



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**YB6211688**

Component  
**Diesel Engine**

Fluid  
**TRC PRO-SPEC IV SYNTHETIC BLEND 15W40 (9 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR05401944</b>	TR05299000	---
Sample Date		Client Info		<b>09 Nov 2021</b>	29 Jun 2021	---
Machine Age	hrs	Client Info		<b>3541</b>	3340	---
Oil Age	hrs	Client Info		<b>201</b>	382	---
Filter Age	hrs	Client Info		<b>201</b>	382	---
Oil Changed		Client Info		<b>Not Changd</b>	Changed	---
Filter Changed		Client Info		<b>Not Changd</b>	Changed	---
Sample Status				<b>NORMAL</b>	ABNORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>15</b>	32	---
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	---
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	0	---
Lead	ppm	ASTM D5185m	>40	<b>2</b>	11	---
Copper	ppm	ASTM D5185m	>330	<b>2</b>	3	---
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

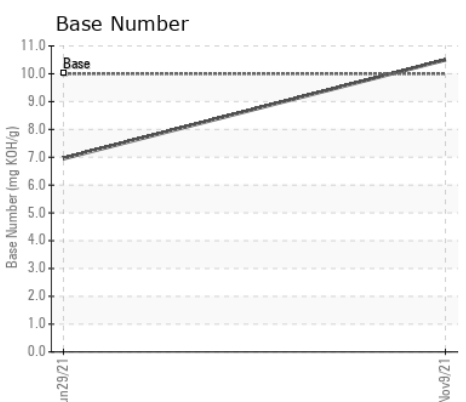
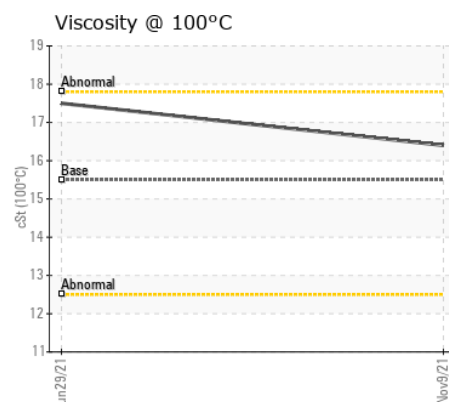
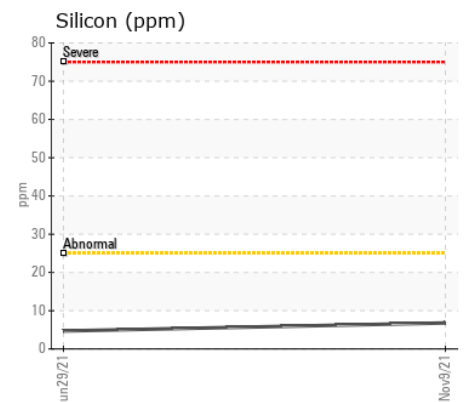
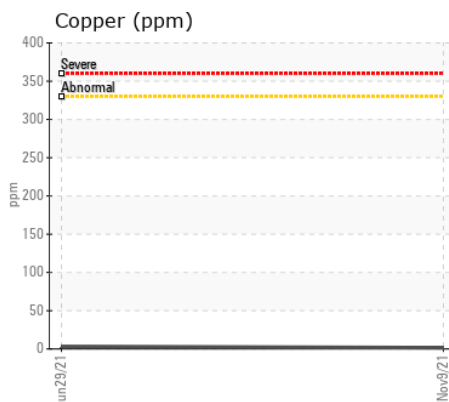
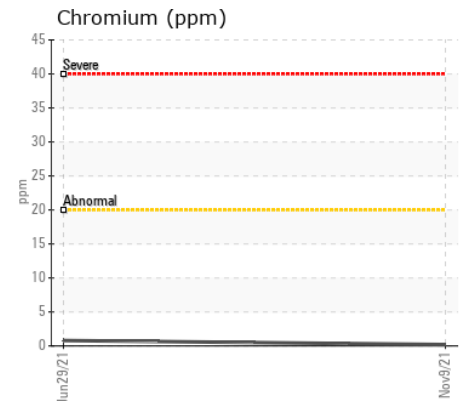
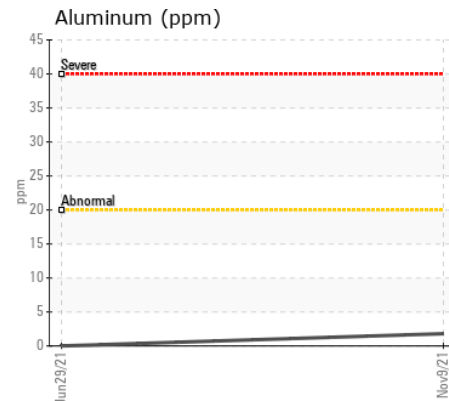
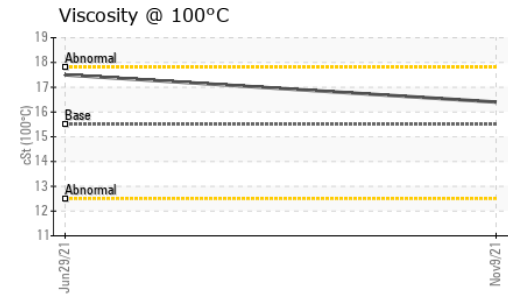
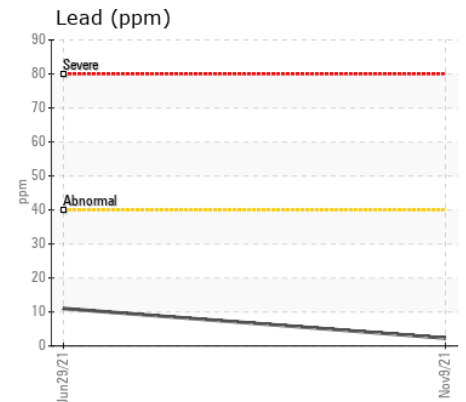
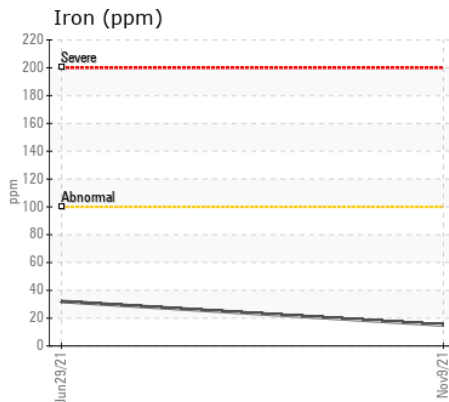
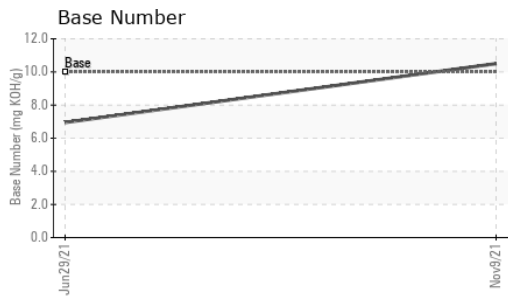
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>7</b>	5	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>2</b>	▲ 4.4	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.6</b>	14.9	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.4</b>	32.1	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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>6</b>	10	---
Boron	ppm	ASTM D5185m		<b>14</b>	57	---
Barium	ppm	ASTM D5185m		<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m		<b>121</b>	90	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m		<b>26</b>	84	---
Calcium	ppm	ASTM D5185m	2300	<b>3747</b>	2450	---
Phosphorus	ppm	ASTM D5185m		<b>870</b>	1087	---
Zinc	ppm	ASTM D5185m	1200	<b>1059</b>	1215	---
Sulfur	ppm	ASTM D5185m		<b>3726</b>	4652	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.4</b>	21.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>10.5</b>	6.95	---
Visc @ 100°C	cSt	ASTM D445	15.5	<b>16.4</b>	▲ 17.5	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR05401944 **Received** : 16 Nov 2021  
**Lab Number** : 05401944 **Diagnosed** : 18 Nov 2021  
**Unique Number** : 9746107 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2

**WEST HILLS JV**  
 43667 LAKE RD E  
 SPRAGUE, WA  
 US 99032  
 Contact: RON GROGAN

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: