



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR D11R ILLUMINATOR CHAIR 2
 Component
Planetary
 Fluid
SHELL SPIRAX S4 AX 80W90 (38 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05822845	TR05584904	---
Sample Date		Client Info		12 Apr 2023	22 Jun 2022	---
Machine Age	hrs	Client Info		0	7	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>500	14	17	---
Chromium	ppm	ASTM D5185m	>10	1	<1	---
Nickel	ppm	ASTM D5185m	>10	<1	<1	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m		0	<1	---
Aluminum	ppm	ASTM D5185m	>25	0	<1	---
Lead	ppm	ASTM D5185m	>25	0	0	---
Copper	ppm	ASTM D5185m	>75	<1	<1	---
Tin	ppm	ASTM D5185m	>10	<1	1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

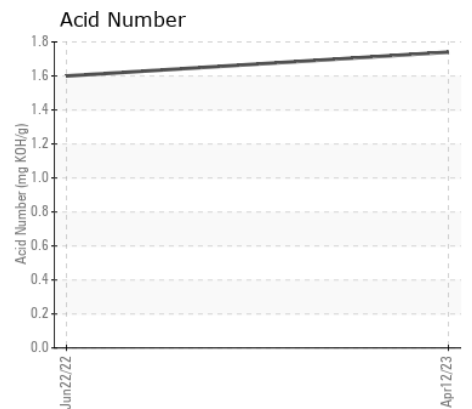
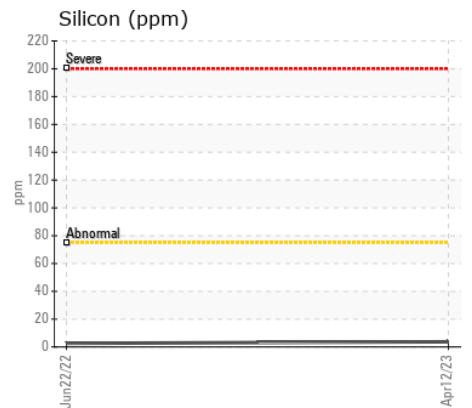
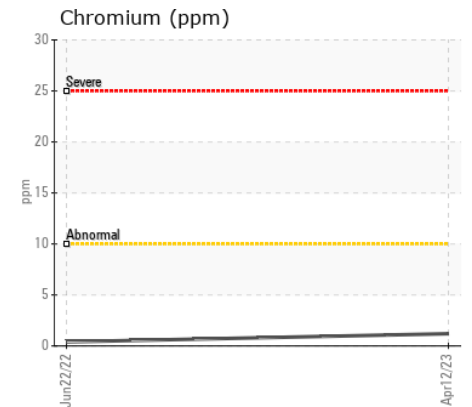
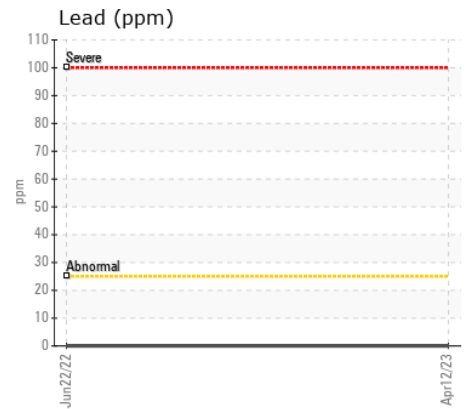
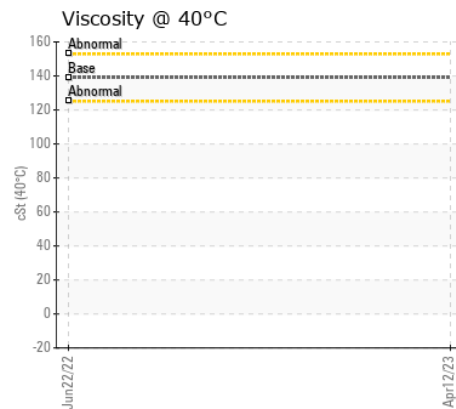
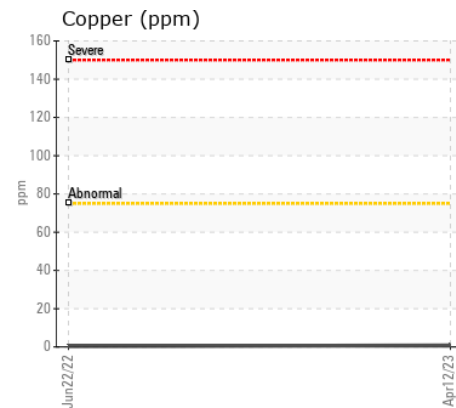
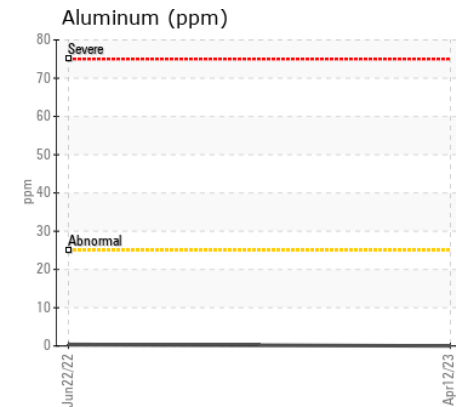
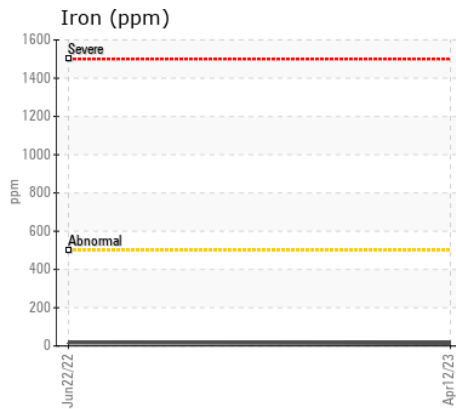
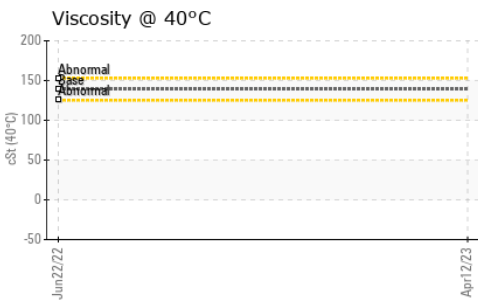
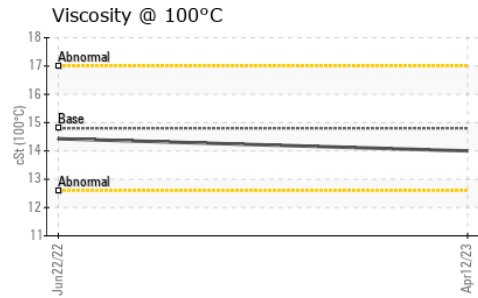
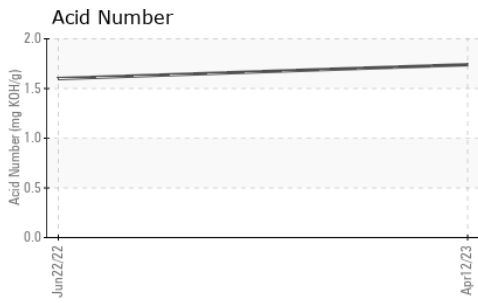
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>75	4	3	---
Potassium	ppm	ASTM D5185m	>20	2	<1	---
Water		WC Method	>0.2	NEG	NEG	---
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	>0.2	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		3	2	---
Boron	ppm	ASTM D5185m		295	319	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		1	0	---
Manganese	ppm	ASTM D5185m		2	<1	---
Magnesium	ppm	ASTM D5185m		6	<1	---
Calcium	ppm	ASTM D5185m		4	32	---
Phosphorus	ppm	ASTM D5185m		911	944	---
Zinc	ppm	ASTM D5185m		0	8	---
Sulfur	ppm	ASTM D5185m		22238	22860	---
Acid Number (AN)	mg KOH/g	ASTM D8045		1.74	1.60	---
Visc @ 100°C	cSt	ASTM D445	14.8	14.0	14.43	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : TR05822845

Lab Number : 05822845

Unique Number : 10430928

Test Package : MOB 2 (Additional Tests: KV100)

Received : 18 Apr 2023

Tested : 20 Apr 2023

Diagnosed : 20 Apr 2023 - Jonathan Hester

MT SPOKANE SKI AAND SNOWBOARD PARK

29500 N MT SPOKANE PARK DRIVE

MEAD, WA

US 99021

Contact: RON GROGAN

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: