



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
TOYOTA 2015 TUNDRA
 Component
Gasoline Engine
 Fluid
TRC PRO-SPEC MULTI VISC 5W30 (8 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05435682	TR04825040	---
Sample Date		Client Info		29 Dec 2021	12 Oct 2019	---
Machine Age	hrs	Client Info		167300	118563	---
Oil Age	hrs	Client Info		11766	16018	---
Filter Age	hrs	Client Info		11766	16018	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	7	7	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>5	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>40	2	4	---
Lead	ppm	ASTM D5185m	>50	0	<1	---
Copper	ppm	ASTM D5185m	>155	1	3	---
Tin	ppm	ASTM D5185m	>10	0	<1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

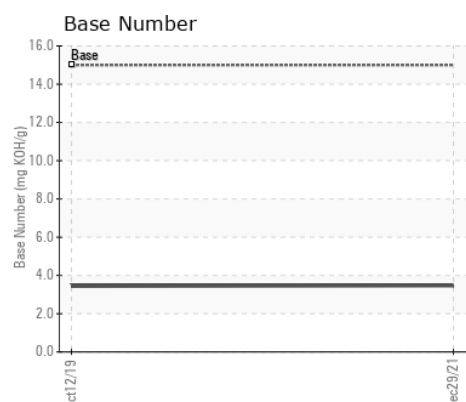
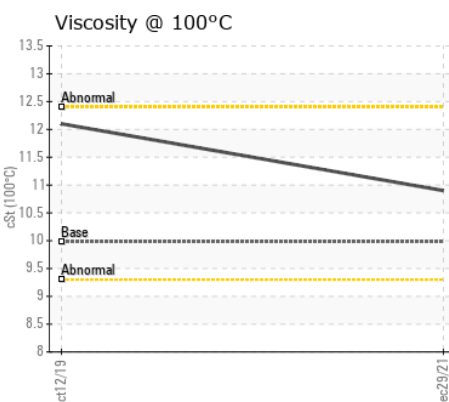
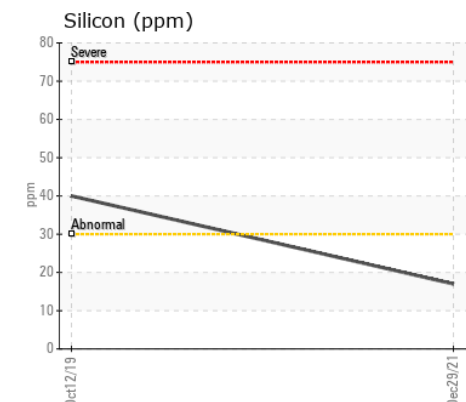
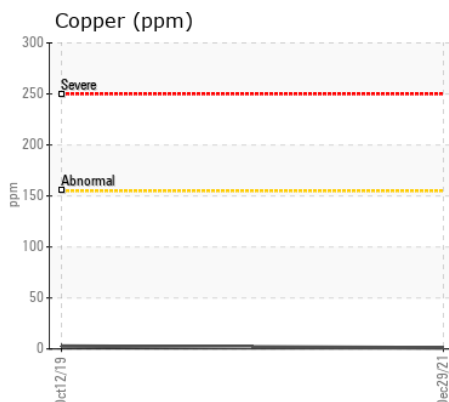
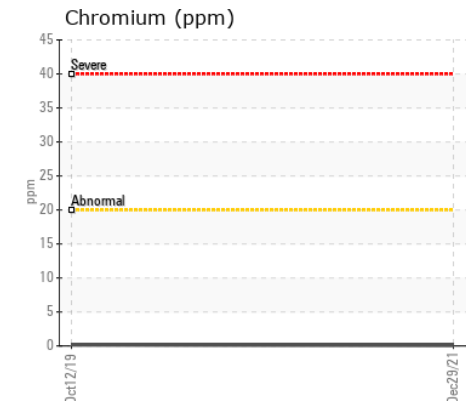
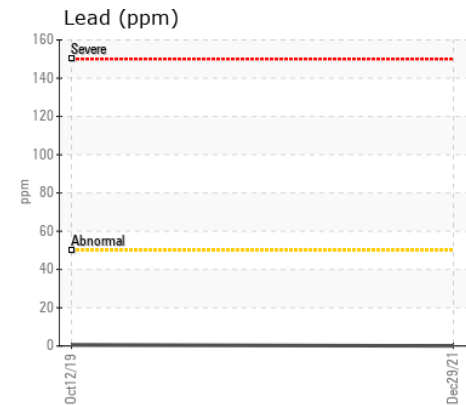
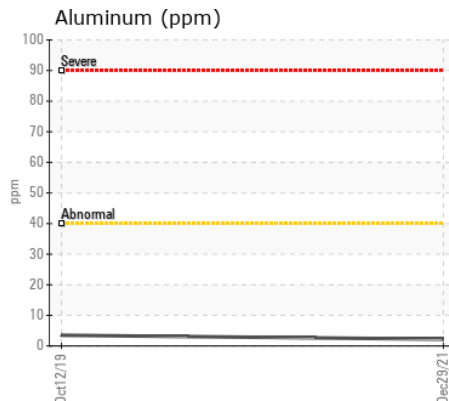
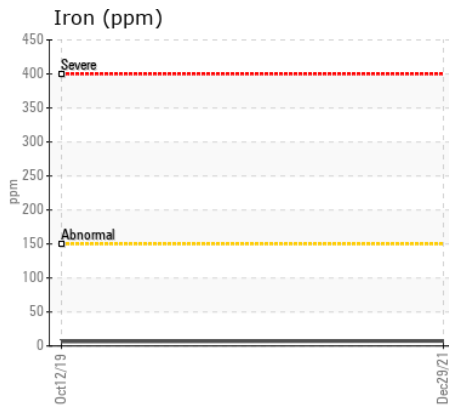
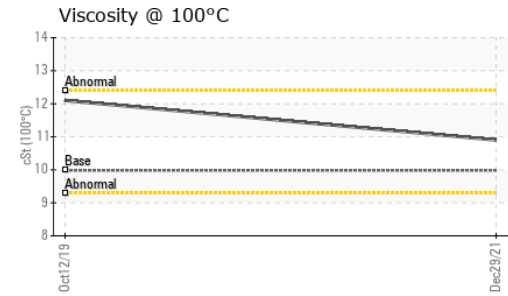
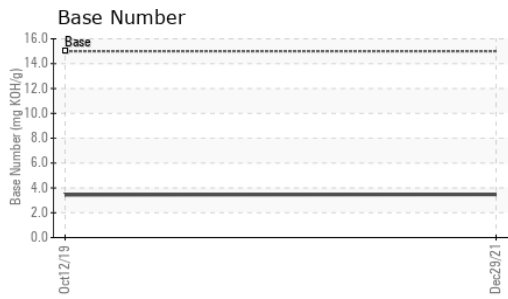
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	17	▲ 40	---
Potassium	ppm	ASTM D5185m	>20	0	5	---
Fuel		WC Method	>4.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844		0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	14.9	15.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.4	32.7	---
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	>0.2	NEG	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	2	3	---
Boron	ppm	ASTM D5185m		13	13	---
Barium	ppm	ASTM D5185m		2	0	---
Molybdenum	ppm	ASTM D5185m		157	142	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		490	12	---
Calcium	ppm	ASTM D5185m	4200	1423	2198	---
Phosphorus	ppm	ASTM D5185m	800	767	668	---
Zinc	ppm	ASTM D5185m	800	857	796	---
Sulfur	ppm	ASTM D5185m		1995	1144	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	25.2	30	---
Base Number (BN)	mg KOH/g	ASTM D2896	15	3.47	3.44	---
Visc @ 100°C	cSt	ASTM D445	9.98	10.9	12.1	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05435682 **Received** : 03 Jan 2022
Lab Number : 05435682 **Diagnosed** : 05 Jan 2022
Unique Number : 9799875 **Diagnostician** : Jonathan Hester
Test Package : MOB 2

FRANCIS TRACTOR SERVICE
 126 NORTH MILL DAM RD
 CAMDEN, NC
 US 27921
 Contact: MICHAEL FRANCIS
 francistractor@aol.com

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)

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F: