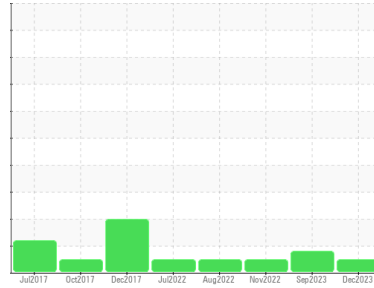




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

2

Machine Id

Timm A Side Compression Cylinder A Side

Component

Bearing

Fluid

CHEVRON CLARITY HYDRAULIC AW 46 (4 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

Contaminants

The water content is negligible. There is no indication of any contamination in the oil.

Oil Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		CB0031415	CB0031371	CB0031027
Sample Date	Client Info		29 Dec 2023	11 Sep 2023	17 Nov 2022
Machine Age	mths	Client Info	0	0	0
Oil Age	mths	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	ATTENTION	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >20	10	12	8
Chromium	ppm	ASTM D5185(m) >20	4	3	4
Nickel	ppm	ASTM D5185(m) >20	<1	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >20	<1	0	<1
Lead	ppm	ASTM D5185(m) >20	<1	0	<1
Copper	ppm	ASTM D5185(m) >20	2	2	2
Tin	ppm	ASTM D5185(m) >20	0	0	<1
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	<1	<1	0
Calcium	ppm	ASTM D5185(m)	<1	1	1
Phosphorus	ppm	ASTM D5185(m)	293	310	328
Zinc	ppm	ASTM D5185(m)	7	13	5
Sulfur	ppm	ASTM D5185(m)	256	253	279
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

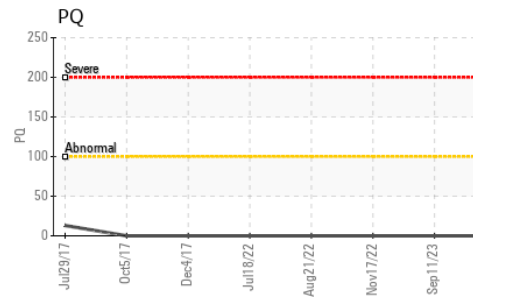
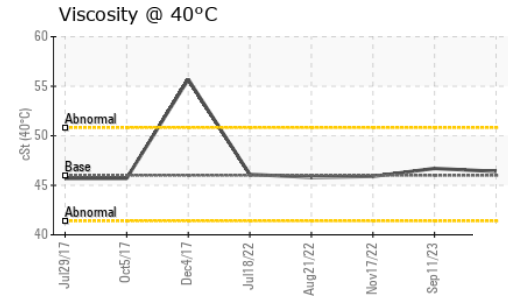
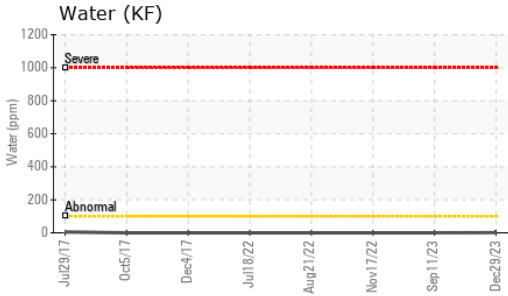
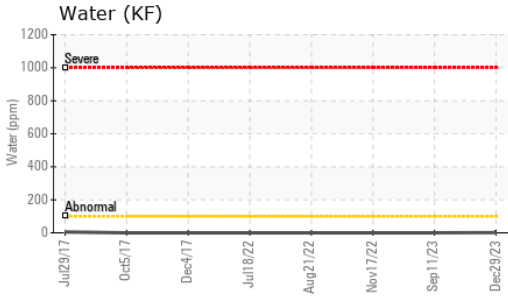
CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	3	2	3
Sodium	ppm	ASTM D5185(m)	<1	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	<1
Water	%	ASTM D6304* >2	0.001	---	---
ppm Water	ppm	ASTM D6304*	1	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.25	0.32	0.26

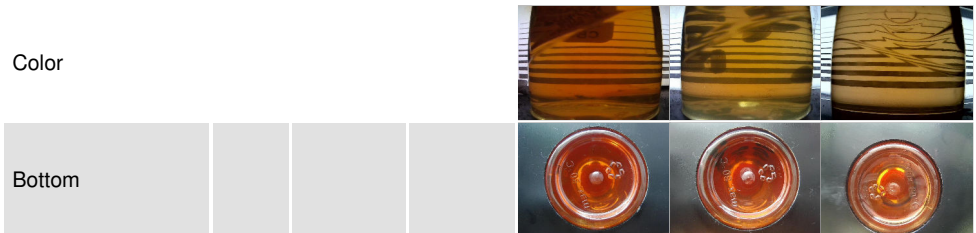
OIL ANALYSIS REPORT



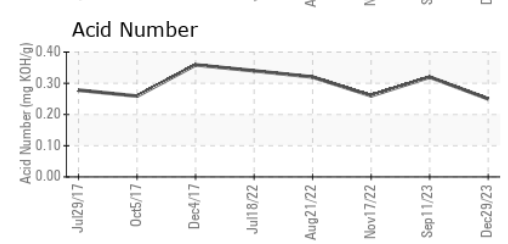
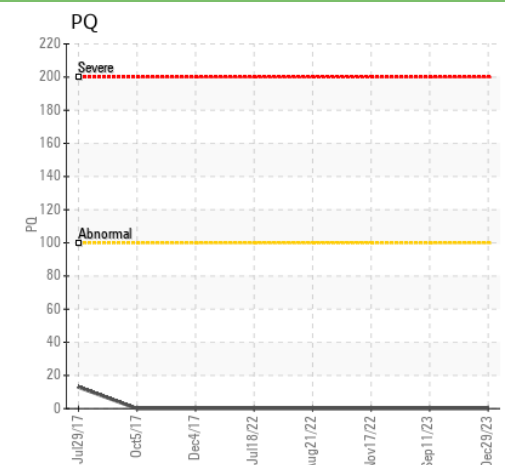
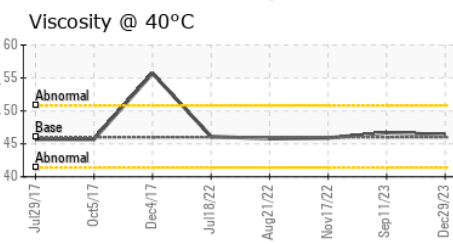
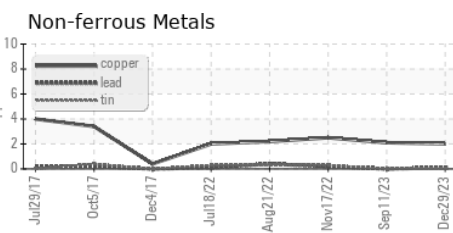
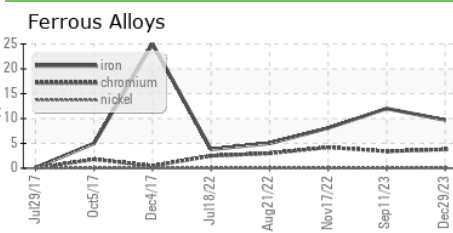
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	46.0	46.4	46.7	45.9

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS

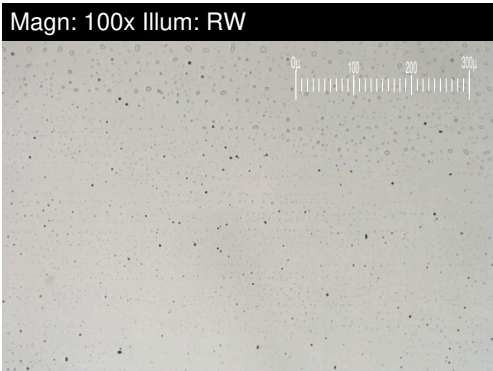
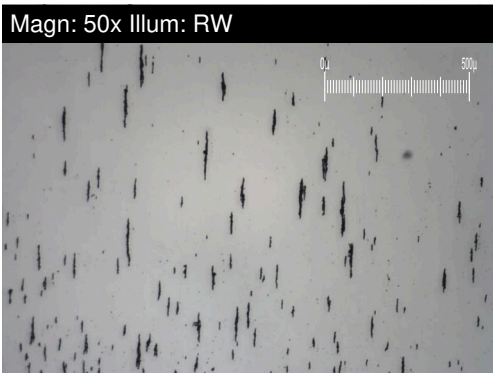
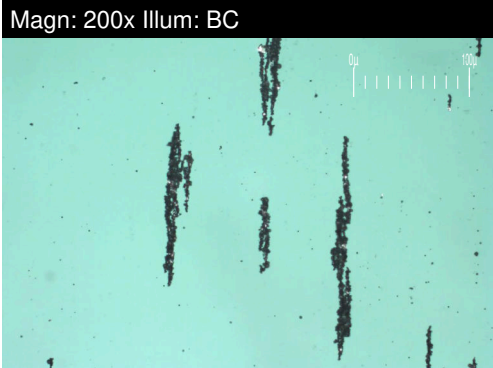


Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 TOYOTA MOTOR MANUFACTURING CANADA
Sample No. : CB0031415 **Received** : 10 Jan 2024 **PLASTICS DEPARTMENT, 1717 DUNDAS ST**
Lab Number : 02607844 **Diagnosed** : 16 Jan 2024 **WOODSTOCK, ON**
Unique Number : 5708930 **Diagnostician** : Kevin Marson **CA N4S 0A4**
Test Package : IND 3 (Additional Tests: KF) **Contact: Jeff Lafleur**
jeff.lafleur@toyota.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 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:**

FERROGRAPHY REPORT

Area
2
Machine Id
Timm A Side Compression Cylinder A Side
Component
Bearing
Fluid
CHEVRON CLARITY HYDRAULIC AW 46 (4 LTR)

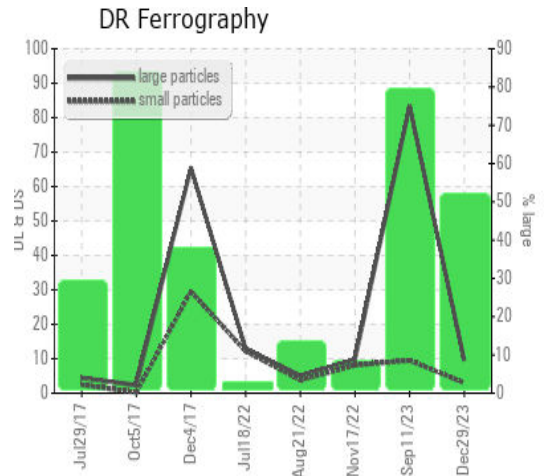


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		9.5	83.4	9.6
Small Particles		DR-Ferr*		3.0	9.5	8.1
Total Particles		DR-Ferr*	>---	12.5	92.9	17.7
Large Particles Percentage	%	DR-Ferr*		52	79.5	8.5
Severity Index		DR-Ferr*		62	6163	14

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		3	▲ 6	1
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1	3	1
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*		1	1	
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Lubricant Degradation	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		1	1	1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*			1	
Other	Scale 0-10	ASTM D7684*		1	2	1

WEAR

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.



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