



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**1997 PETERBILT 97 PETE**

Component  
**Diesel Engine**

Fluid  
**TRC MOLY XL PRO-SPEC IV XP 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>TR05974276</b>	TR05647352	TR05190412
Sample Date		Client Info		<b>14 Sep 2023</b>	13 Sep 2022	10 Feb 2021
Machine Age	mls	Client Info		<b>528872</b>	527077	424884
Oil Age	mls	Client Info		<b>3988</b>	2193	800
Filter Age	mls	Client Info		<b>3988</b>	2193	800
Oil Changed		Client Info		<b>Changed</b>	Not Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Not Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>17</b>	11	3
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	4	1
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	1	1
Copper	ppm	ASTM D5185m	>330	<b>532</b>	12	38
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

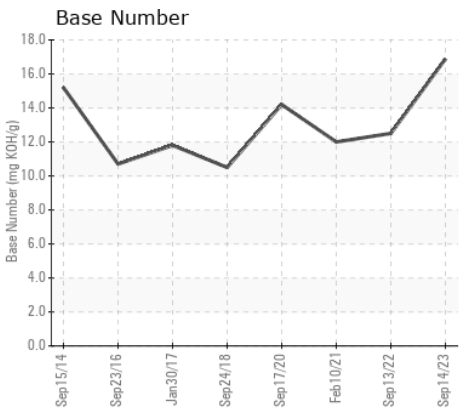
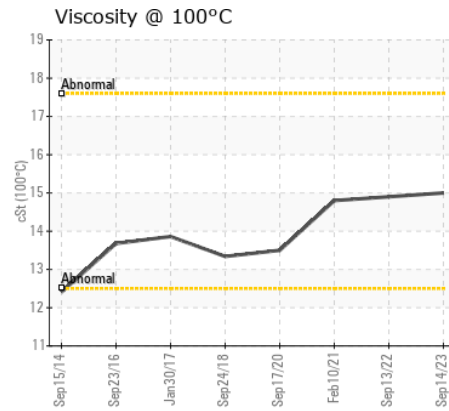
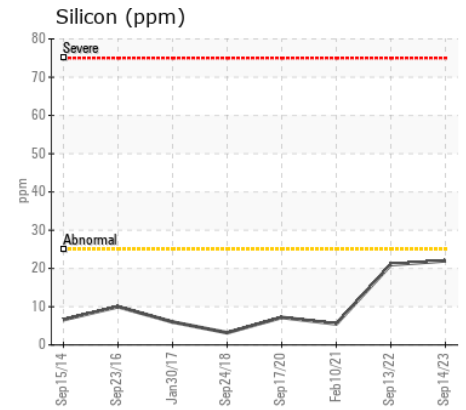
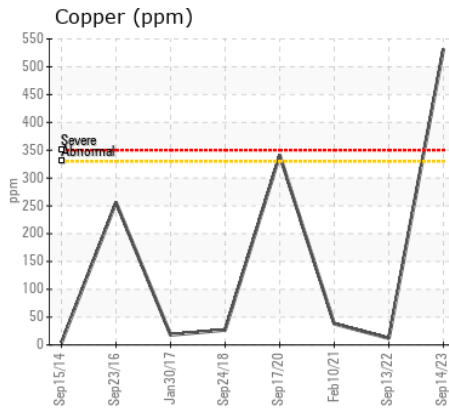
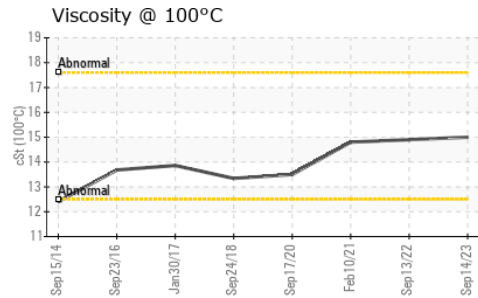
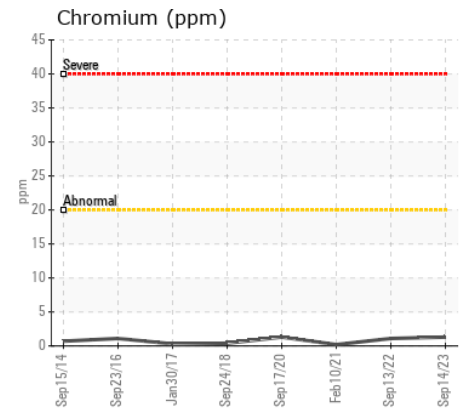
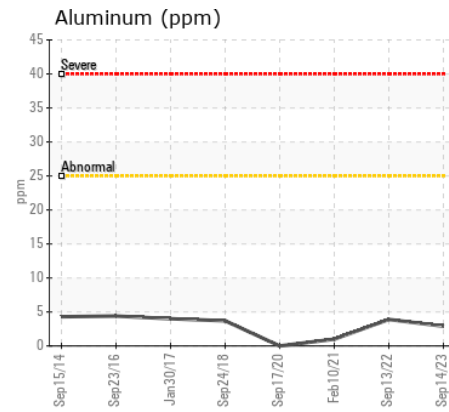
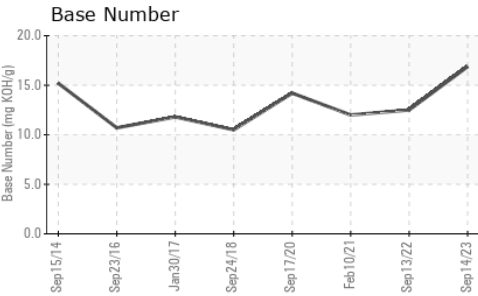
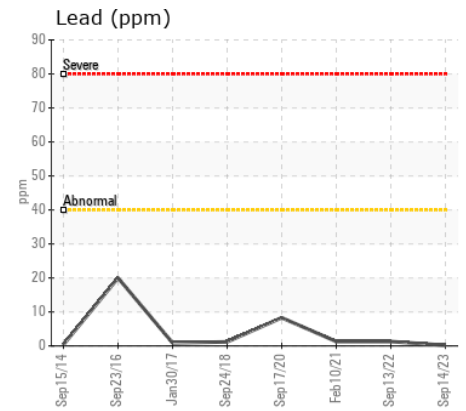
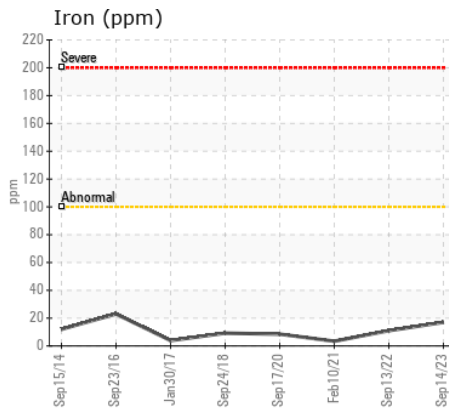
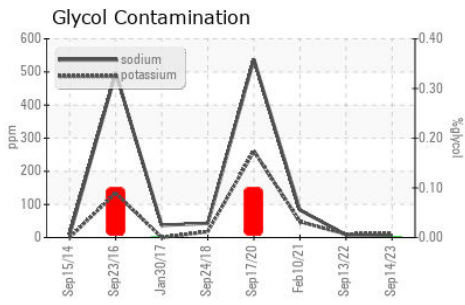
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>22</b>	21	6
Potassium	ppm	ASTM D5185m	>20	<b>13</b>	10	▲ 48
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>0.0</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.7</b>	9.5	8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.4</b>	19.7	17.4
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>7</b>	8	▲ 83
Boron	ppm	ASTM D5185m		<b>4</b>	7	4
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>144</b>	141	116
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>104</b>	124	76
Calcium	ppm	ASTM D5185m		<b>3968</b>	4244	3587
Phosphorus	ppm	ASTM D5185m		<b>895</b>	934	878
Zinc	ppm	ASTM D5185m		<b>1099</b>	1122	924
Sulfur	ppm	ASTM D5185m		<b>4982</b>	5245	3558
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.1</b>	12.6	10.4
Base Number (BN)	mg KOH/g	ASTM D2896		<b>16.88</b>	12.5	12.0
Visc @ 100°C	cSt	ASTM D445		<b>15.0</b>	14.9	14.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR05974276  
**Lab Number** : 05974276  
**Unique Number** : 10686226  
**Test Package** : MOB 2 ( Additional Tests: Glycol )

**Received** : 10 Oct 2023  
**Tested** : 12 Oct 2023  
**Diagnosed** : 12 Oct 2023 - Wes Davis

**PHIL HARDER**  
 57803 350TH STREET  
 MOUNTAIN LAKE, MN  
 US 56159  
 Contact: PHILIP HARDER  
 philbren@frontiernet.net

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: 5(07) 227-6074

F: