

# **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.

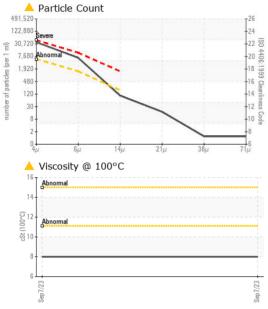
#### Fluid Condition

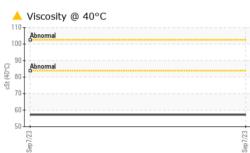
Visc @ 100°C is abnormally low. Visc @ 40°C is abnormally low.

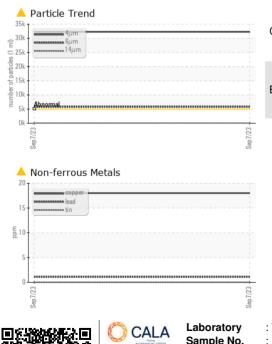
Department   Client Info   Sales       Production Stage   Client Info   Initial       Sent to WC   Client Info   10/18/2023       Sample Nume   Client Info   07 Sep 2023       Sample Date   Ins   Client Info   0       Oil Age   hrs   Client Info   0       Oil Changed   Ins   Client Info   N/A       Sample 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)		<b>1</b> 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)		<b>1</b> 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	<b>A</b> 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)		<b>5</b> 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