



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**KENWORTH 2**

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		TR06100309	TR05950917	TR05902924
Sample Date		Client Info		12 Feb 2024	08 Sep 2023	14 Jul 2023
Machine Age	mls	Client Info		241050	211139	200068
Oil Age	mls	Client Info		10471	41019	29808
Filter Age	mls	Client Info		0	41019	29808
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	25	85	73
Chromium	ppm	ASTM D5185m	>20	<1	3	3
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	7	19	15
Lead	ppm	ASTM D5185m	>40	3	6	7
Copper	ppm	ASTM D5185m	>330	4	8	5
Tin	ppm	ASTM D5185m	>15	<1	2	2
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

## CONTAMINATION

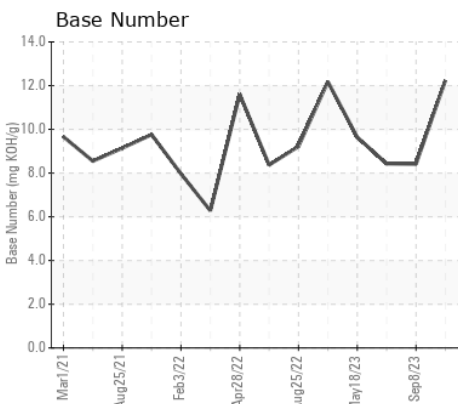
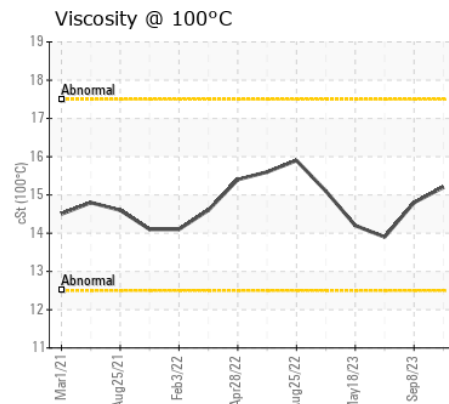
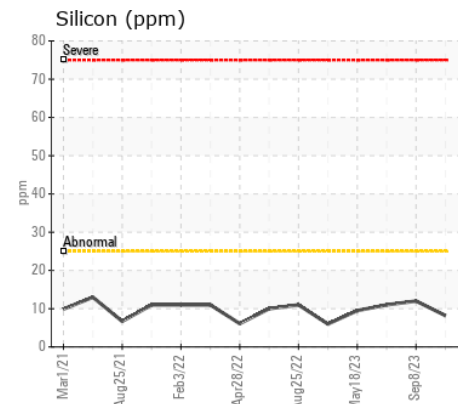
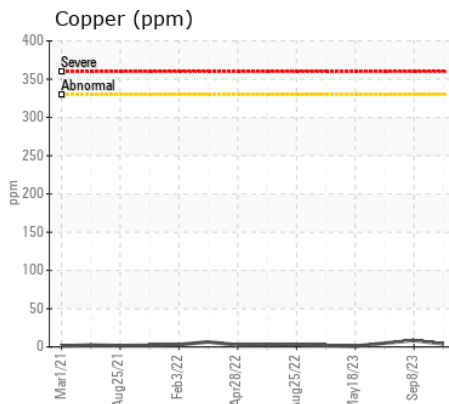
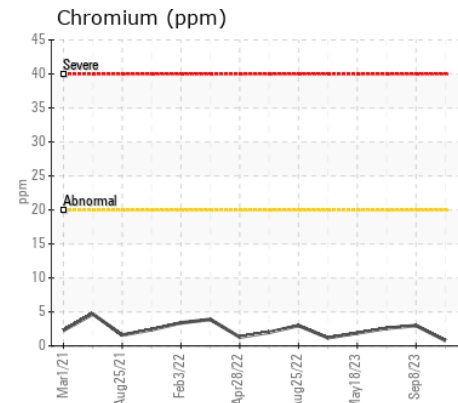
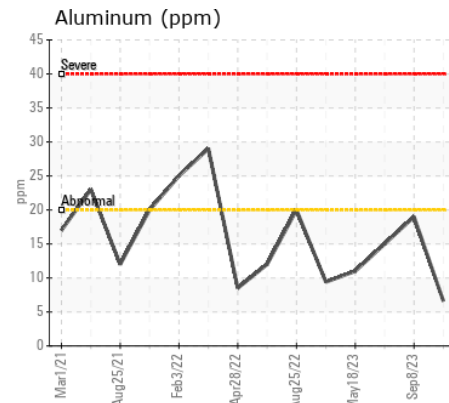
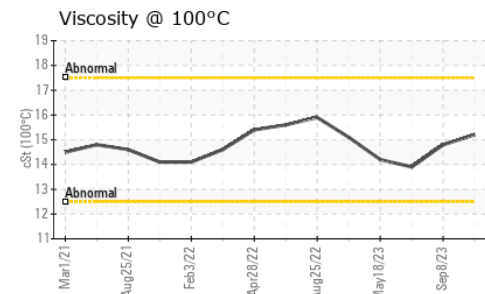
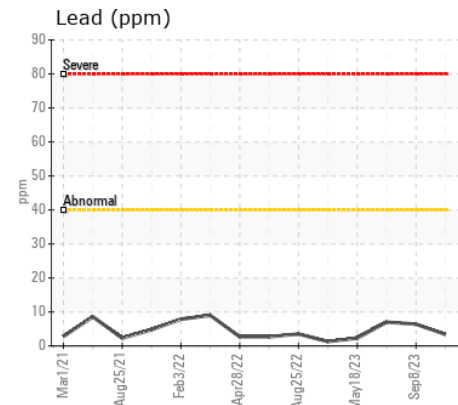
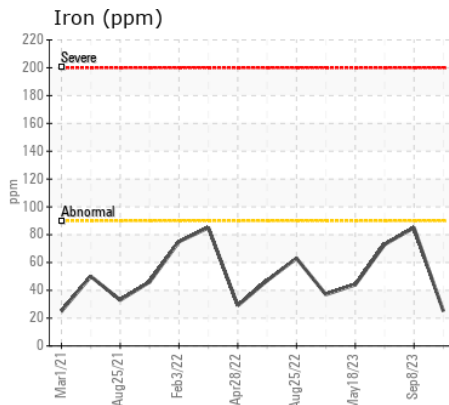
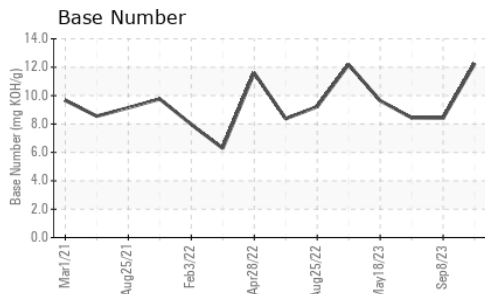
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	12	11
Potassium	ppm	ASTM D5185m	>20	13	20	20
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	0.5	1	0.8
Nitration	Abs/cm	*ASTM D7624	>20	12.7	16.9	16.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.7	36.4	35.9
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		10	6	6
Boron	ppm	ASTM D5185m		7	18	26
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		136	114	139
Manganese	ppm	ASTM D5185m		<1	2	1
Magnesium	ppm	ASTM D5185m		30	81	82
Calcium	ppm	ASTM D5185m		4514	4457	4461
Phosphorus	ppm	ASTM D5185m		941	956	955
Zinc	ppm	ASTM D5185m		1169	1146	1112
Sulfur	ppm	ASTM D5185m		4416	4958	4890
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.7	29.8	28.9
Base Number (BN)	mg KOH/g	ASTM D2896		12.24	8.41	8.43
Visc @ 100°C	cSt	ASTM D445		15.2	14.8	13.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06100309  
**Lab Number** : 06100309  
**Unique Number** : 10898539  
**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: