



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		TR06122578	TR06029531	TR05939820
Sample Date		Client Info		13 Mar 2024	21 Nov 2023	30 Aug 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	72	69	73
Chromium	ppm	ASTM D5185m	>10	0	<1	0
Nickel	ppm	ASTM D5185m	>10	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	0	2	4
Lead	ppm	ASTM D5185m	>50	11	15	14
Copper	ppm	ASTM D5185m	>200	44	42	39
Tin	ppm	ASTM D5185m	>10	0	<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

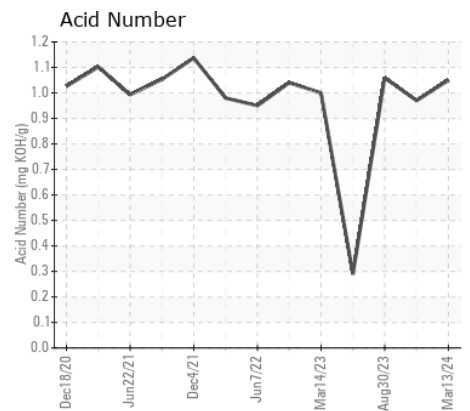
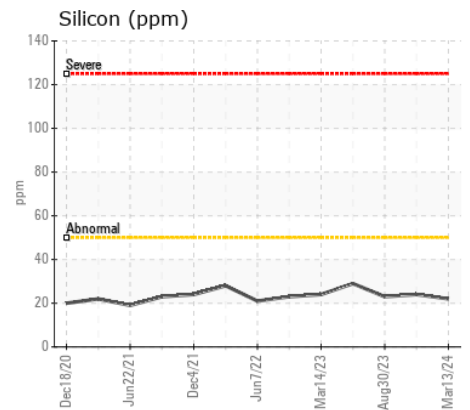
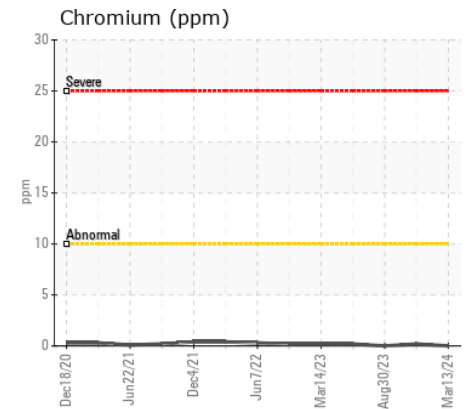
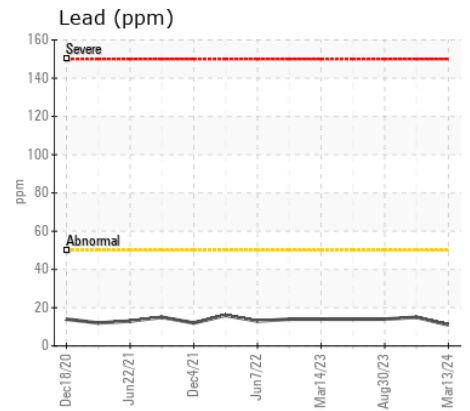
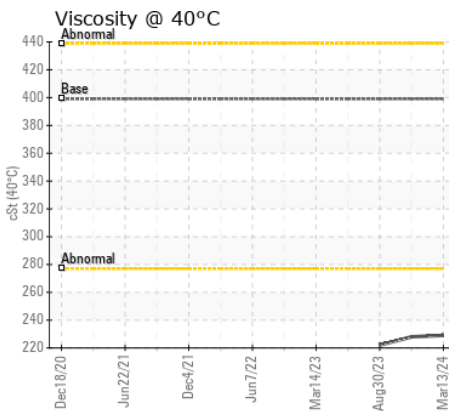
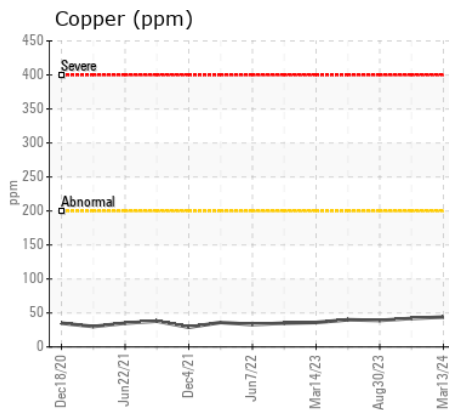
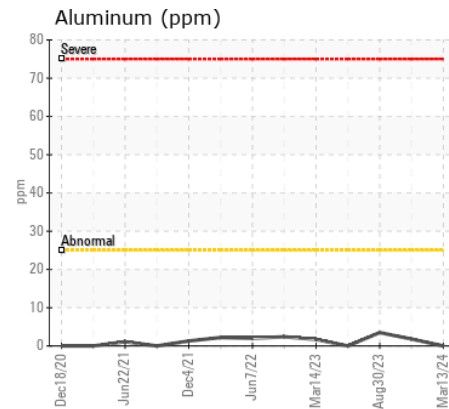
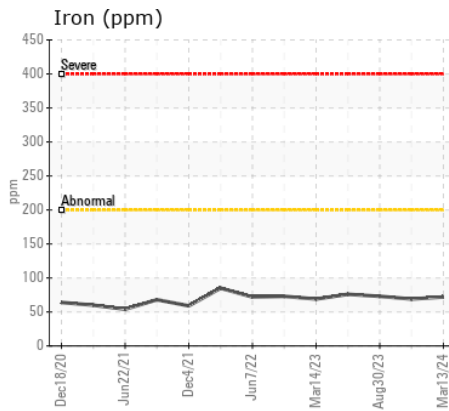
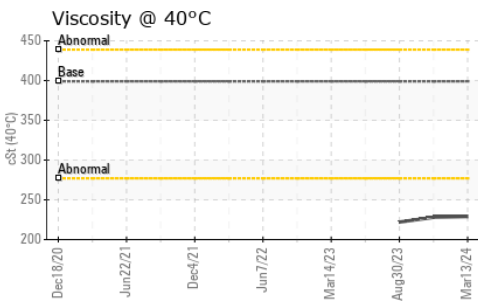
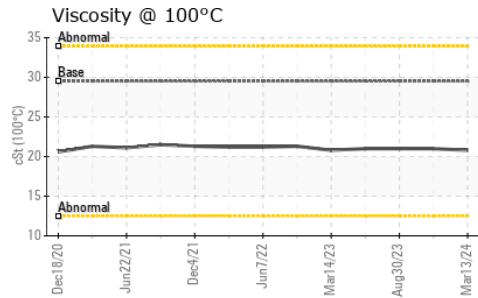
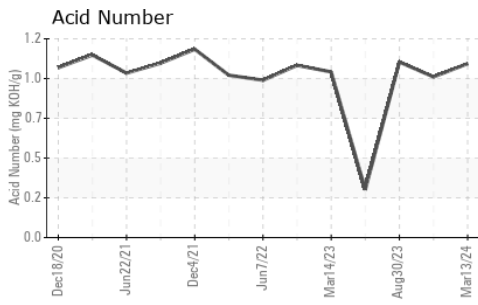
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m	>50	22	24	23
Potassium	ppm	ASTM D5185m	>20	0	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	2	3
Boron	ppm	ASTM D5185m		4	4	3
Barium	ppm	ASTM D5185m		3	0	0
Molybdenum	ppm	ASTM D5185m		27	29	29
Manganese	ppm	ASTM D5185m		2	3	2
Magnesium	ppm	ASTM D5185m		2	0	6
Calcium	ppm	ASTM D5185m		51	30	52
Phosphorus	ppm	ASTM D5185m		654	828	716
Zinc	ppm	ASTM D5185m		105	97	115
Sulfur	ppm	ASTM D5185m		20466	18747	23406
Acid Number (AN)	mg KOH/g	ASTM D8045		1.05	0.97	1.06
Visc @ 40°C	cSt	ASTM D445	399	229	228	222
Visc @ 100°C	cSt	ASTM D445	29.5	20.8	21.0	21.0
Viscosity Index (VI)	Scale	ASTM D2270		106	108	111



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06122578
Lab Number : 06122578
Unique Number : 10936729
Test Package : MOB 2 (Additional Tests: KV100, VI)
Received : 19 Mar 2024
Tested : 20 Mar 2024
Diagnosed : 21 Mar 2024 - Don Baldrige

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)

T:
 F: (865)463-3696