



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
TORO 30609/4000-D 115625/30609 (S/N A183642726)
 Component
Front Hydrostatic
 Fluid
TRC UTF RED (8 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06159114	TR05978234	---
Sample Date		Client Info		23 Apr 2024	11 Oct 2023	---
Machine Age	hrs	Client Info		2878	2767	---
Oil Age	hrs	Client Info		1526	1942	---
Filter Age	hrs	Client Info		1526	1942	---
Oil Changed		Client Info		Not Chngd	Not Chngd	---
Filter Changed		Client Info		Not Chngd	Not Chngd	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	10	10	---
Chromium	ppm	ASTM D5185m	>10	0	0	---
Nickel	ppm	ASTM D5185m		0	0	---
Titanium	ppm	ASTM D5185m		0	<1	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>50	2	1	---
Lead	ppm	ASTM D5185m	>50	14	13	---
Copper	ppm	ASTM D5185m	>200	13	15	---
Tin	ppm	ASTM D5185m	>10	0	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

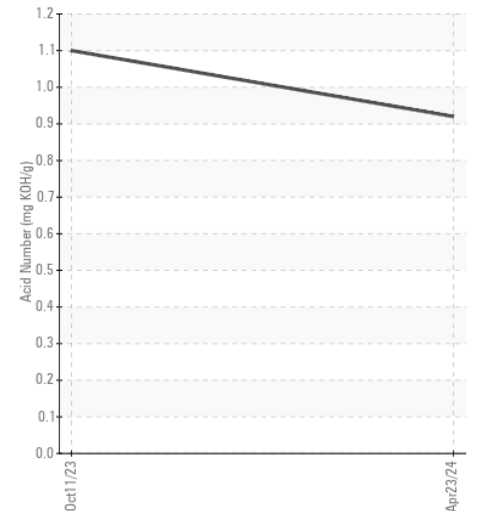
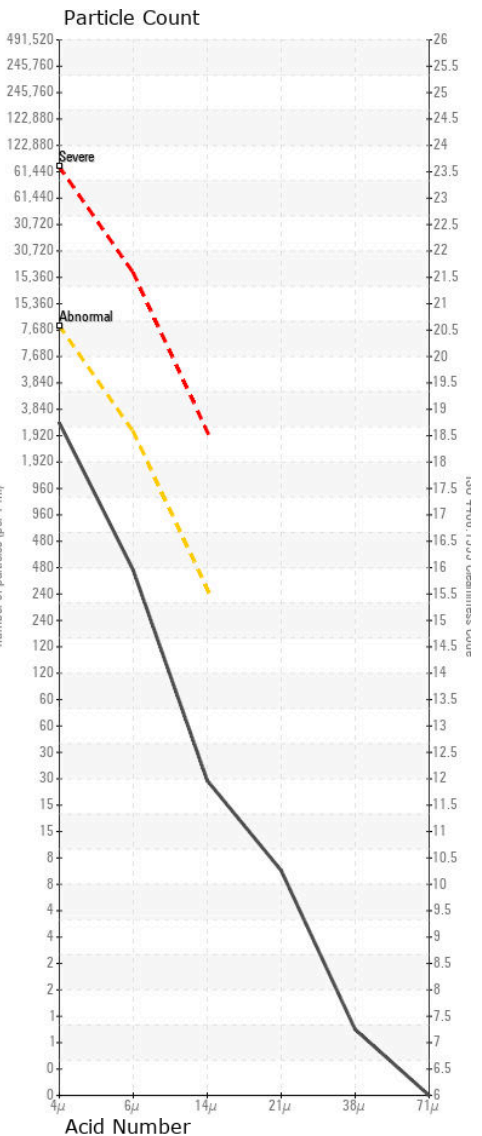
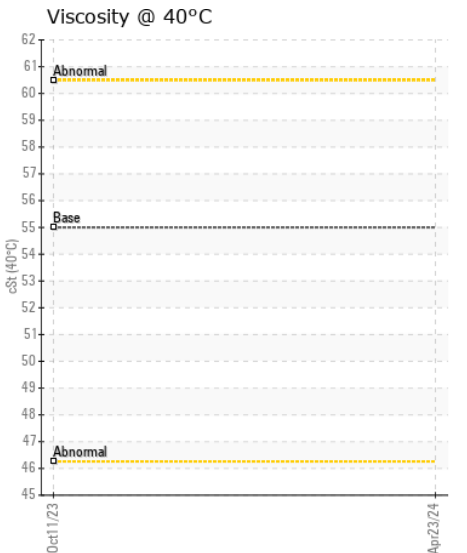
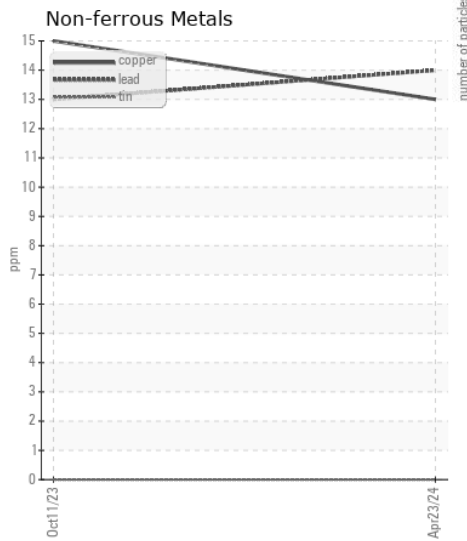
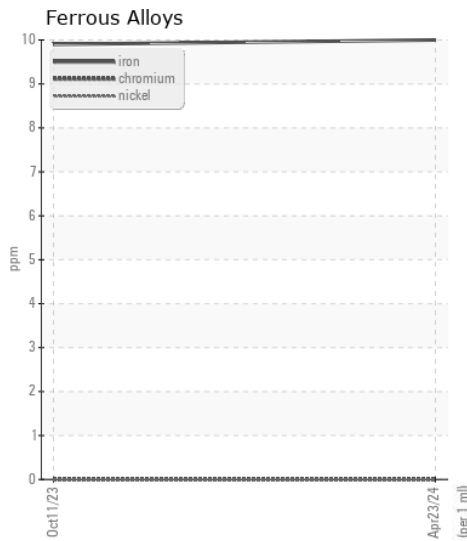
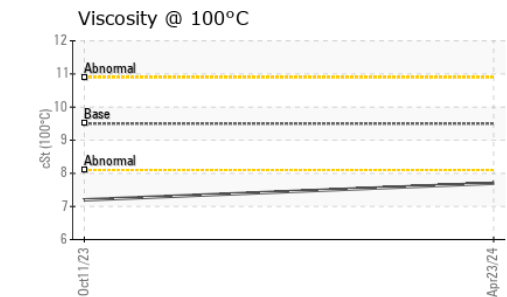
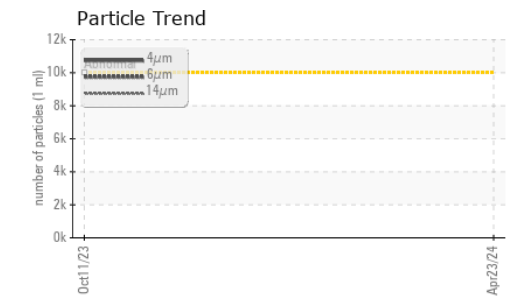
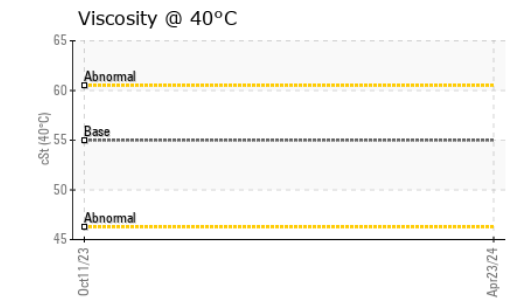
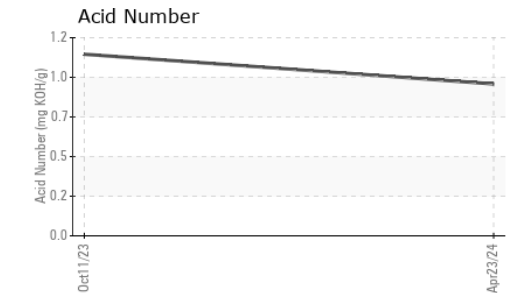
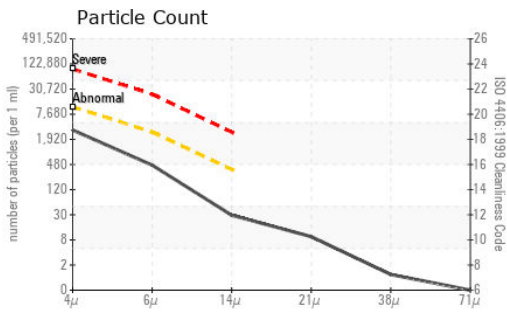
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	10	10	---
Potassium	ppm	ASTM D5185m	>20	0	0	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>10000	2804	---	---
Particles >6µm		ASTM D7647	>2500	407	---	---
Particles >14µm		ASTM D7647	>320	26	---	---
Particles >21µm		ASTM D7647	>80	8	---	---
Particles >38µm		ASTM D7647	>20	1	---	---
Particles >71µm		ASTM D7647	>4	0	---	---
Oil Cleanliness		ISO 4406 (c)	>20/18/15	19/16/12	---	---
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	>0.1	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		5	5	---
Boron	ppm	ASTM D5185m		87	84	---
Barium	ppm	ASTM D5185m		<1	2	---
Molybdenum	ppm	ASTM D5185m		0	0	---
Manganese	ppm	ASTM D5185m		0	0	---
Magnesium	ppm	ASTM D5185m		8	11	---
Calcium	ppm	ASTM D5185m	4200	2752	2492	---
Phosphorus	ppm	ASTM D5185m	1100	1074	1020	---
Zinc	ppm	ASTM D5185m	2000	1095	1013	---
Sulfur	ppm	ASTM D5185m		5246	4249	---
Acid Number (AN)	mg KOH/g	ASTM D8045		0.92	1.10	---
Visc @ 40°C	cSt	ASTM D445	55	51.4	---	---
Visc @ 100°C	cSt	ASTM D445	9.5	7.7	7.2	---
Viscosity Index (VI)	Scale	ASTM D2270	157	114	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06159114 **Received** : 24 Apr 2024
Lab Number : 06159114 **Tested** : 25 Apr 2024
Unique Number : 10994537 **Diagnosed** : 26 Apr 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: KV100, PrtCount, VI)

OVERLAND PARK GC CDD
 1801 S HURON ST
 DENVER, CO
 US 80223
 Contact: JAMES WEST

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: