



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR 568 414 (S/N BRB00298)

Component
Diesel Engine

Fluid
TRC PRO-SPEC V SYN BLEND 15W40 (10 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05753021	---	---
Sample Date		Client Info		10 Jan 2023	---	---
Machine Age	mls	Client Info		12986	---	---
Oil Age	mls	Client Info		511	---	---
Filter Age	mls	Client Info		511	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	23	---	---
Chromium	ppm	ASTM D5185m	>20	1	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m	>2	0	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>25	6	---	---
Lead	ppm	ASTM D5185m	>40	9	---	---
Copper	ppm	ASTM D5185m	>330	2	---	---
Tin	ppm	ASTM D5185m	>15	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

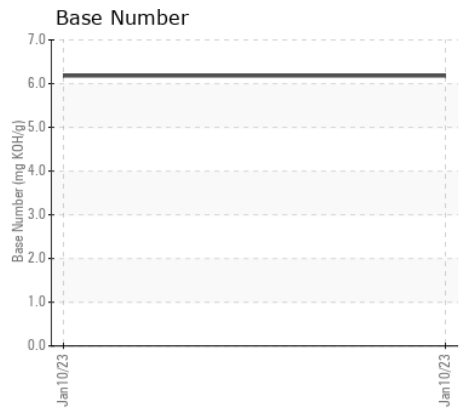
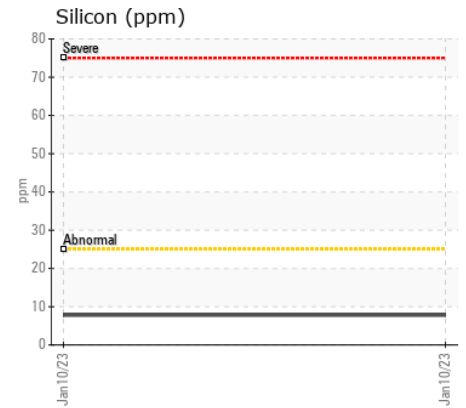
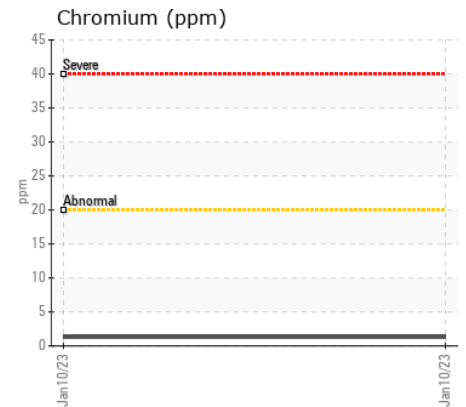
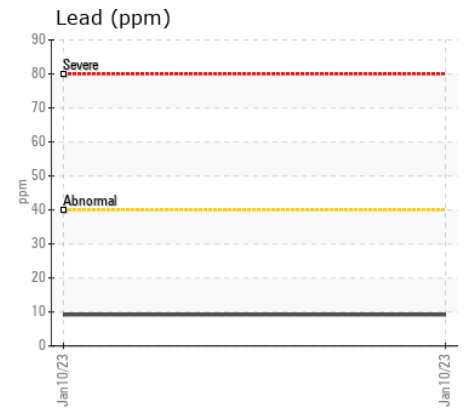
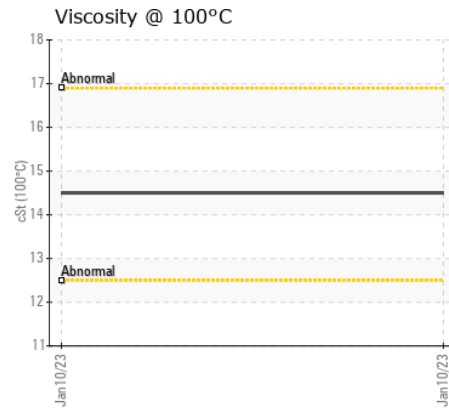
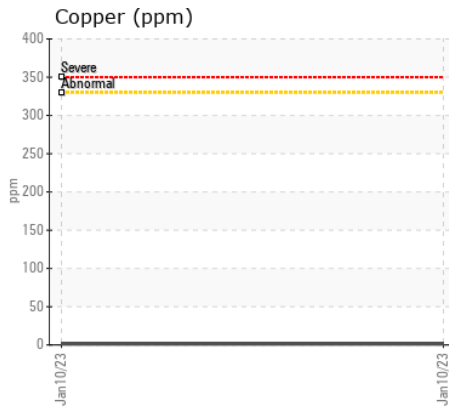
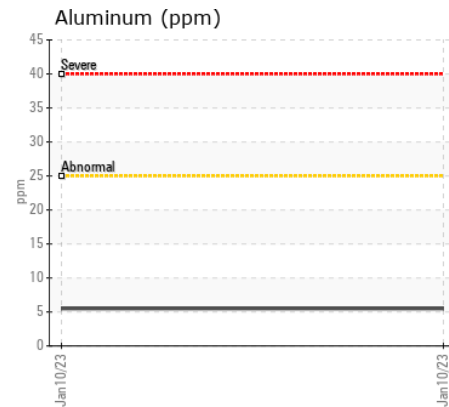
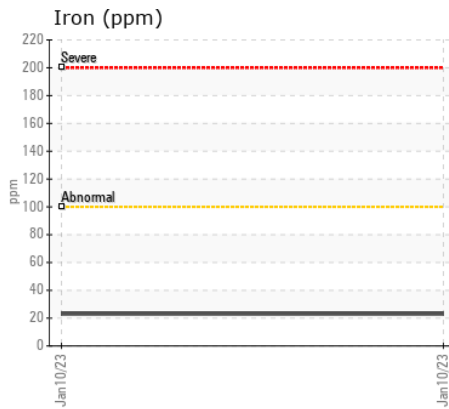
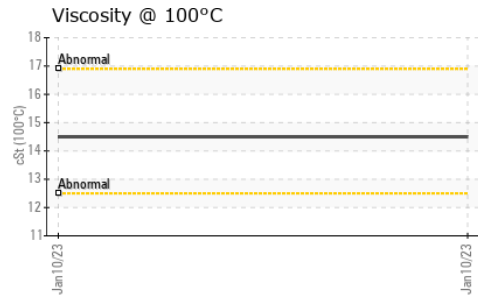
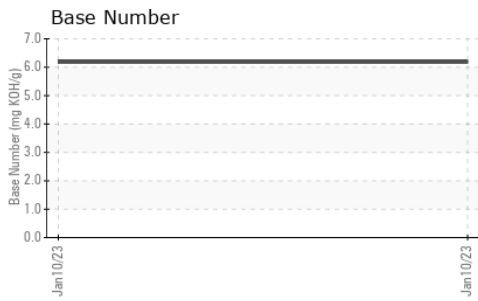
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	---	---
Potassium	ppm	ASTM D5185m	>20	3	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.9	---	---
Nitration	Abs/cm	*ASTM D7624	>20	12.7	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.0	---	---
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	---	---
Boron	ppm	ASTM D5185m		29	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		<1	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		14	---	---
Calcium	ppm	ASTM D5185m		2720	---	---
Phosphorus	ppm	ASTM D5185m		1012	---	---
Zinc	ppm	ASTM D5185m		1251	---	---
Sulfur	ppm	ASTM D5185m		4495	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.1	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		6.18	---	---
Visc @ 100°C	cSt	ASTM D445		14.5	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05753021 **Received** : 27 Jan 2023
Lab Number : 05753021 **Tested** : 02 Feb 2023
Unique Number : 10312625 **Diagnosed** : 02 Feb 2023 - Angela Borella
Test Package : MOB 2

BIGHORN LOGGING CORP
 13820 NW MAIN ST
 BANKS, OR
 US 97106
 Contact: JEFF WARREN

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:
F: