



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**20 - APEX**  
 Component  
**Gearbox**  
 Fluid  
**TRC 890 VARI-PURPOSE 85W140 (120 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06029531	TR05939820	TR05854472
Sample Date		Client Info		21 Nov 2023	30 Aug 2023	18 May 2023
Machine Age	yrs	Client Info		0	0	0
Oil Age	yrs	Client Info		0	0	0
Filter Age	yrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	69	73	76
Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Nickel	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	4	0
Lead	ppm	ASTM D5185m	>50	15	14	14
Copper	ppm	ASTM D5185m	>200	42	39	40
Tin	ppm	ASTM D5185m	>10	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

## CONTAMINATION

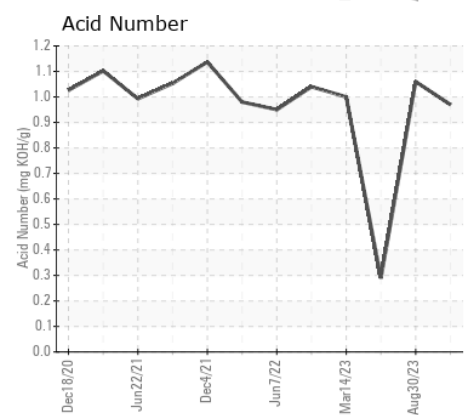
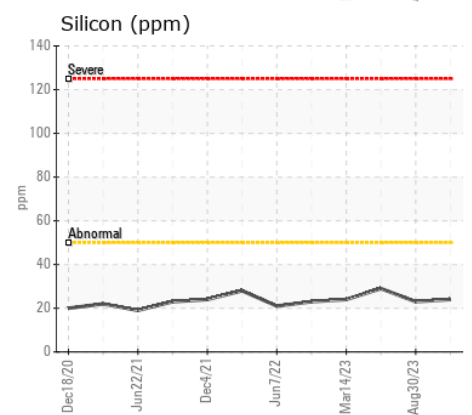
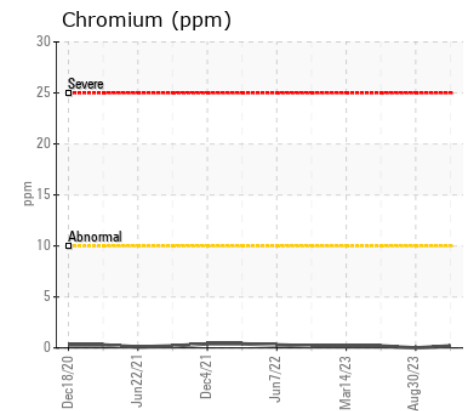
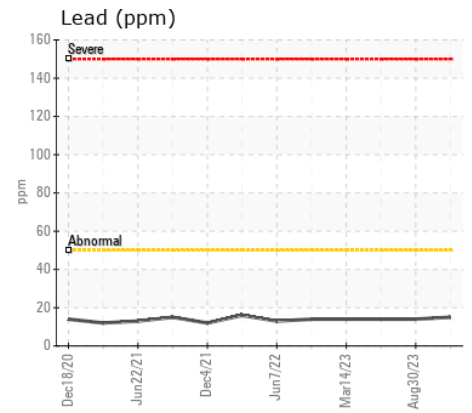
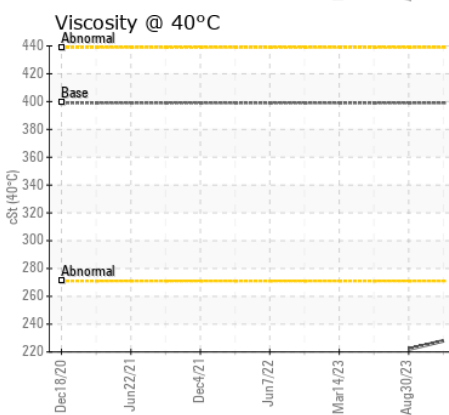
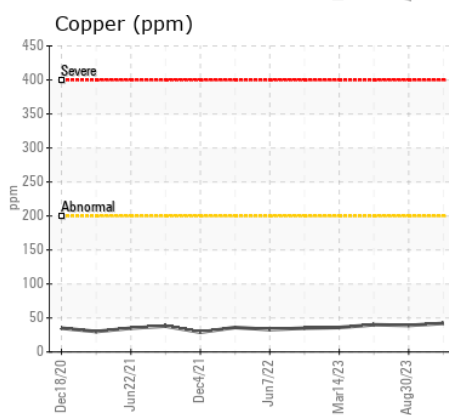
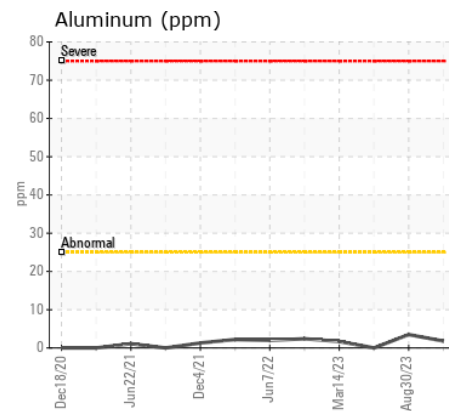
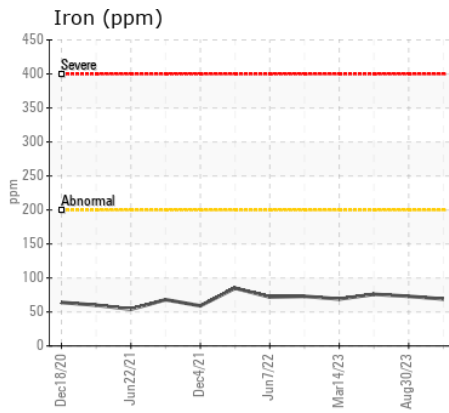
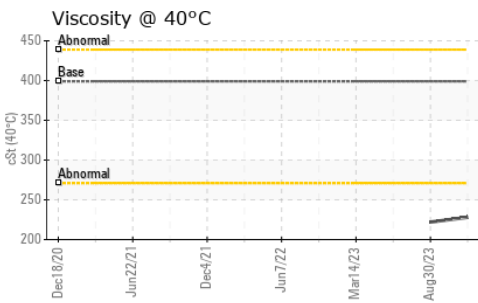
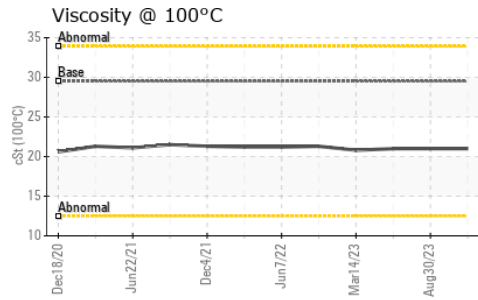
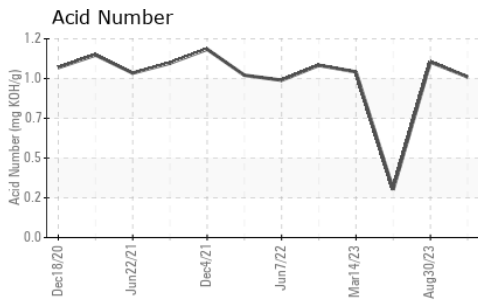
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m	>50	24	23	29
Potassium	ppm	ASTM D5185m	>20	2	2	2
Water		WC Method	>0.2	NEG	NEG	NEG
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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	3	2
Boron	ppm	ASTM D5185m		4	3	5
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		29	29	30
Manganese	ppm	ASTM D5185m		3	2	3
Magnesium	ppm	ASTM D5185m		0	6	7
Calcium	ppm	ASTM D5185m		30	52	57
Phosphorus	ppm	ASTM D5185m		828	716	693
Zinc	ppm	ASTM D5185m		97	115	110
Sulfur	ppm	ASTM D5185m		18747	23406	17003
Acid Number (AN)	mg KOH/g	ASTM D8045		0.97	1.06	0.29
Visc @ 40°C	cSt	ASTM D445	399	228	222	---
Visc @ 100°C	cSt	ASTM D445	29.5	21.0	21.0	21.0
Viscosity Index (VI)	Scale	ASTM D2270		108	111	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06029531 **Received** : 08 Dec 2023  
**Lab Number** : 06029531 **Tested** : 11 Dec 2023  
**Unique Number** : 10779322 **Diagnosed** : 12 Dec 2023 - Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: KV100, VI)

**CARLSTAR GROUP - FORMERLY CARLISLE TIRE**  
 520 JD YARNELL IND. PKWY  
 CLINTON, TN  
 US 37716  
 Contact: JOHN GAINES

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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