



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**CHALLENGER 765C-Z**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC PRO-SPEC IV XP SYN BLEND 15W40 (32 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please note that this is a corrected copy for data entry updates.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05303260	TR05275644	---
Sample Date		Client Info		28 Jun 2021	18 May 2021	---
Machine Age	hrs	Client Info		3883	3641	---
Oil Age	hrs	Client Info		887	706	---
Filter Age	hrs	Client Info		887	706	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	Not Changd	---
Sample Status				NORMAL	NORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	60	62	---
Chromium	ppm	ASTM D5185m	>20	1	2	---
Nickel	ppm	ASTM D5185m	>2	<1	<1	---
Titanium	ppm	ASTM D5185m	>2	<1	<1	---
Silver	ppm	ASTM D5185m	>2	<1	0	---
Aluminum	ppm	ASTM D5185m	>25	1	4	---
Lead	ppm	ASTM D5185m	>40	2	2	---
Copper	ppm	ASTM D5185m	>330	3	4	---
Tin	ppm	ASTM D5185m	>15	1	1	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

## CONTAMINATION

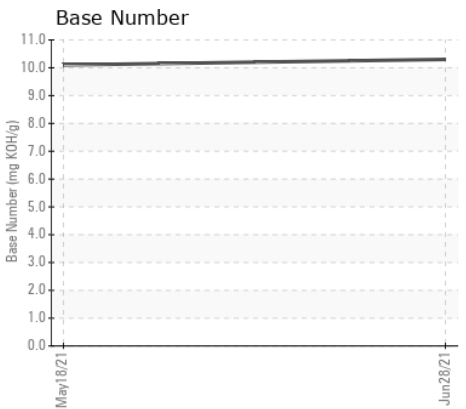
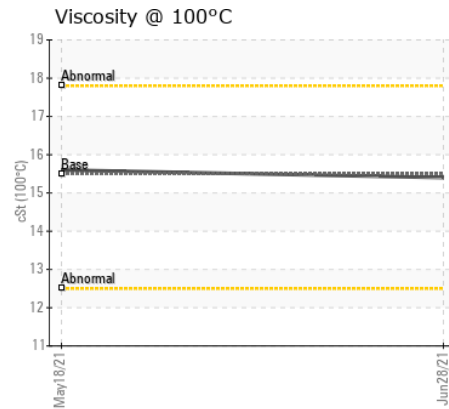
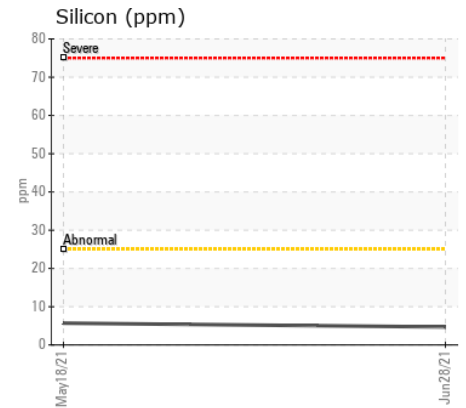
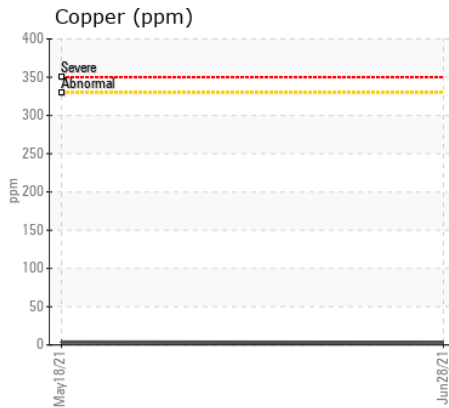
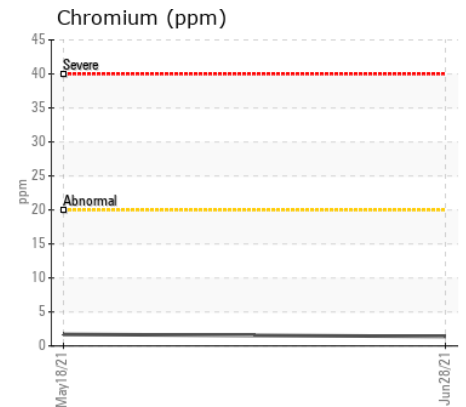
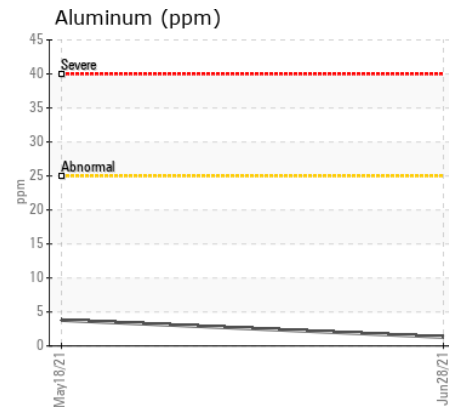
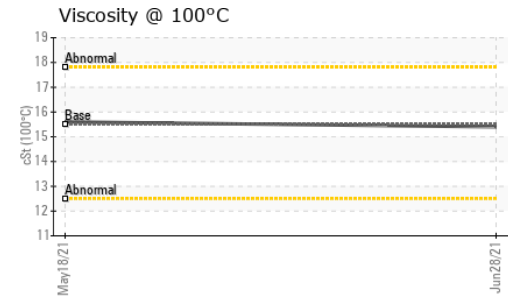
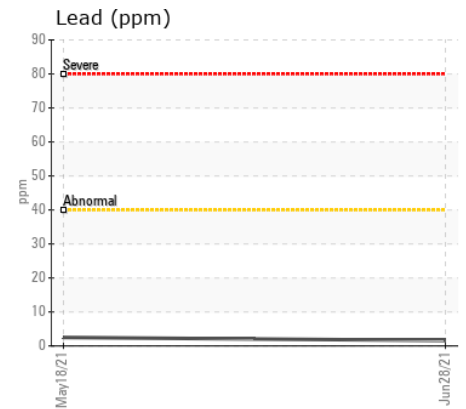
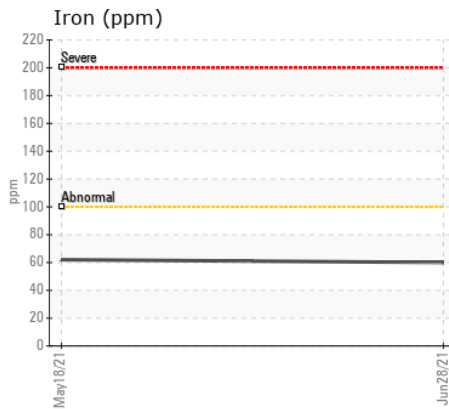
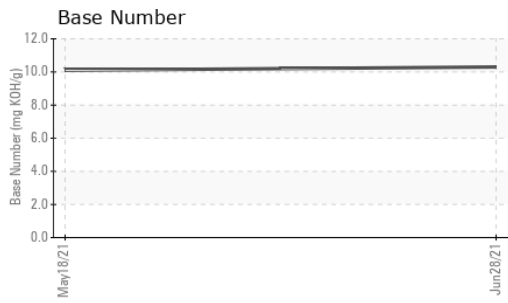
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	6	---
Potassium	ppm	ASTM D5185m	>20	6	6	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	1.5	1.6	---
Nitration	Abs/cm	*ASTM D7624	>20	15.1	14.8	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	30.3	30.6	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	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		1	3	---
Boron	ppm	ASTM D5185m		13	15	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		7	8	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		31	19	---
Calcium	ppm	ASTM D5185m		4344	4735	---
Phosphorus	ppm	ASTM D5185m		945	1044	---
Zinc	ppm	ASTM D5185m		1117	1228	---
Sulfur	ppm	ASTM D5185m		3420	3807	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.4	20.8	---
Base Number (BN)	mg KOH/g	ASTM D2896		10.3	10.1	---
Visc @ 100°C	cSt	ASTM D445	15.5	15.4	15.6	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR05303260 **Received** : 15 Jul 2021  
**Lab Number** : 05303260 **Diagnosed** : 26 Jul 2021  
**Unique Number** : 9582220 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 2

**JOHN FEHR**  
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 WEST BEND, IA  
 US 50597  
 Contact: JUSTIN HELICKSON

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: