



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**TOYOTA 2017 TOYOTA SIENNA**  
 Component  
**Gasoline Engine**  
 Fluid  
**TRC PRO-SPEC MULTI-VIS SB 5W20 (6 QTS)**

**RECOMMENDATION**

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05412576	---	---
Sample Date		Client Info		26 Nov 2021	---	---
Machine Age	mls	Client Info		89386	---	---
Oil Age	mls	Client Info		18136	---	---
Filter Age	mls	Client Info		9920	---	---
Oil Changed		Client Info		Not Chngd	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	24	---	---
Chromium	ppm	ASTM D5185m	>20	1	---	---
Nickel	ppm	ASTM D5185m	>5	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>40	8	---	---
Lead	ppm	ASTM D5185m	>50	2	---	---
Copper	ppm	ASTM D5185m	>155	1	---	---
Tin	ppm	ASTM D5185m	>10	1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

**CONTAMINATION**

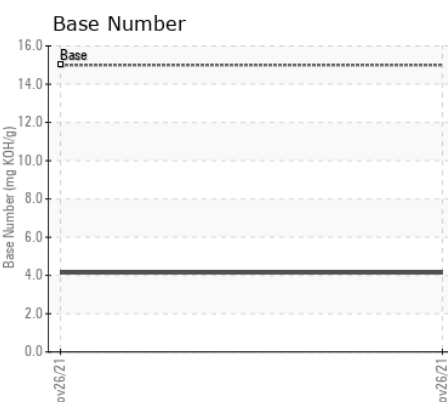
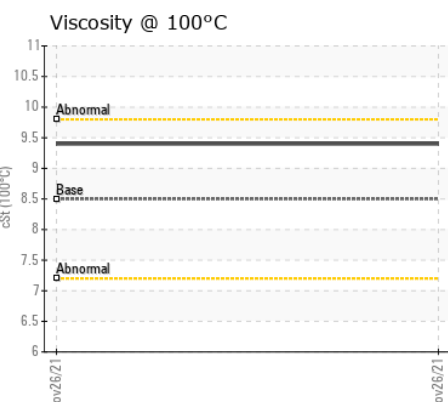
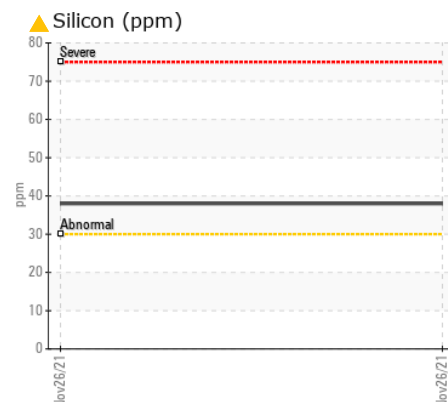
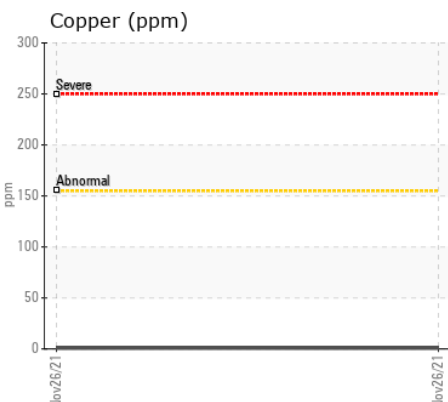
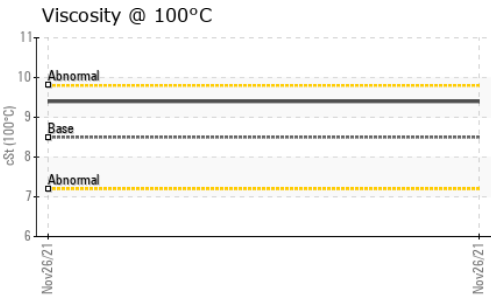
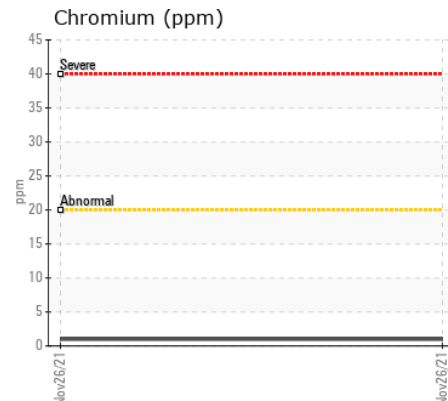
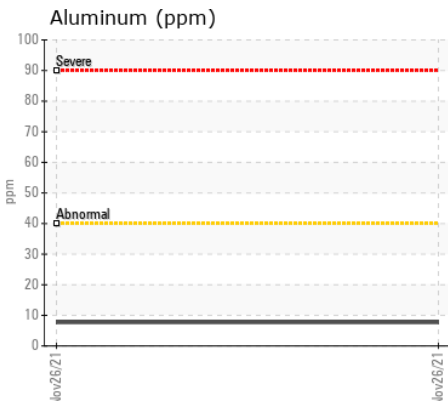
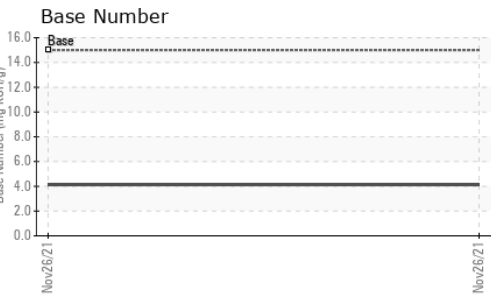
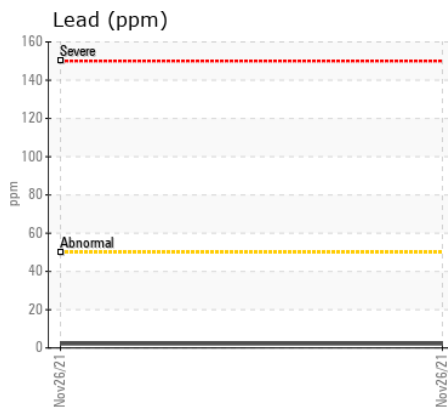
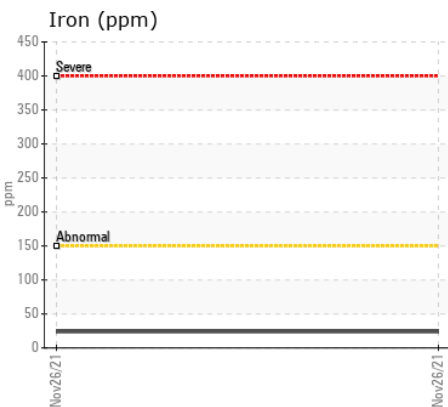
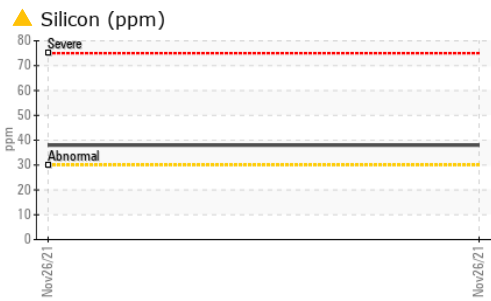
Elemental level of silicon (Si) above normal.

Silicon	ppm	ASTM D5185m	>30	▲ 38	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	14.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.4	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>400	5	---	---
Boron	ppm	ASTM D5185m		19	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		167	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		497	---	---
Calcium	ppm	ASTM D5185m	4200	1659	---	---
Phosphorus	ppm	ASTM D5185m	800	757	---	---
Zinc	ppm	ASTM D5185m	800	883	---	---
Sulfur	ppm	ASTM D5185m		2038	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	26.6	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	15	4.14	---	---
Visc @ 100°C	cSt	ASTM D445	8.5	9.4	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR05412576 **Received** : 01 Dec 2021  
**Lab Number** : 05412576 **Diagnosed** : 02 Dec 2021  
**Unique Number** : 9761764 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2

**TEXAS REFINERY CORPORATION**  
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 FORT WORTH, TX  
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To discuss this sample report, contact Customer Service at 1-800-827-0711.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T: x:  
F: x: