



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		TR06159862	TR06100309	TR05950917
Sample Date		Client Info		08 Apr 2024	12 Feb 2024	08 Sep 2023
Machine Age	mls	Client Info		251000	241050	211139
Oil Age	mls	Client Info		20497	10471	41019
Filter Age	mls	Client Info		20497	0	41019
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	N/A	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

#### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	32	25	85
Chromium	ppm	ASTM D5185m	>20	2	<1	3
Nickel	ppm	ASTM D5185m	>2	1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	8	7	19
Lead	ppm	ASTM D5185m	>40	4	3	6
Copper	ppm	ASTM D5185m	>330	3	4	8
Tin	ppm	ASTM D5185m	>15	2	<1	2
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

#### CONTAMINATION

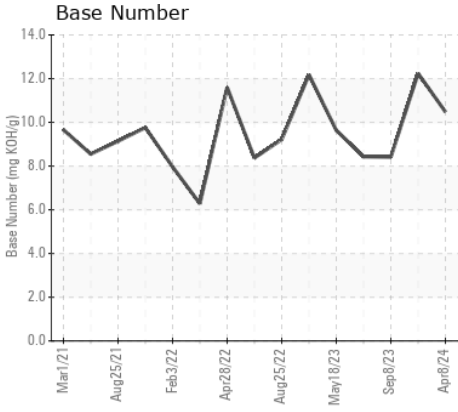
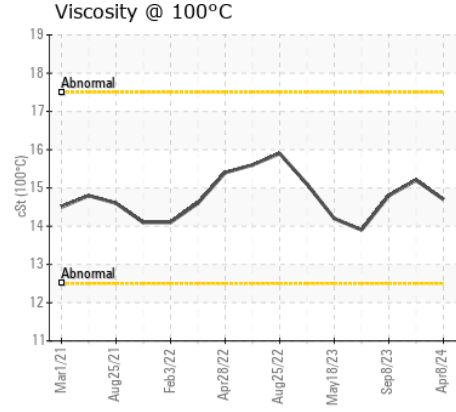
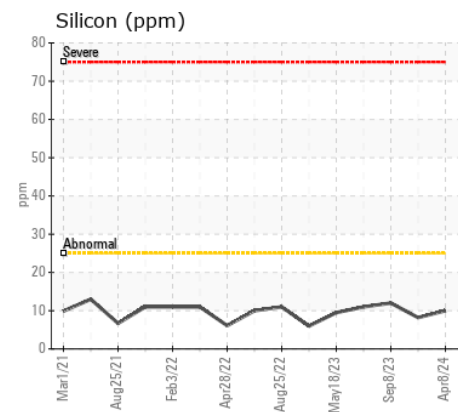
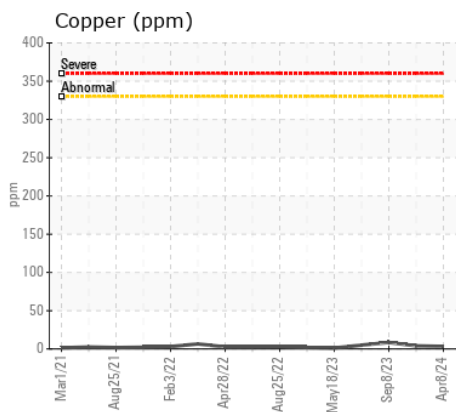
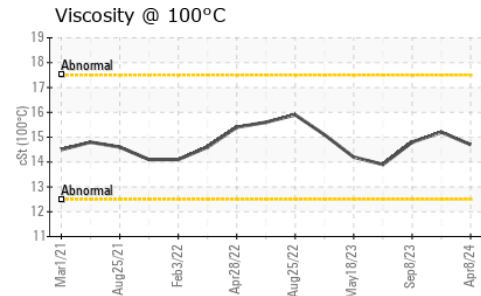
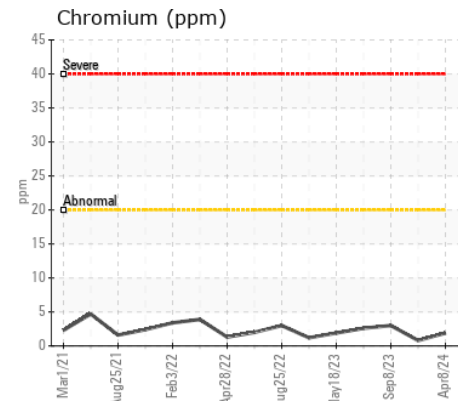
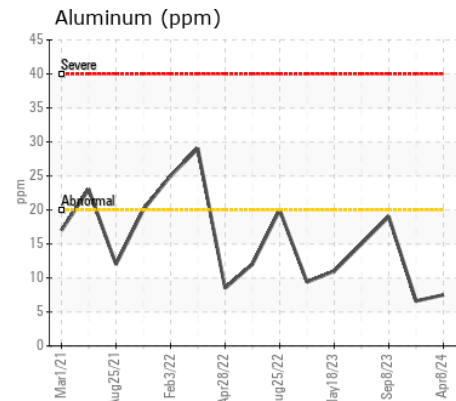
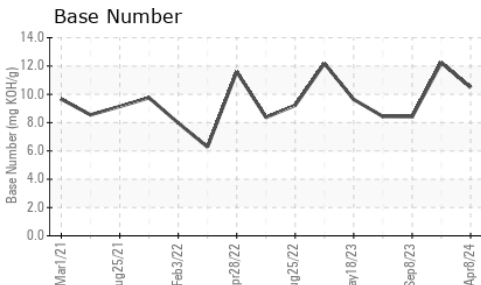
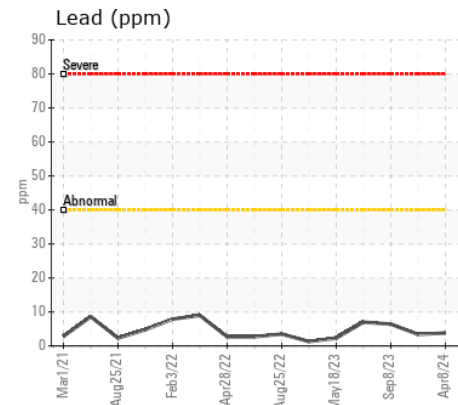
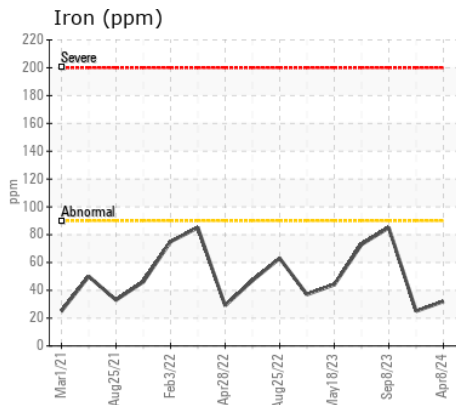
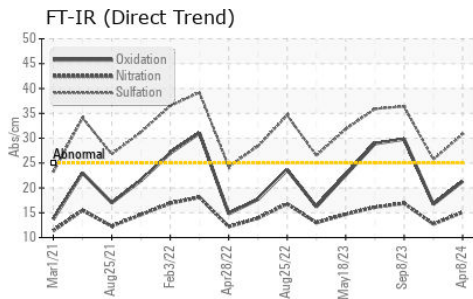
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	10	8	12
Potassium	ppm	ASTM D5185m	>20	8	13	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	0.7	0.5	1
Nitration	Abs/cm	*ASTM D7624	>20	15.1	12.7	16.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	30.8	25.7	36.4
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		2	10	6
Boron	ppm	ASTM D5185m		0	7	18
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		139	136	114
Manganese	ppm	ASTM D5185m		1	<1	2
Magnesium	ppm	ASTM D5185m		21	30	81
Calcium	ppm	ASTM D5185m		4461	4514	4457
Phosphorus	ppm	ASTM D5185m		974	941	956
Zinc	ppm	ASTM D5185m		1103	1169	1146
Sulfur	ppm	ASTM D5185m		4879	4416	4958
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.3	16.7	29.8
Base Number (BN)	mg KOH/g	ASTM D2896		10.48	12.24	8.41
Visc @ 100°C	cSt	ASTM D445		14.7	15.2	14.8



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06159862  
**Lab Number** : 06159862  
**Unique Number** : 10995285  
**Test Package** : MOB 2

**Received** : 24 Apr 2024  
**Tested** : 25 Apr 2024  
**Diagnosed** : 26 Apr 2024 - Sean Felton

**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)

T:  
F: