

OIL ANALYSIS REPORT

Sample Rating Trend

WATER

Area **Toyota - 888058** Machine Id **A2310105**

Component Unknown Component Fluid {not provided} (--- GAL)

DIAGNOSIS

Recommendation

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

A Wear

Copper and iron ppm levels are noted.

Contamination

Particles $>4\mu$ m are abnormally high. Particles $>6\mu$ m and oil cleanliness are abnormally high.

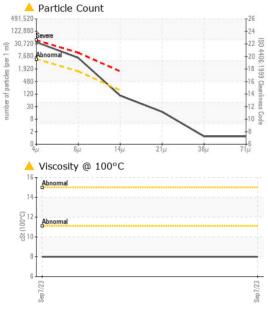
Fluid Condition

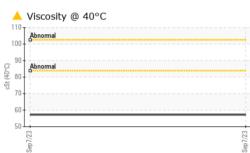
Visc @ 100°C is abnormally low. Visc @ 40°C is abnormally low.

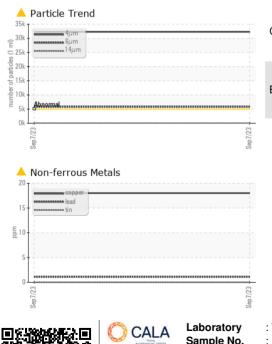
| Department Client Info Sales Production Stage Client Info Initial Sent to WC Client Info 10/18/2023 Sample Nume Client Info 07 Sep 2023 Sample Date Ins Client Info 0 Oil Age hrs Client Info 0 Oil Changed Ins Client Info N/A Sample Status Ins Client Info N/A Sample Status Ins Client Info N/A Sample Status Ins Client Info N/A Sample Matting ppm ASTM D5185(m Current History1 History1 Itanium ppm ASTM D5185(m <-1 Silver ppm ASTM D5185(m <1 < | SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
|--|------------------|--------|---------------|------------|-----------------|----------|----------|
| Production Stage Client Info Initial Sample Number Client Info 10/18/2023 Sample Date Client Info 07 Sep 2023 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Age hrs Client Info N/A Sample Status Imit/Date current history1 history2 KeAR METALS method Imit/Date current history1 history2 Iron ppm ASTM05185(m) 0 Nickel ppm ASTM05185(m) 0 Nickel ppm ASTM05185(m) 0 Aluminum ppm ASTM05185(m) 0 Aptim ASTM05185(m) 0 Aptim | Machine ID | | Client Info | | Block Containme | | |
| Sent to WC Client Info 10/18/2023 Sample Number Client Info 07 Sep 2023 Sample Date Client Info 0 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Changed Client Info 0 Sample Status Imethod limit/base current history1 history2 Iron ppm ASTM D5185(m) <11 | Department | | Client Info | | Sales | | |
| Sample Number Client Info E30000550 Sample Date I Client Info 0 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Changed Client Info 0 Sample Status Image Client Info N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASIM D5185(m) <16 | Production Stage | | Client Info | | Initial | | |
| Sample Date Client Info 07 Sep 2023 Machine Age hrs Client Info 0 Oil Age hrs Client Info 0 Sample Status Client Info N/A WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5185(m) A 16 Nickel ppm ASTM D5185(m) <1 | Sent to WC | | Client Info | | 10/18/2023 | | |
| Machine Age hrs Client Info 0 Oil Age hrs Client Info N/A Sample Status Client Info N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) <16 | Sample Number | | Client Info | | E30000550 | | |
| Oil Age hrs Client Info 0 Oil Changed Client Info N/A Sample Status Image Current history1 WEAR METALS method limit/base current history1 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) 4 16 Nickel ppm ASTM D5185(m) <1 | Sample Date | | Client Info | | 07 Sep 2023 | | |
| Oil Changed Client Info N/A Sample Status method limit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) 16 Nickel ppm ASTM D5185(m) <11 | Machine Age | hrs | Client Info | | 0 | | |
| Sample Status method limit/base current history1 history2 WEAR METALS ppm ASTM D5185(m) 0 Chromium ppm ASTM D5185(m) 0 Nickel ppm ASTM D5185(m) <1 | Oil Age | hrs | Client Info | | 0 | | |
| WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) 0 Chromium ppm ASTM D5185(m) 0 Nickel ppm ASTM D5185(m) <1 | Oil Changed | | Client Info | | N/A | | |
| Iron ppm ASTM D5185(m) ▲ 16 Chromium ppm ASTM D5185(m) 0 Nickel ppm ASTM D5185(m) <1 | Sample Status | | | | ABNORMAL | | |
| Chromium ppm ASTM D5185(m) 0 Nickel ppm ASTM D5185(m) <1 Titanium ppm ASTM D5185(m) <1 Silver ppm ASTM D5185(m) <1 Aluminum ppm ASTM D5185(m) 1 Lead ppm ASTM D5185(m) 1 Copper ppm ASTM D5185(m) 0 Antimony ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) <11 Molybdenum ppm ASTM D5185(m) 0 | WEAR METALS | | method | limit/base | current | history1 | history2 |
| Chromium ppm ASTM D5185(m) 0 Nickel ppm ASTM D5185(m) <1 | Iron | maa | ASTM D5185(m) | | 1 6 | | |
| Nickel ppm ASTM D5185(m) <1 Titanium ppm ASTM D5185(m) <1 | Chromium | | . , | | | | |
| Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) <1 | Nickel | | | | - | | |
| Silver ppm ASTM D5185(m) <1 | Titanium | | . / | | | | |
| Aluminum ppm ASTM D5185(m) <1 Lead ppm ASTM D5185(m) 1 Copper ppm ASTM D5185(m) 0 Tin ppm ASTM D5185(m) 0 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) <1 | Silver | | | | - | | |
| Lead ppm ASTM D5185(m) 1 Copper ppm ASTM D5185(m) 0 Tin ppm ASTM D5185(m) 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) <1 | Aluminum | | . , | | | | |
| Copper ppm ASTM D5185(m) ▲ 18 Tin ppm ASTM D5185(m) 0 Antimony ppm ASTM D5185(m) 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) <1 | Lead | | × / | | 1 | | |
| Tin ppm ASTM D5185(m) 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) <1 Molybdenum ppm ASTM D5185(m) 0 Maganese ppm ASTM D5185(m) 0 Magnesium ppm ASTM D5185(m) 1 Calcium ppm ASTM D5185(m) 264 Sulfur ppm ASTM D5185(m) 216 Sulfur ppm ASTM D5185(m) 216 Sulfur ppm ASTM D5185(m) 216 | Copper | | ASTM D5185(m) | | 1 8 | | |
| 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) <1 | Tin | | 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) <1 | Antimony | ppm | ASTM D5185(m) | | 0 | | |
| CadmiumppmASTM D5185(m)0ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185(m)<1 | Vanadium | ppm | ASTM D5185(m) | | 0 | | |
| ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) <1 | Beryllium | ppm | ASTM D5185(m) | | 0 | | |
| Boron ppm ASTM D5185(m) <1 Barium ppm ASTM D5185(m) <1 | Cadmium | ppm | ASTM D5185(m) | | 0 | | |
| Barium ppm ASTM D5185(m) <1 | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185(m) 0 Manganese ppm ASTM D5185(m) 0 Magnesium ppm ASTM D5185(m) 1 Calcium ppm ASTM D5185(m) 27 Phosphorus ppm ASTM D5185(m) 264 Zinc ppm ASTM D5185(m) 216 Sulfur ppm ASTM D5185(m) 5314 Lithium ppm ASTM D5185(m) <1 | Boron | ppm | ASTM D5185(m) | | <1 | | |
| Manganese ppm ASTM D5185(m) 0 Magnesium ppm ASTM D5185(m) 1 Calcium ppm ASTM D5185(m) 27 Phosphorus ppm ASTM D5185(m) 264 Zinc ppm ASTM D5185(m) 216 Sulfur ppm ASTM D5185(m) 5314 Sulfur ppm ASTM D5185(m) 5314 Lithium ppm ASTM D5185(m) <1 | Barium | ppm | ASTM D5185(m) | | <1 | | |
| Magnesium ppm ASTM D5185(m) 1 Calcium ppm ASTM D5185(m) 27 Phosphorus ppm ASTM D5185(m) 264 Zinc ppm ASTM D5185(m) 216 Sulfur ppm ASTM D5185(m) 5314 Lithium ppm ASTM D5185(m) <1 | Molybdenum | ppm | ASTM D5185(m) | | 0 | | |
| Calcium ppm ASTM D5185(m) 27 Phosphorus ppm ASTM D5185(m) 264 Zinc ppm ASTM D5185(m) 216 Sulfur ppm ASTM D5185(m) 5314 Lithium ppm ASTM D5185(m) <<11 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 2 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) <1 | Manganese | ppm | ASTM D5185(m) | | 0 | | |
| Phosphorus ppm ASTM D5185(m) 264 Zinc ppm ASTM D5185(m) 216 Sulfur ppm ASTM D5185(m) 5314 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 2 Sodium ppm ASTM D5185(m) 2 Potassium ppm ASTM D5185(m) >20 <1 Water % ASTM D6304* 0.0855 | Magnesium | ppm | ASTM D5185(m) | | 1 | | |
| Zinc ppm ASTM D5185(m) 216 Sulfur ppm ASTM D5185(m) 5314 Lithium ppm ASTM D5185(m) <1 | Calcium | ppm | ASTM D5185(m) | | 27 | | |
| Sulfur ppm ASTM D5185(m) 5314 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 2 Sodium ppm ASTM D5185(m) <1 Potassium ppm ASTM D5185(m) <1 Water % ASTM D6304* 0.0855 | Phosphorus | ppm | . / | | | | |
| Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) 2 Sodium ppm ASTM D5185(m) <1 Potassium ppm ASTM D5185(m) <20 <1 Water % ASTM D6304* 0.0855 | Zinc | ppm | | | | | |
| CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185(m)2SodiumppmASTM D5185(m)<1 | Sulfur | ppm | . / | | | | |
| Silicon ppm ASTM D5185(m) 2 Sodium ppm ASTM D5185(m) <1 | Lithium | ppm | ASTM D5185(m) | | <1 | | |
| Sodium ppm ASTM D5185(m) <1 | CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Sodium ppm ASTM D5185(m) <1 Potassium ppm ASTM D5185(m) >20 <1 Water % ASTM D6304* 0.085 | Silicon | ppm | ASTM D5185(m) | | 2 | | |
| Potassium ppm ASTM D5185(m) >20 <1 Water % ASTM D6304* 0.085 | Sodium | | | | | | |
| Water % ASTM D6304* 0.085 | Potassium | | | >20 | | | |
| | Water | | | | 0.085 | | |
| | ppm Water | ppm | ASTM D6304* | | | | |



OIL ANALYSIS REPORT







| FLUID CLEANLIN | IESS | method | limit/base | current | history1 | history2 |
|----------------------|----------|---------------|------------|------------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >5000 | A 32279 | | |
| Particles >6µm | | ASTM D7647 | >1300 | <u> </u> | | |
| Particles >14µm | | ASTM D7647 | >160 | 89 | | |
| Particles >21µm | | ASTM D7647 | >40 | 15 | | |
| Particles >38µm | | ASTM D7647 | >10 | 1 | | |
| Particles >71µm | | ASTM D7647 | >3 | 1 | | |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | <u> </u> | | |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D974* | | 0.39 | | |
| VISUAL | | method | limit/base | current | history1 | history2 |
| White Metal | scalar | Visual* | NONE | NONE | | |
| Yellow Metal | scalar | Visual* | NONE | NONE | | |
| Precipitate | scalar | Visual* | NONE | VLITE | | |
| Silt | scalar | Visual* | NONE | NONE | | |
| Debris | scalar | Visual* | NONE | NONE | | |
| Sand/Dirt | scalar | Visual* | NONE | NONE | | |
| Appearance | scalar | Visual* | NORML | 🔺 WGOIL | | |
| Odor | scalar | Visual* | NORML | NORML | | |
| Emulsified Water | scalar | Visual* | | .2% | | |
| Free Water | scalar | Visual* | | <u> </u> | | |
| FLUID PROPERT | IES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D7279(m) | | 5 7.2 | | |
| Visc @ 100°C | cSt | ASTM D7279(m) | | <mark>/</mark> 8 | | |
| Viscosity Index (VI) | Scale | ASTM D2270* | | 106 | | |
| SAMPLE IMAGES | S | method | limit/base | current | history1 | history2 |
| Color | | | | | no image | no image |
| Bottom | | | | | no image | no image |

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Environmental 360 Solutions Ltd. Sample No. : E30000550 Recieved : 20 Oct 2023 640 Victoria Street Lab Number : 02590632 Diagnosed : 09 Nov 2023 Cobourg, ON ISO 17025:2017 Accredited Laboratory Unique Number : 5659698 Diagnostician : Tatiana Sorkina CA K9A 5H5 Test Package : IND 2 (Additional Tests: KF, KV100, PrtCount, VI) Contact: Fred Kosseim To discuss this sample report, contact Customer Service at 1-905-372-2251. fkosseim@e360s.ca T: (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. F: (905)372-1658