



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id

75

Component

Transfer Case

Fluid

TRC ULTRA-TEC 85W140 (1 GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR0001360	TR0001241	TR0001157
Sample Date		Client Info		08 Apr 2024	14 Nov 2023	27 Jul 2023
Machine Age	hrs	Client Info		20519	19490	18901
Oil Age	hrs	Client Info		20519	19490	18901
Filter Age	hrs	Client Info		0	0	18901
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	Not Changd
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>500	120	84	1
Chromium	ppm	ASTM D5185m	>5	<1	<1	1
Nickel	ppm	ASTM D5185m	>5	<1	<1	1
Titanium	ppm	ASTM D5185m		<1	<1	1
Silver	ppm	ASTM D5185m		0	0	3
Aluminum	ppm	ASTM D5185m	>45	16	9	0
Lead	ppm	ASTM D5185m	>150	<1	0	8
Copper	ppm	ASTM D5185m	>100	<1	<1	2
Tin	ppm	ASTM D5185m	>5	<1	<1	2
Vanadium	ppm	ASTM D5185m		0	<1	2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

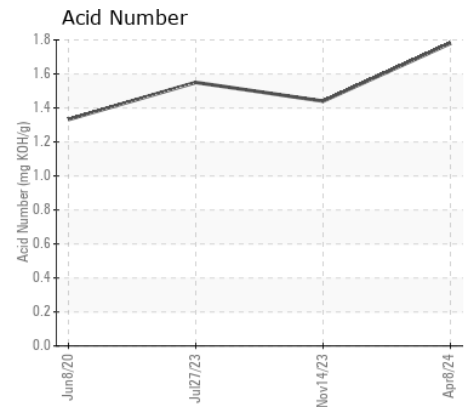
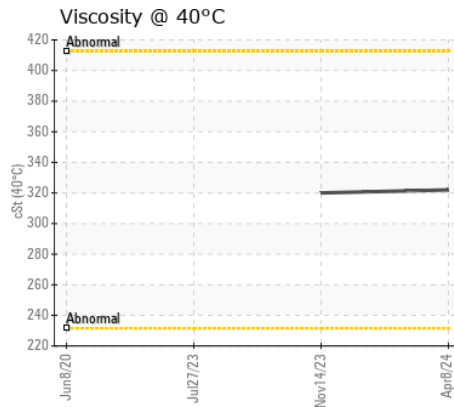
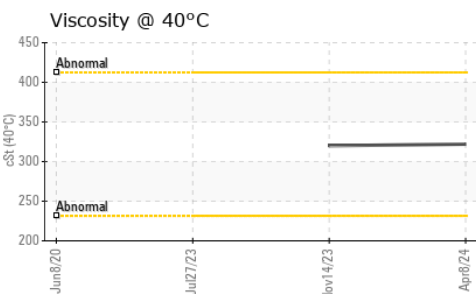
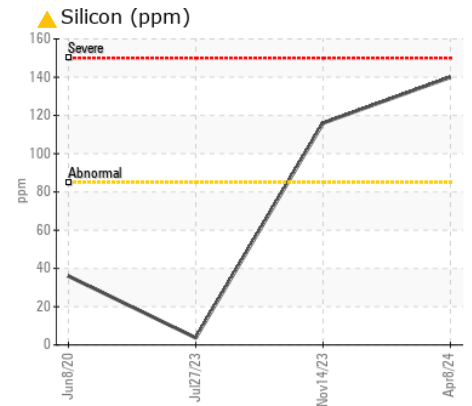
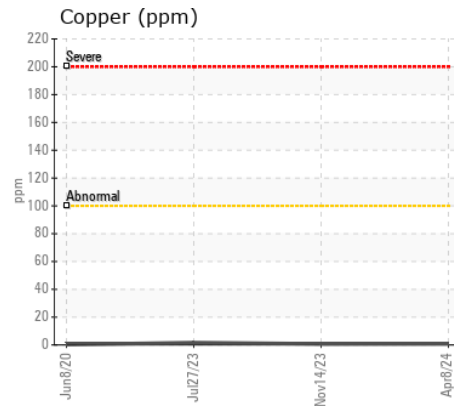
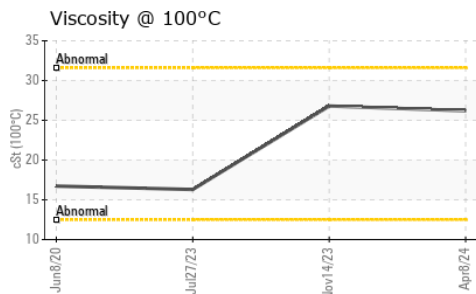
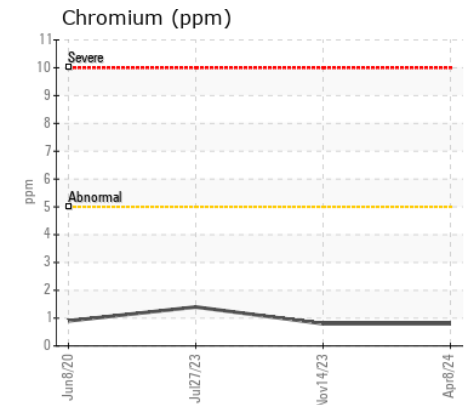
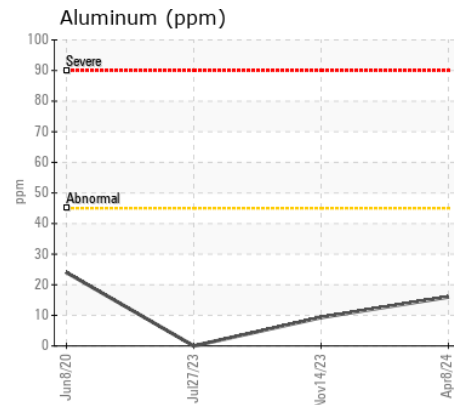
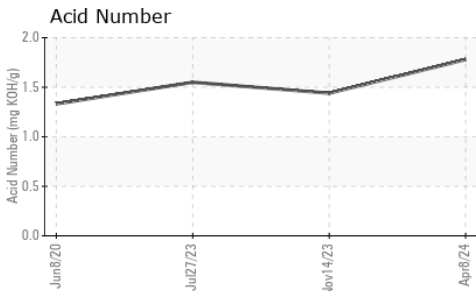
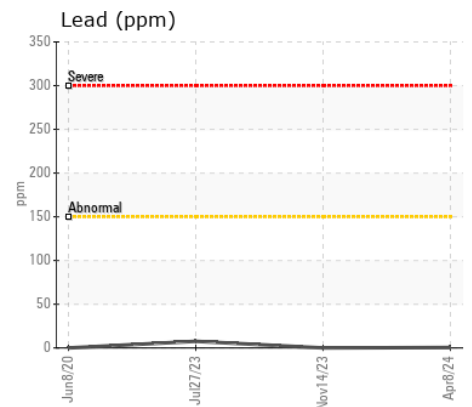
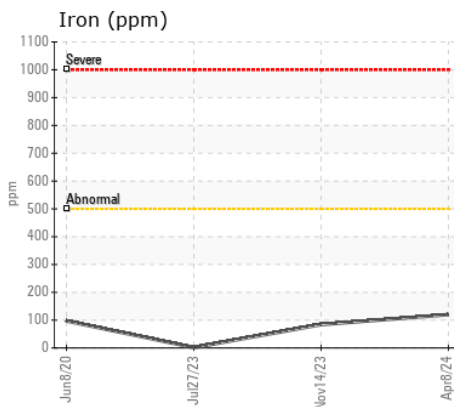
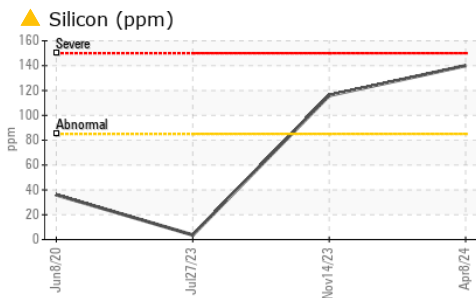
Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material.

Silicon	ppm	ASTM D5185m	>85	▲ 140	▲ 116	4
Potassium	ppm	ASTM D5185m	>20	2	1	99
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		<1	2	41
Boron	ppm	ASTM D5185m		345	314	53
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	<1
Manganese	ppm	ASTM D5185m		1	1	<1
Magnesium	ppm	ASTM D5185m		1	0	19
Calcium	ppm	ASTM D5185m		44	0	0
Phosphorus	ppm	ASTM D5185m		1211	928	491
Zinc	ppm	ASTM D5185m		11	0	0
Sulfur	ppm	ASTM D5185m		24050	20809	21500
Acid Number (AN)	mg KOH/g	ASTM D8045		1.78	1.44	1.55
Visc @ 40°C	cSt	ASTM D445		322	320	---
Visc @ 100°C	cSt	ASTM D445		26.2	26.8	16.3
Viscosity Index (VI)	Scale	ASTM D2270		106	110	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR0001360 **Received** : 12 Apr 2024
Lab Number : 06148135 **Tested** : 15 Apr 2024
Unique Number : 10978213 **Diagnosed** : 17 Apr 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: KV100, VI)

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Contact: MARK OPHEIM

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:
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