



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**SUBARU 2020 SUBARU**

Component  
**Gasoline Engine**

Fluid  
**TRC PRO-SPEC SYNTHETIC 5W20 (5 QTS)**

**RECOMMENDATION**

No corrective action is recommended at this time. Oil and 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		TR05441602	---	---
Sample Date		Client Info		21 Dec 2021	---	---
Machine Age	mls	Client Info		17299	---	---
Oil Age	mls	Client Info		11893	---	---
Filter Age	mls	Client Info		11893	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	26	---	---
Chromium	ppm	ASTM D5185m	>20	<1	---	---
Nickel	ppm	ASTM D5185m	>5	0	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>40	5	---	---
Lead	ppm	ASTM D5185m	>50	<1	---	---
Copper	ppm	ASTM D5185m	>155	21	---	---
Tin	ppm	ASTM D5185m	>10	<1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

**CONTAMINATION**

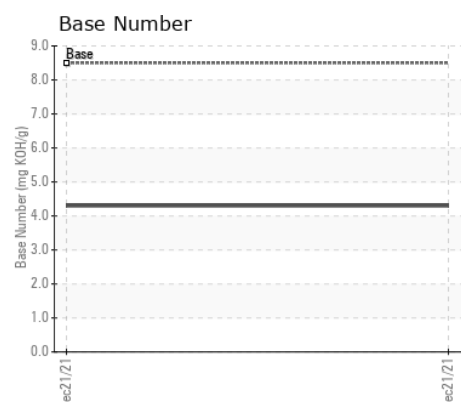
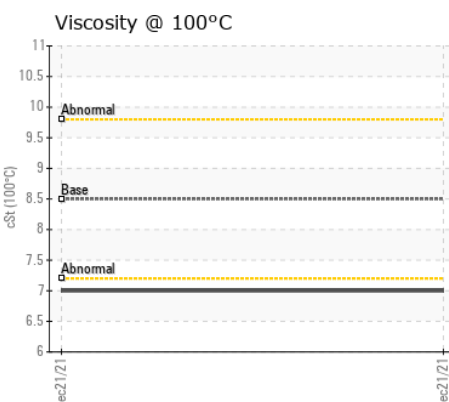
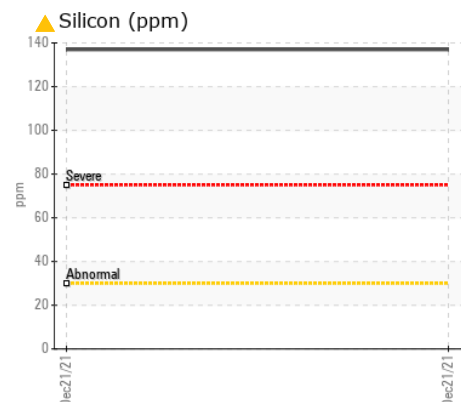
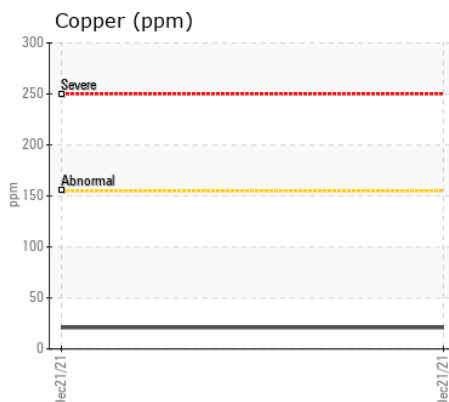
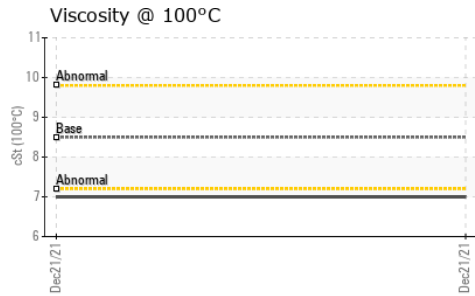
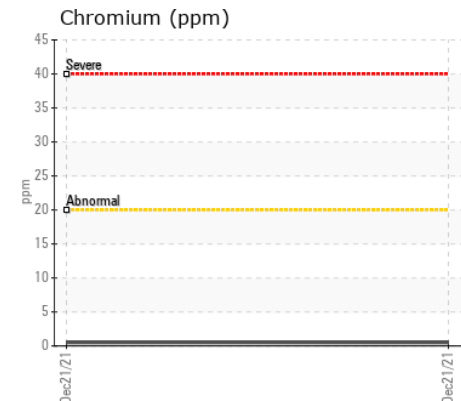
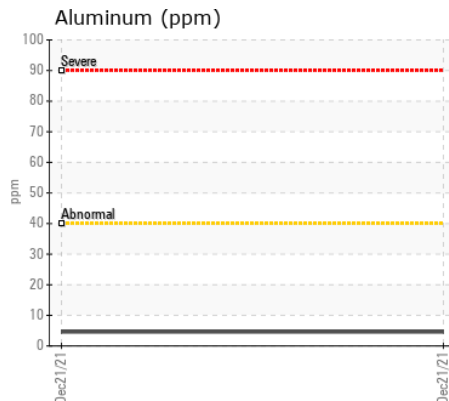
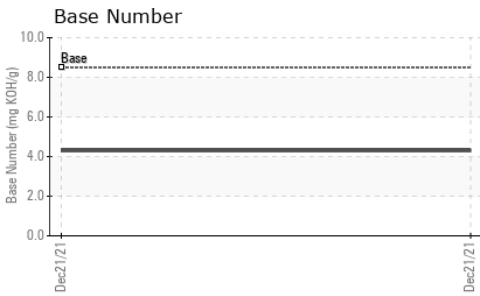
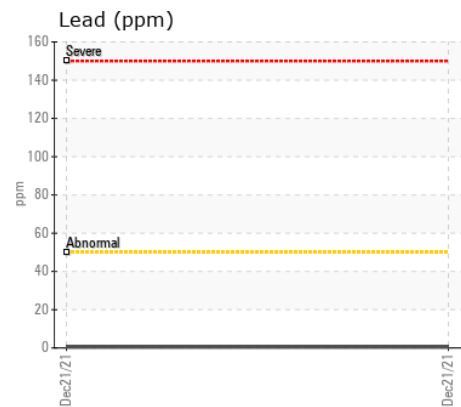
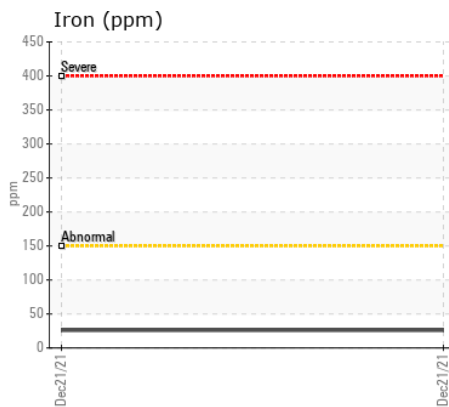
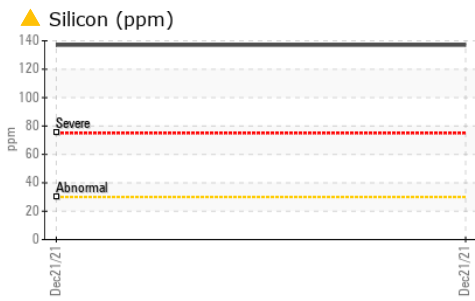
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>30	▲ 137	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel	%	ASTM D3524	>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	14.6	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.4	---	---
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	3	---	---
Boron	ppm	ASTM D5185m		15	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m	400	285	---	---
Manganese	ppm	ASTM D5185m		6	---	---
Magnesium	ppm	ASTM D5185m	600	10	---	---
Calcium	ppm	ASTM D5185m	1500	1983	---	---
Phosphorus	ppm	ASTM D5185m	800	649	---	---
Zinc	ppm	ASTM D5185m	900	803	---	---
Sulfur	ppm	ASTM D5185m		2063	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	25	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.30	---	---
Visc @ 100°C	cSt	ASTM D445	8.5	7	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR05441602 **Received** : 11 Jan 2022  
**Lab Number** : 05441602 **Tested** : 12 Jan 2022  
**Unique Number** : 9805795 **Diagnosed** : 12 Jan 2022 - Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution )

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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