 0.0 Vanadium pm 4STM 05H8(n) 0.0 0.0 Vanadium pm 4STM 05H8(n) 0.0 0.0 Vanadium pm ASTM 05H8(n) 0.0 0.0 0.0 Vanadium pm ASTM 05H8(n) 0.0 0.0 0.0 Vanadium polassim ASTM 05H8(n)< | | | | | | | | |
| Titanium ppm ASTU 0515% 0 Silver ppm ASTU 0515% 0 Aluminum ppm ASTU 0515% 0 Lead ppm ASTU 0515% 0 Copper ppm ASTU 0515% 0 Tin ppm ASTU 0515% 0 Vanidum ppm ASTU 0515% 0 White Metal scalar Visual* NONE NONE White Metal scalar Visual* NONE ASTU Velow Metal scalar Visual* NONE NONE There is no indication of any contamination in the oil. Silicon ppm ASTU 0515% Silicon scalar Visual* NONE NONE Debris scalar Visual* NONE NONE Silicon scalar Visual* NONE NONE Debris scalar Visual* NONE NONE - | | | | | | | | |
| Silver ppm ASTA (585); Q Aluminum ppm ASTA (585); Q Lead ppm ASTA (585); Q Cooper ppm ASTA (585); Q Tin ppm ASTA (585); Q Vanadium ppm ASTA (585); NONE NONE Vanadium ppm ASTA (585); NONE Vanadia scalar Visual* NONE NONE Vanadia scalar Visual* NONE NONE <t< th=""><th></th><th></th><th>. ,</th><th>>10</th><th></th><th></th><th></th></t<> | | | | . , | >10 | | | |
| Aluminum pm ASIM D51809 Lead pm ASIM D51809 0 Copper pm ASIM D51809 0 Tin pm ASIM D51809 0 Vanadium pm ASIM D51809 0 0 Vanadium pm ASIM D51809 NONE NONE CONTAMINATION Silion pm ASIM D51809 There is no indication of any contamination in the oil. Silion | | | | | | | | |
| Lead pm ASTM D518/m 0 Copper pm ASTM D518/m - Tin pm ASTM D518/m - 0 Variatium pm ASTM D518/m NONE NONE 0 White Metal scalar Visual* NONE NONE Variow pota ASTM D518/m NONE NONE Variow scalar Visual* NONE NONE Mater potassium pm ASTM D518/m | | | | | | | | |
| Copper ppm ASTM D5185(m) (mod) (mod) (mod) Tin ppm ASTM D5185(m) 0 | | | | | | | | |
| Tin ppm ASTM D5185(m) 0 0 Vanadium ppm ASTM D5185(m) 0 0 White Metal scalar Visual* NONE NONE Vellow Metal scalar Visual* NONE NONE CONTAMINATION Silicon ppm ASTM D5185(m) None origitation of any contamination in the oil. Silicon ppm ASTM D5185(m) Water calar Visual* NONE Debris scalar Visual* NONE NONE Sand/Dirt scalar Visual* NONE NONE Mapearance scalar Visual* NONE NONE Solium scalar Visual* NONE NONE Noscity of sample indicates oil is within SAE 800W90 range, advise investigate. The condition of the oil is acceptable for the time in service. Solium ppm ASTM D518(m) 50 202 Molybdenum ppm ASTM D518(m) | | | | . , | | | | |
| Vanadium White Metal ScalarSitu Distant Visual*NONE0White Metal ScalarVisual*NONENONE | | | | . , | | | | |
| White Metal Yellow MetalscalarVisual*NONENONEInorInorCONTAMINATIONSiliconppmASM0556m20413030There is no indication of any contamination in the oil.PotassiumpmASM0566m20413030WaterVisual*NONENONENONEANONE41030 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> | | | | | | | | |
| Yellow MetalscalarVisual*NONENONE | | | ppm | | | | | |
| CONTAMINATION Silicon ppm ASTM D5185(m) 3 Prase is no indication of any contamination in the oil. Pdason pm ASTM D5185(m) >20 <1 Water WCM 0 >.0.2 NEG Silt Scalar Visual* NONE NONE Debris Scalar Visual* NONE NONE Sand/Dirt Scalar Visual* NONE NONE Appearance Scalar Visual* NORE NONE | | | scalar | | | | | |
| PotassiumppmASTM D5186/m>20<1 | | Yellow Metal | scalar | Visual* | NONE | NONE | | |
| PotassiumppmASTM D5186/m>20<1 | CONTAMINATION | Silicon | maa | ASTM D5185(m) | | 3 | | |
| Water WC Methol >.0.2 NEG Situ scalar Visual* NON NONE Debris scalar Visual* NON NONE Sand/Dirt scalar Visual* NON NONE Appearance scalar Visual* NOR NONE Odor scalar Visual* NOR NORM Odor scalar Visual* NOR NORM MultifiedWater scalar Visual* NOR NORM Viscosity of sample indicates oil is within SAE 80W90 range, advise investigate. The condition of the oil is acceptable for the time in service. Sodium ppm ASTM D5850; 16 0 Boron ppm ASTM D5850; 15 0 Molybdenum ppm ASTM D5850; 15 0 Maganese ppm ASTM D5850; 50 9 Magnesium ppm ASTM D5850; 50< | | | | | >20 | | | |
| SiltscalarVisual*NONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NORENONEAppearancescalarVisual*NORENOREOdorscalarVisual*NORENOREEmulsified WatescalarVisual*NORENORESodiumppmASTMD5t8/mFLUID CONDITIONSodiumppmASTMD5t8/m50202Nesseiy of sample indicates oil is within SAE 80W90 range, advise investigate. The condition of the oil is acceptable for the time in service.SodiumppmASTMD5t8/m50202MolybdenumppmASTMD5t8/m150100MaganeseppmASTMD5t8/m150100MagnesiumppmASTMD5t8/m50100100100100100100100100PhosphorusppmASTMD5t8/m1001638010016380100 | | | le le | | | | | |
| DebrisscalarVisual*NONENONEIISand/DirtscalarVisual*NONENONEIIAppearancescalarVisual*NORUNORMLIIOdorscalarVisual*NORUNORMLIIEmulsified WatescalarVisual*NORUNORMLIIFLUID CONDITIONSoliurscalarVisual*NOIINicosity of sample indicates oil is within SAE 80W90 range, advise investigate. The condition of the oil is acceptable for the time in service.SoliurppmASTM D5185/mIIIMolybdenumppmASTM D5185/mII | | | scalar | | | | | |
| Sand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORLNORMLOdorscalarVisual*NORMNORMLEmulsified WatescalarVisual*NORNORMLFLUID CONDITIONSoftimscalarVisual*NOLNORMLSoftimppmASTM D5185/m50202BoronppmASTM D5185/m150BariumppmASTM D5185/m150MolybdenumppmASTM D5185/m150MaganeseppmASTM D5185/m504.4MagnesiumppmASTM D5185/m509.9PhosphorusppmASTM D5185/m509.6MagnesiumppmASTM D5185/m509.6MagnesiumppmASTM D5185/m509.6PhosphorusppmASTM D5185/m509.6MagnesiumppmASTM D5185/m509.6PhosphorusppmASTM D5185/m1007.8MagnesiumppmASTM D5185/m10016380PhosphorusppmASTM D5185/m10016380SulfurppmASTM | | | | | | | | |
| Appearance OdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLEmulsified WatescalarVisual*\$0.2NEGFLUID CONDITIONSodiumppmASTM D518/mNicosity of sample indicates oil is within SAE 80W90 range, advise investigate. The condition of the oil is acceptable for the time in service.SodiumppmASTM D518/m50202MolybdenumppmASTM D518/m150MolybdenumppmASTM D518/m150MaganeseppmASTM D518/m5014.4MagnesiumppmASTM D518/m5014.4MagnesiumppmASTM D518/m5014.4MagnesiumppmASTM D518/m5014.4MagnesiumppmASTM D518/m5014.4PhosphorusppmASTM D518/m5014.4ZincppmASTM D518/m10078SulfurppmASTM D518/m100163801SulfurppmASTM D518/m100163801SulfurppmASTM D518/m1200163801SulfurppmASTM D518/m100163801 <th>Sand/Dirt</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> | | Sand/Dirt | | | | | | |
| OdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGSodiumppmASTM D5185(m)Viscosity of sample indicates oil is within SAE 80W90 range, advise investigate. The condition of the oil is acceptable for the time in service.SodiumppmASTM D5185(m)50202BariumppmASTM D5185(m)150MolybdenumppmASTM D5185(m)150MaganeseppmASTM D5185(m)5044MagnesiumppmASTM D5185(m)509PhosphorusppmASTM D5185(m)509ZincppmASTM D5185(m)10078SulfurppmASTM D5185(m)10016380SulfurppmASTM D5185(m)10016380SulfurppmASTM D5185(m)10016380SulfurppmASTM D5185(m)10016380SulfurppmASTM D5185(m)120016380SulfurppmASTM D5185(m)120016380SulfurppmASTM D5185(m)120016380SulfurppmASTM D5185(m)120016380 </th <th>Appearance</th> <th></th> <th></th> <th></th> <th>NORML</th> <th></th> <th></th> | | Appearance | | | | NORML | | |
| Emulsified WaterscalarVisual*>0.2NEGFLUID CONDITIONSodiumppmASTM D5185(m)<1 | | | | | | NORML | | |
| FLUID CONDITION Sodium ppm ASTM D5185(m) <1 | | | | Visual* | | | | |
| Niscosity of sample indicates oil is within SAE 80W90 range, advise investigate. The condition of the oil is acceptable for the time in service.BoronppmASTM D5185(m)50202BariumppmASTM D5185(m)150MolybdenumppmASTM D5185(m)150ManganeseppmASTM D5185(m)504MagnesiumppmASTM D5185(m)504CalciumppmASTM D5185(m)509PhosphorusppmASTM D5185(m)509ZincppmASTM D5185(m)10078SulfurppmASTM D5185(m)12016380 | | | | | | | | |
| Barium ppm ASTM D5185(m) 15 0 Molybdenum ppm ASTM D5185(m) 15 0 Manganese ppm ASTM D5185(m) 15 0 Magnesium ppm ASTM D5185(m) 15 0 Magnesium ppm ASTM D5185(m) 15 0 Magnesium ppm ASTM D5185(m) 50 4 Phosphorus ppm ASTM D5185(m) 50 4 Zinc ppm ASTM D5185(m) 50 9 Sulfur ppm ASTM D5185(m) 100 100 100 100 100 100 | FLUID CONDITION | Sodium | ppm | ASTM D5185(m) | | <1 | | |
| service.MolybdenumppmASTM D5185(m)15 0 $$ ManganeseppmASTM D5185(m) 0 0 $$ MagnesiumppmASTM D5185(m) 50 4 $$ MagnesiumppmASTM D5185(m) 50 4 $$ CalciumppmASTM D5185(m) 50 9 $$ PhosphorusppmASTM D5185(m) 50 936 $$ ZincppmASTM D5185(m) 100 78 $$ SulfurppmASTM D5185(m) 100 16380 $$ | investigate. The condition of the oil is acceptable for the time in | Boron | ppm | ASTM D5185(m) | 50 | 202 | | |
| ManganeseppmNomesticationppmNomesticationpotManganeseppmASTM D5185(m)504MagnesiumppmASTM D5185(m)504CalciumppmASTM D5185(m)509PhosphorusppmASTM D5185(m)350936ZincppmASTM D5185(m)10078SulfurppmASTM D5185(m)1250016380 | | | ppm | | | | | |
| Magnesium ppm ASTM D5185(m) 50 4 Calcium ppm ASTM D5185(m) 50 9 Phosphorus ppm ASTM D5185(m) 350 936 Zinc ppm ASTM D5185(m) 100 78 Sulfur ppm ASTM D5185(m) 12500 16380 | | Molybdenum | ppm | ASTM D5185(m) | 15 | 0 | | |
| Calcium ppm ASTM D5185(m) 50 9 Phosphorus ppm ASTM D5185(m) 350 936 Zinc ppm ASTM D5185(m) 100 78 Sulfur ppm ASTM D5185(m) 12500 16380 | | - | ppm | . , | | 0 | | |
| Phosphorus ppm ASTM D5185(m) 350 936 Zinc ppm ASTM D5185(m) 100 78 Sulfur ppm ASTM D5185(m) 12500 16380 | | - | ppm | ASTM D5185(m) | 50 | 4 | | |
| Zinc ppm ASTM D5185(m) 100 78 Sulfur ppm ASTM D5185(m) 12500 16380 | | Calcium | ppm | | | 9 | | |
| Sulfur ppm ASTM D5185(m) 12500 16380 | | Phosphorus | ppm | ASTM D5185(m) | 350 | 936 | | |
| | | | ppm | ASTM D5185(m) | 100 | 78 | | |
| Visc @ 40°C cSt ASTM D7279(m) 220 ▲ 143 | | | ppm | ASTM D5185(m) | 12500 | 16380 | | |
| | | Visc @ 40°C | cSt | ASTM D7279(m) | 220 | 🔺 143 | | |

Visc @ 100°C cSt

Viscosity Index (VI) Scale ASTM D2270* 96

ASTM D7279(m) 19.0

Contact/Location: Doug Francis - LAVCLI

15.3

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