



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
KENWORTH 3

Component
Diesel Engine

Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (12 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06100312	TR06003778	TR05950914
Sample Date		Client Info		14 Feb 2024	28 Oct 2023	08 Sep 2023
Machine Age	mls	Client Info		347683	0	308856
Oil Age	mls	Client Info		10000	41374	31370
Filter Age	mls	Client Info		10000	41374	31370
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	24	70	56
Chromium	ppm	ASTM D5185m	>20	<1	3	2
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	5	7	10
Lead	ppm	ASTM D5185m	>40	3	11	8
Copper	ppm	ASTM D5185m	>330	2	6	2
Tin	ppm	ASTM D5185m	>15	<1	1	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

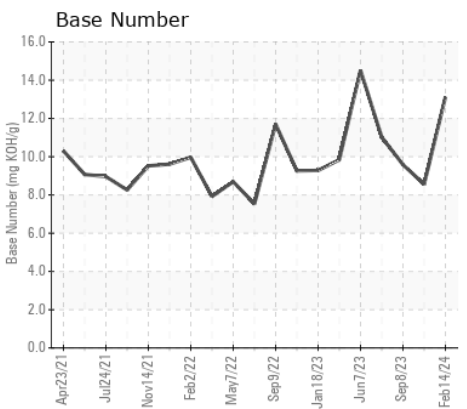
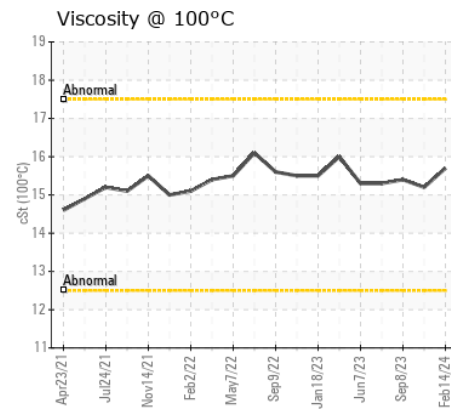
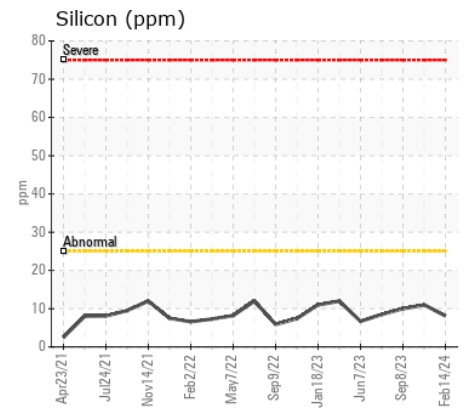
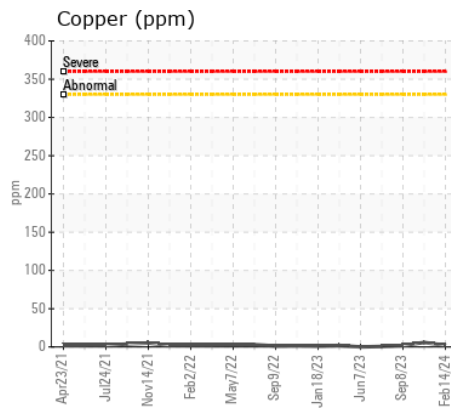
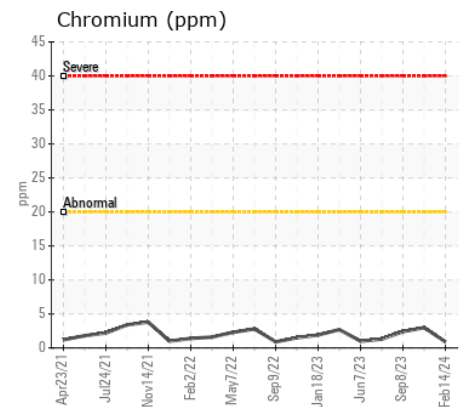
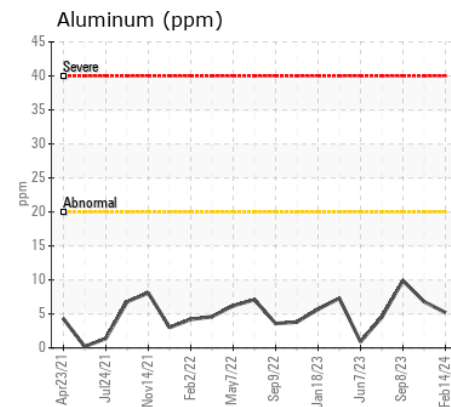
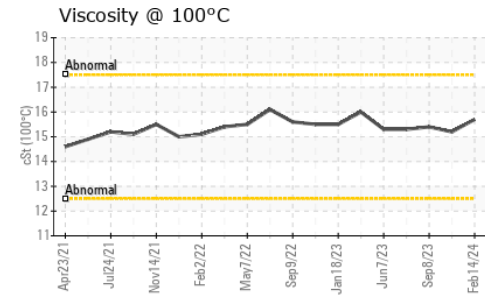
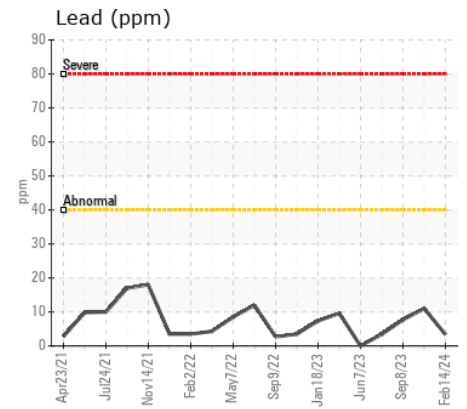
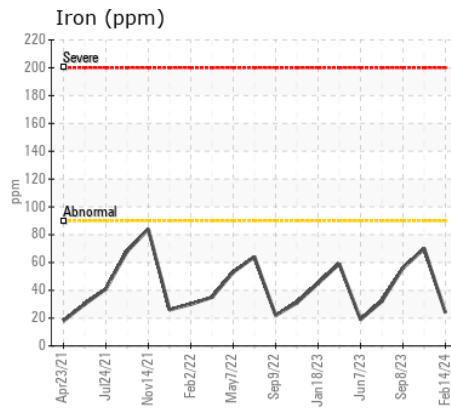
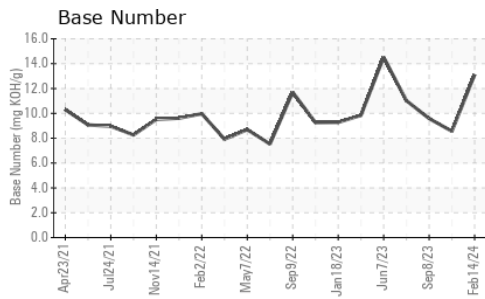
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	11	10
Potassium	ppm	ASTM D5185m	>20	3	3	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.8	2	1.6
Nitration	Abs/cm	*ASTM D7624	>20	13.5	18.9	17.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.3	39.5	35.0
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	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		3	3	4
Boron	ppm	ASTM D5185m		4	1	1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		126	64	60
Manganese	ppm	ASTM D5185m		<1	1	1
Magnesium	ppm	ASTM D5185m		21	22	24
Calcium	ppm	ASTM D5185m		4466	4614	4736
Phosphorus	ppm	ASTM D5185m		918	992	993
Zinc	ppm	ASTM D5185m		1141	1195	1169
Sulfur	ppm	ASTM D5185m		4322	4266	5162
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	32.0	25.5
Base Number (BN)	mg KOH/g	ASTM D2896		13.11	8.56	9.58
Visc @ 100°C	cSt	ASTM D445		15.7	15.2	15.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06100312
Lab Number : 06100312
Unique Number : 10898542
Test Package : MOB 2

Received : 26 Feb 2024
Tested : 27 Feb 2024
Diagnosed : 27 Feb 2024 - Wes Davis

VAUGHN TRUCKING
 90911 LEWIS AND CLARK RD
 ASTORIA, OR
 US 97103
 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)

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F: