



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WESTERN STAR 004

Component
Diesel Engine

Fluid
TRC PRO-SPEC V SYN BLEND 15W40 (12 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05801745	TR05713291	---
Sample Date		Client Info		18 Mar 2023	01 Dec 2022	---
Machine Age	hrs	Client Info		18669	18357	---
Oil Age	hrs	Client Info		312	299	---
Filter Age	hrs	Client Info		312	299	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	21	11	---
Chromium	ppm	ASTM D5185m	>20	1	<1	---
Nickel	ppm	ASTM D5185m	>2	<1	<1	---
Titanium	ppm	ASTM D5185m	>2	0	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>30	9	7	---
Lead	ppm	ASTM D5185m	>30	<1	<1	---
Copper	ppm	ASTM D5185m	>30	3	2	---
Tin	ppm	ASTM D5185m	>15	<1	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

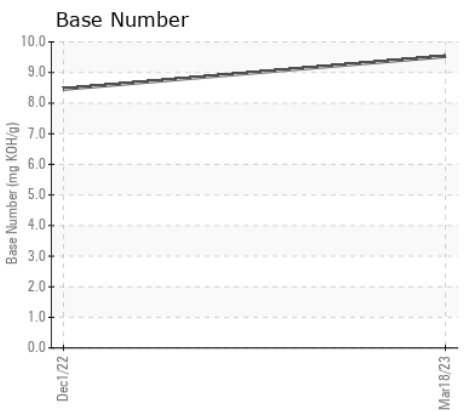
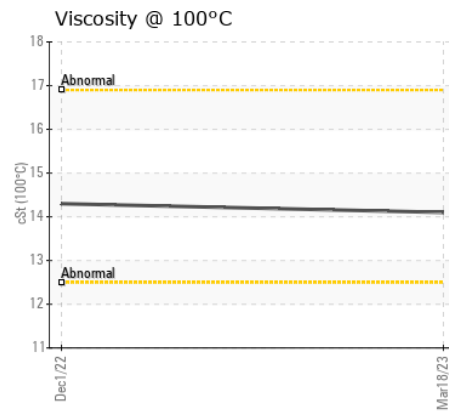
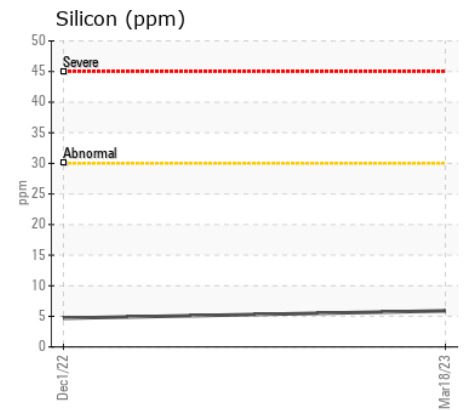
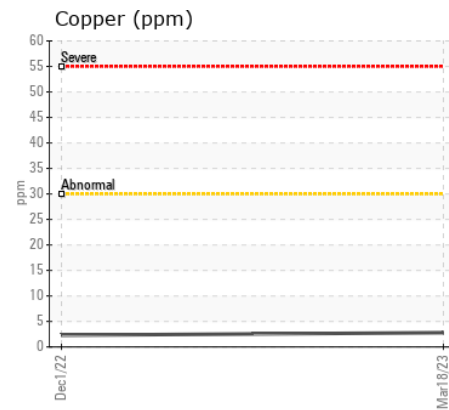
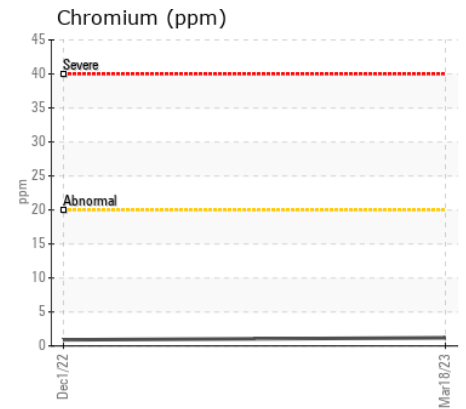
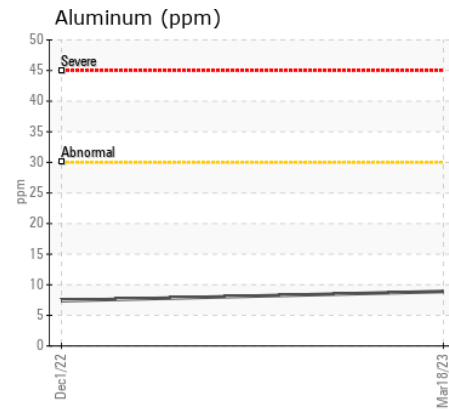
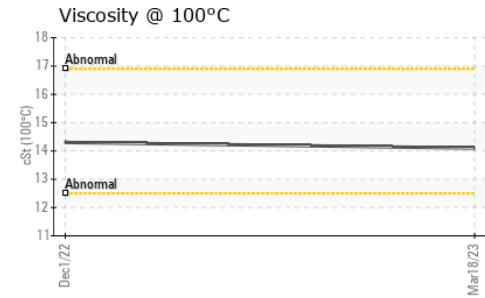
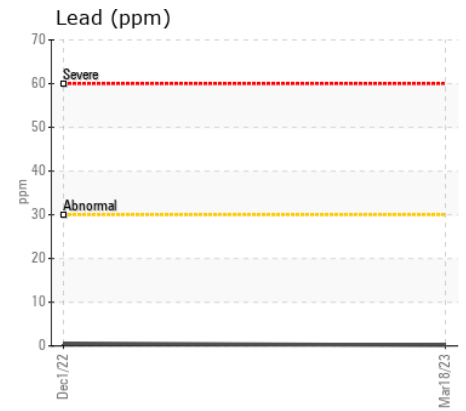
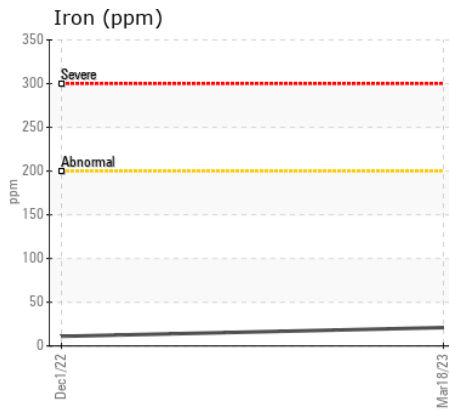
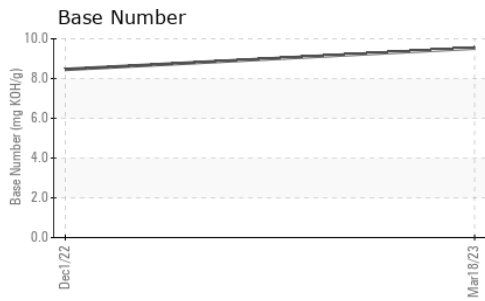
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	6	5	---
Potassium	ppm	ASTM D5185m	>20	2	1	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.4	0.4	---
Nitration	Abs/cm	*ASTM D7624	>20	7.6	8.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.9	19.8	---
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		1	<1	---
Boron	ppm	ASTM D5185m		2	5	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		2	8	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		9	13	---
Calcium	ppm	ASTM D5185m		2871	2416	---
Phosphorus	ppm	ASTM D5185m		1094	901	---
Zinc	ppm	ASTM D5185m		1253	1137	---
Sulfur	ppm	ASTM D5185m		4110	4147	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.8	11.9	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.53	8.46	---
Visc @ 100°C	cSt	ASTM D445		14.1	14.3	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05801745
Lab Number : 05801745
Unique Number : 10399274
Test Package : MOB 2

Received : 24 Mar 2023
Tested : 28 Mar 2023
Diagnosed : 28 Mar 2023 - Wes Davis

DALE ALLEN TRUCKING
 3410 RAILROAD AVE
 CRESCENT CITY, CA
 US 95531
 Contact: JEFFREY 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)

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F: