



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	ATTENTION

Machine Id
TORO PRO CORE 648 (S/N 405508413)
 Component
Hydraulic System
 Fluid
PX HYDRO TORO VG 32 (2 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06190428	---	---
Sample Date		Client Info		03 May 2024	---	---
Machine Age	hrs	Client Info		229	---	---
Oil Age	hrs	Client Info		229	---	---
Filter Age	hrs	Client Info		229	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				ATTENTION	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	4	---	---
Chromium	ppm	ASTM D5185m	>10	0	---	---
Nickel	ppm	ASTM D5185m	>10	0	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m		<1	---	---
Aluminum	ppm	ASTM D5185m	>10	<1	---	---
Lead	ppm	ASTM D5185m	>10	2	---	---
Copper	ppm	ASTM D5185m	>75	9	---	---
Tin	ppm	ASTM D5185m	>10	0	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

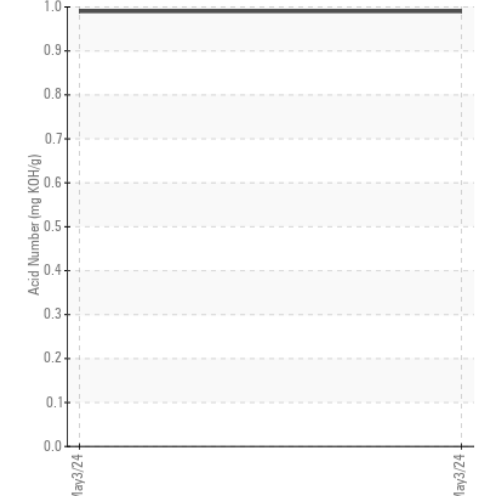
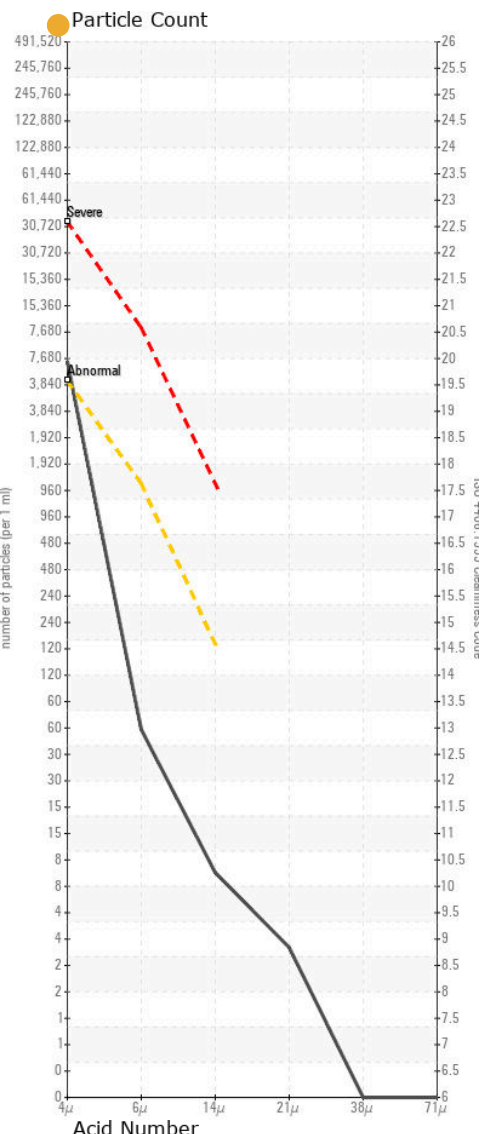
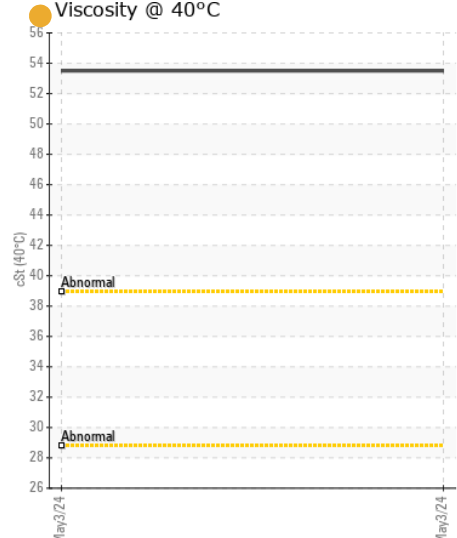
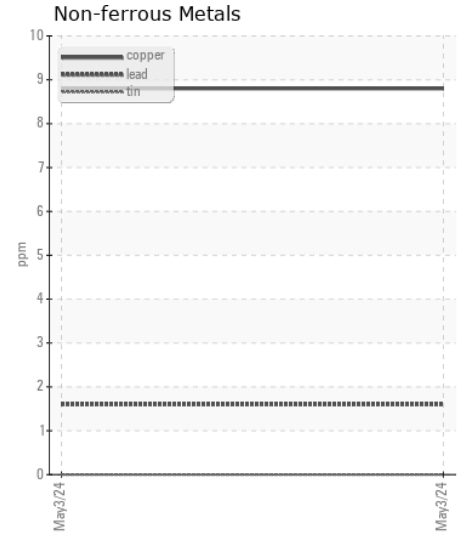
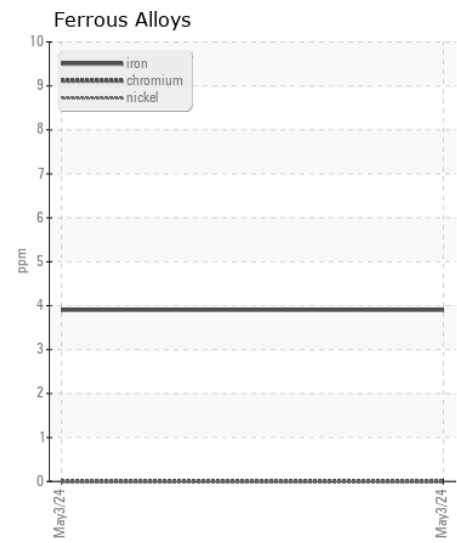
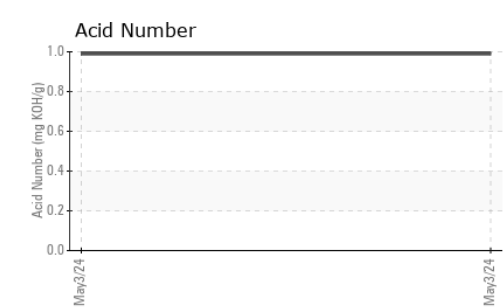
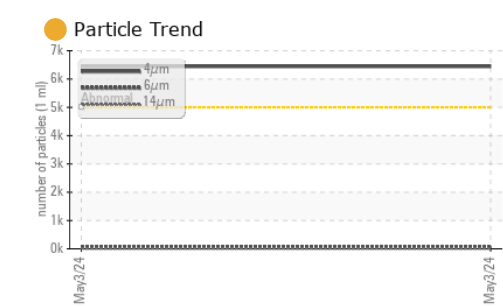
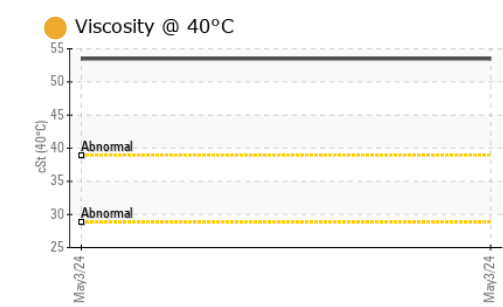
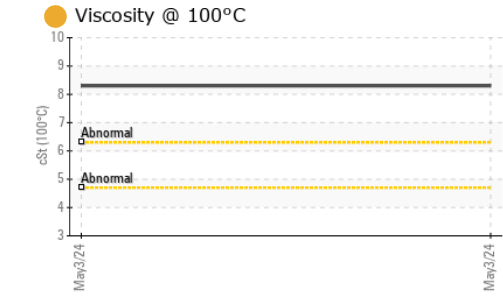
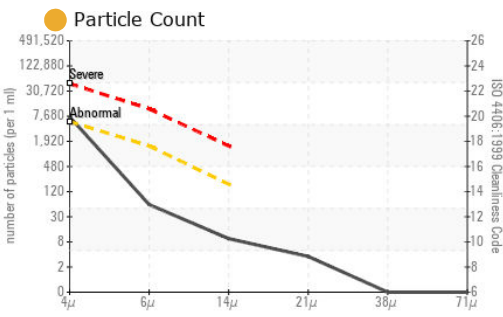
There is a moderate amount of silt (particulates < 6 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	8	---	---
Potassium	ppm	ASTM D5185m	>20	1	---	---
Water		WC Method	>0.1	NEG	---	---
Particles >4µm		ASTM D7647	>5000	6444	---	---
Particles >6µm		ASTM D7647	>1300	52	---	---
Particles >14µm		ASTM D7647	>160	8	---	---
Particles >21µm		ASTM D7647	>40	3	---	---
Particles >38µm		ASTM D7647	>10	0	---	---
Particles >71µm		ASTM D7647	>3	0	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	20/13/10	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---	---

FLUID CONDITION

The oil viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		12	---	---
Boron	ppm	ASTM D5185m		115	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		<1	---	---
Manganese	ppm	ASTM D5185m		4	---	---
Magnesium	ppm	ASTM D5185m		0	---	---
Calcium	ppm	ASTM D5185m		3358	---	---
Phosphorus	ppm	ASTM D5185m		1107	---	---
Zinc	ppm	ASTM D5185m		1322	---	---
Sulfur	ppm	ASTM D5185m		5471	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		0.99	---	---
Visc @ 40°C	cSt	ASTM D445		53.5	---	---
Visc @ 100°C	cSt	ASTM D445		8.3	---	---
Viscosity Index (VI)	Scale	ASTM D2270		127	---	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06190428 **Received** : 24 May 2024
Lab Number : 06190428 **Tested** : 28 May 2024
Unique Number : 11047180 **Diagnosed** : 30 May 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: KV100, VI)

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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)