



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
RAM RAM 3500
 Component
Diesel Engine
 Fluid
TRC PRO-SPEC IV 15W40 (13 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05807077	---	---
Sample Date		Client Info		18 Mar 2023	---	---
Machine Age	mls	Client Info		65542	---	---
Oil Age	mls	Client Info		17046	---	---
Filter Age	mls	Client Info		17046	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	102	---	---
Chromium	ppm	ASTM D5185m	>20	2	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>20	17	---	---
Lead	ppm	ASTM D5185m	>40	0	---	---
Copper	ppm	ASTM D5185m	>330	3	---	---
Tin	ppm	ASTM D5185m	>15	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

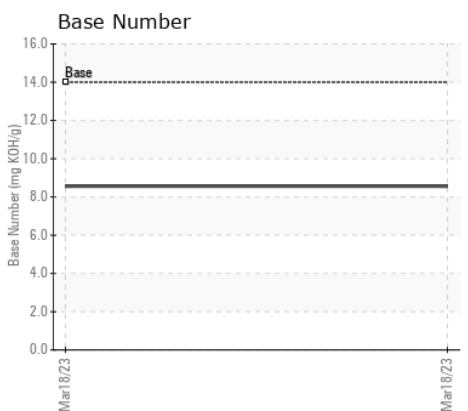
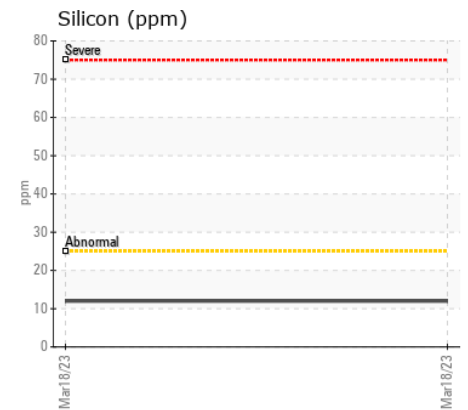
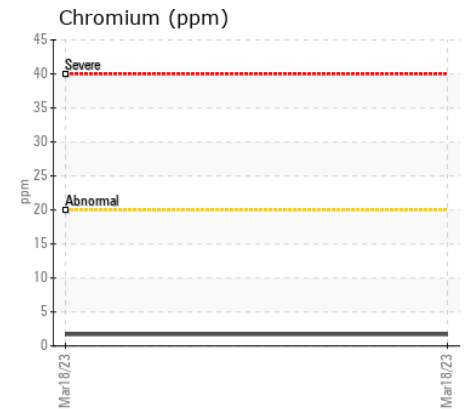
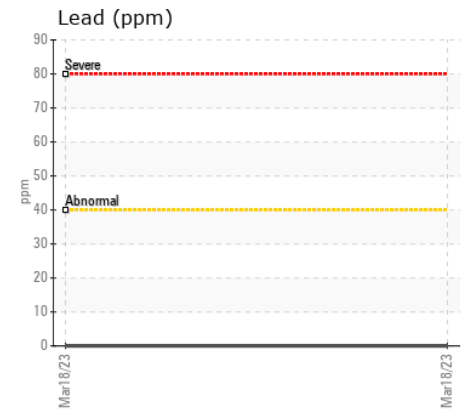
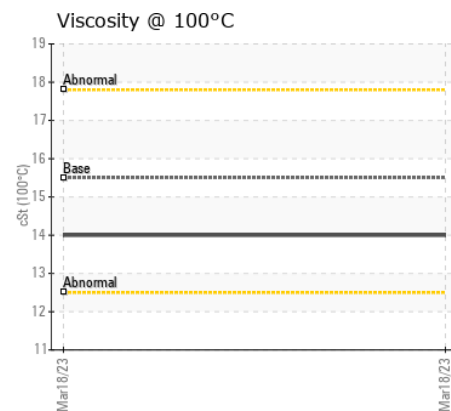
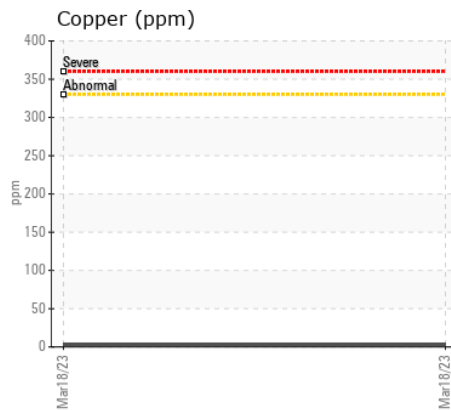
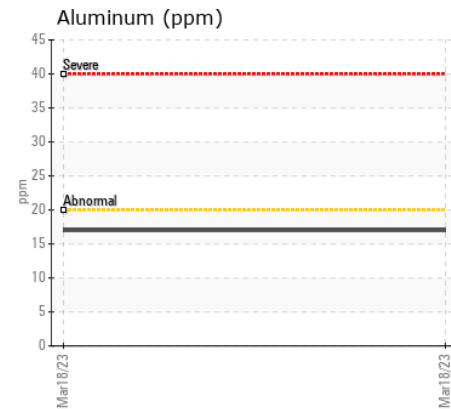
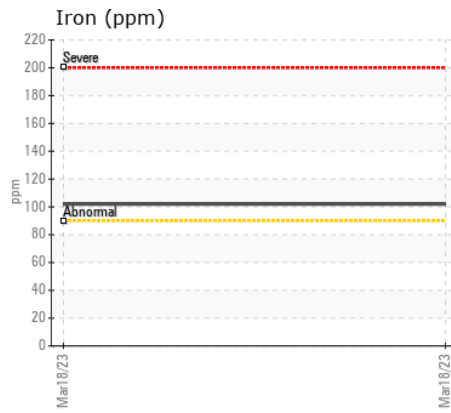
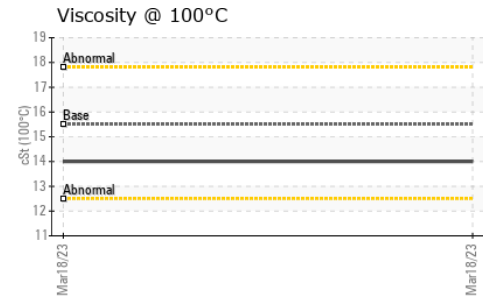
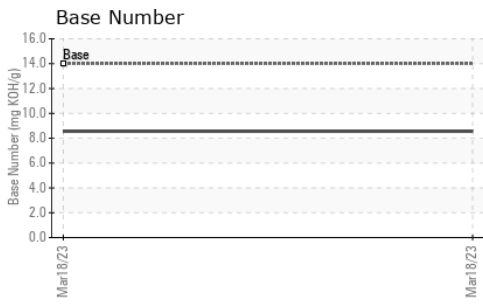
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	12	---	---
Potassium	ppm	ASTM D5185m	>20	32	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>6	1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	19.0	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	32.3	---	---
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		4	---	---
Boron	ppm	ASTM D5185m		1	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		14	---	---
Manganese	ppm	ASTM D5185m		2	---	---
Magnesium	ppm	ASTM D5185m		68	---	---
Calcium	ppm	ASTM D5185m	2300	3789	---	---
Phosphorus	ppm	ASTM D5185m		807	---	---
Zinc	ppm	ASTM D5185m	1200	998	---	---
Sulfur	ppm	ASTM D5185m		3709	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	27.2	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	14	8.56	---	---
Visc @ 100°C	cSt	ASTM D445	15.5	14.0	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : TR05807077

Lab Number : 05807077

Unique Number : 10404606

Test Package : MOB 2

Received : 30 Mar 2023

Tested : 03 Apr 2023

Diagnosed : 03 Apr 2023 - Don Baldrige

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: