



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**KENWORTH 56**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC MOLY XL PROSPEC III 15W40 (10 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06157132</b>	TR06055070	TR05845134
Sample Date		Client Info		<b>09 Apr 2024</b>	23 Dec 2023	10 Apr 2023
Machine Age	mls	Client Info		<b>470995</b>	447365	386104
Oil Age	mls	Client Info		<b>23000</b>	58000	34160
Filter Age	mls	Client Info		<b>23000</b>	58000	10000
Oil Changed		Client Info		<b>Not Chngd</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>38</b>	55	39
Chromium	ppm	ASTM D5185m	>6	<b>&lt;1</b>	2	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	2	1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>5</b>	3	5
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	3	2
Copper	ppm	ASTM D5185m	>150	<b>10</b>	12	10
Tin	ppm	ASTM D5185m	>4	<b>1</b>	1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

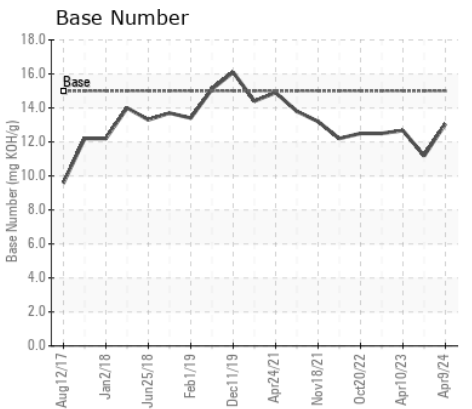
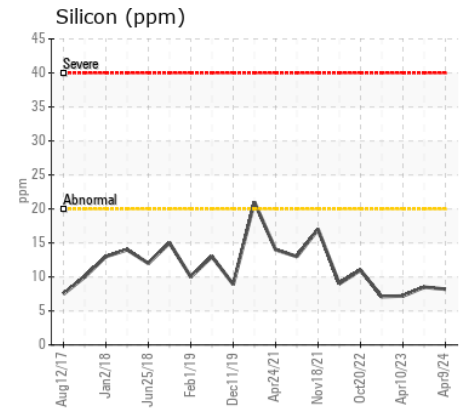
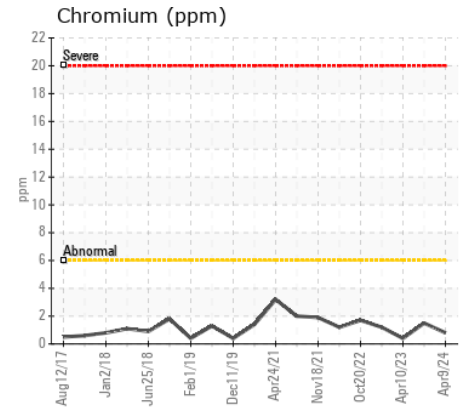
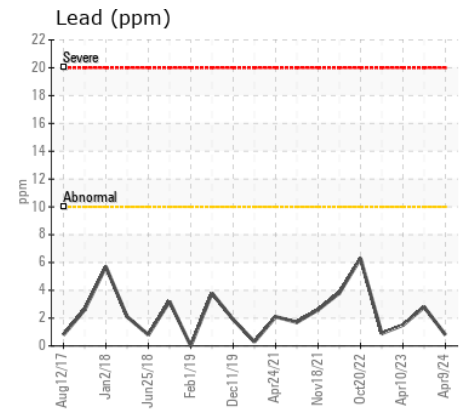
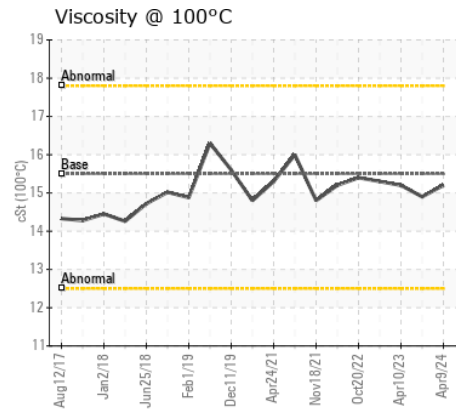
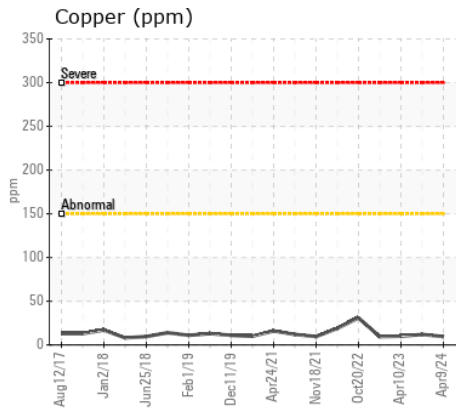
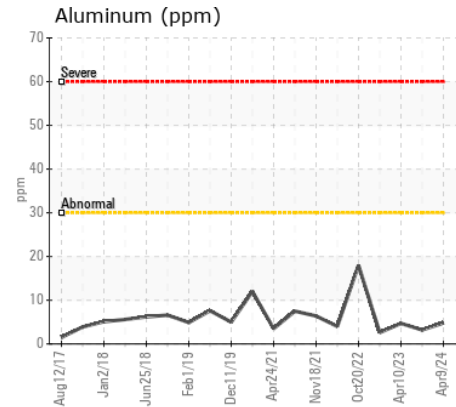
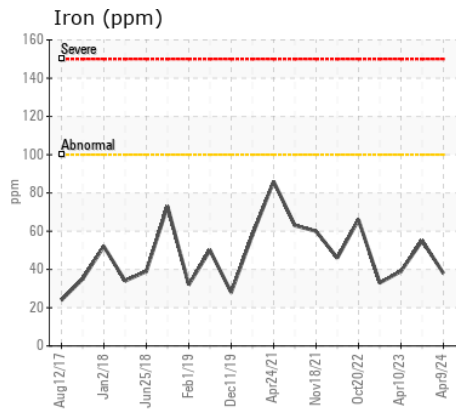
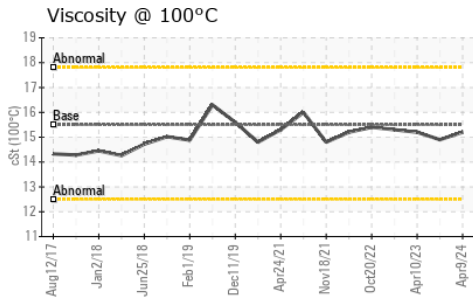
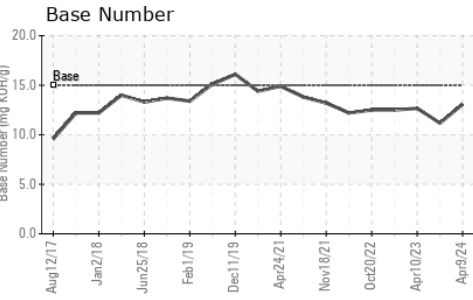
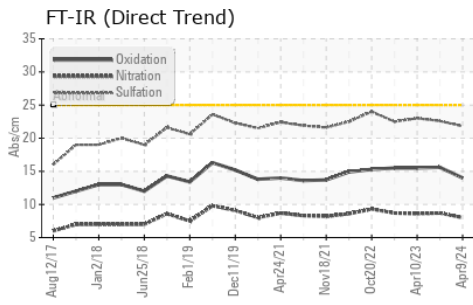
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>8</b>	8	7
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	7	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	8.7	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.8</b>	22.6	23.0
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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		<b>3</b>	0	2
Boron	ppm	ASTM D5185m		<b>203</b>	166	194
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>210</b>	150	212
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Magnesium	ppm	ASTM D5185m		<b>436</b>	369	448
Calcium	ppm	ASTM D5185m	4500	<b>4234</b>	3684	4222
Phosphorus	ppm	ASTM D5185m		<b>918</b>	908	1009
Zinc	ppm	ASTM D5185m	1400	<b>1081</b>	1161	1271
Sulfur	ppm	ASTM D5185m		<b>4177</b>	4183	4611
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.0</b>	15.6	15.5
Base Number (BN)	mg KOH/g	ASTM D2896	15	<b>13.06</b>	11.18	12.67
Visc @ 100°C	cSt	ASTM D445	15.5	<b>15.2</b>	14.9	15.2



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06157132  
**Lab Number** : 06157132  
**Unique Number** : 10992555  
**Test Package** : MOB 2

**Received** : 22 Apr 2024  
**Tested** : 23 Apr 2024  
**Diagnosed** : 23 Apr 2024 - Wes Davis

**CHARLES MOORE TRUCKING**  
 855 KINSEY RD  
 MILES CITY, MT  
 US 59301  
 Contact: KELLY ZIETTLow  
 cactus@midrivers.com

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: