



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 345CL EXCAVOTR 6533 (S/N PJW01549)
 Component
Right Swing Drive
 Fluid
TULCO LUBSOIL TO-4 30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TO10002205	TO10000198	TO10006941
Sample Date		Client Info		20 Apr 2023	05 May 2021	10 Mar 2020
Machine Age	hrs	Client Info		12468	11948	11435
Oil Age	hrs	Client Info		1520	1000	510
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Changed
Filter Changed		Client Info		None	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		14	26	46
Iron	ppm	ASTM D5185m	>400	23	38	109
Chromium	ppm	ASTM D5185m	>10	0	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	3	4
Lead	ppm	ASTM D5185m	>50	0	<1	<1
Copper	ppm	ASTM D5185m	>200	2	6	20
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

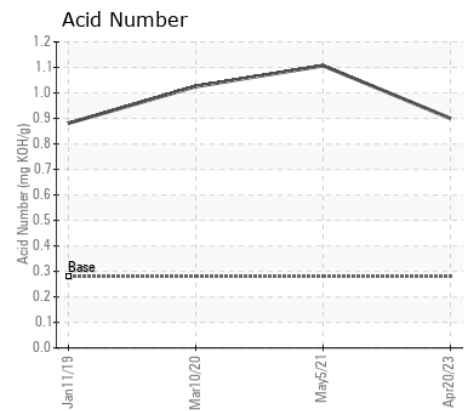
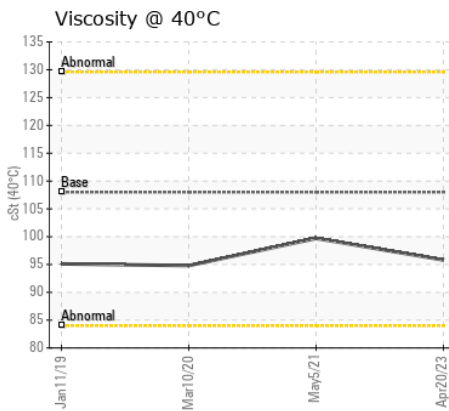
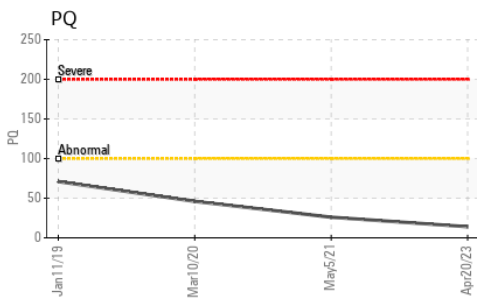
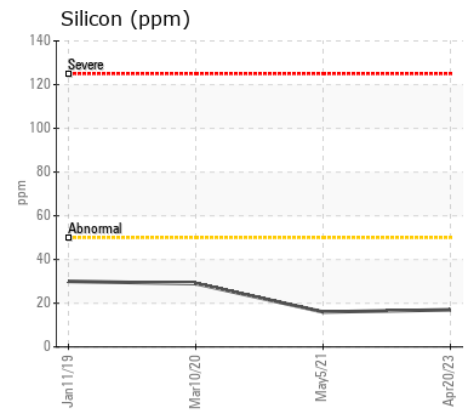
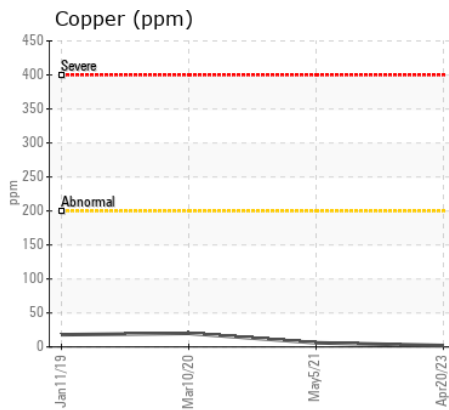
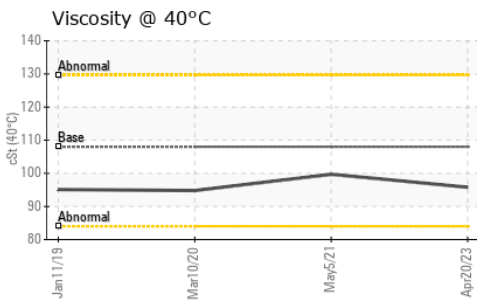
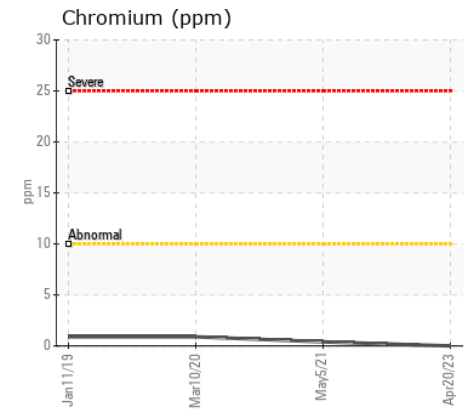
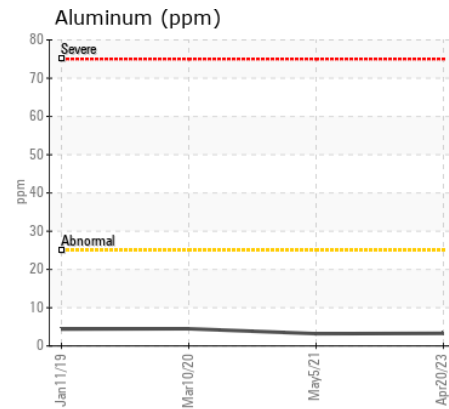
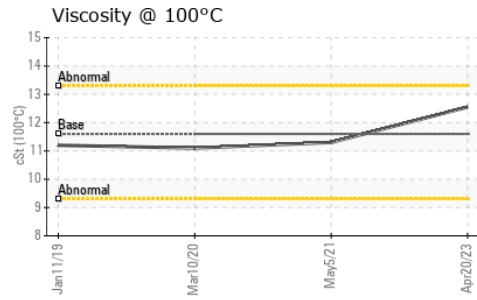
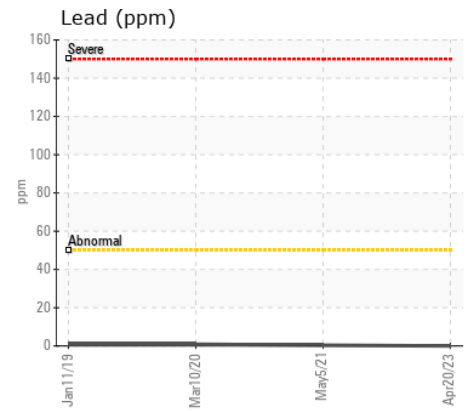
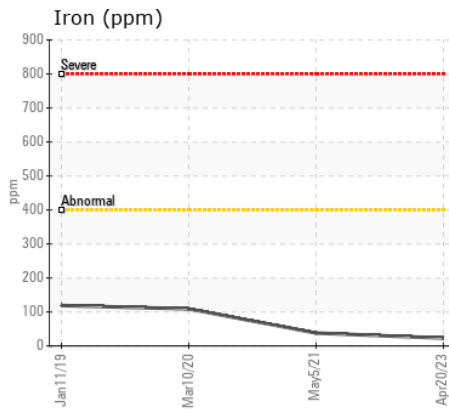
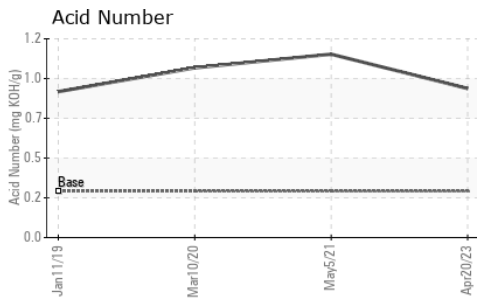
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	17	16	29
Potassium	ppm	ASTM D5185m	>20	0	0	1
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	<1
Boron	ppm	ASTM D5185m		0	5	7
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	2
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	9	36	21	16
Calcium	ppm	ASTM D5185m	4500	3655	3948	3746
Phosphorus	ppm	ASTM D5185m	1150	726	767	831
Zinc	ppm	ASTM D5185m	1250	936	882	966
Sulfur	ppm	ASTM D5185m	4500	4406	3481	3290
Acid Number (AN)	mg KOH/g	ASTM D8045	0.28	0.90	1.107	1.025
Visc @ 40°C	cSt	ASTM D445	108	95.8	99.7	94.8
Visc @ 100°C	cSt	ASTM D445	11.6	12.55	11.3	11.1
Viscosity Index (VI)	Scale	ASTM D2270	94	125	99	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10002205 **Received** : 24 Apr 2023
Lab Number : 05828506 **Tested** : 25 Apr 2023
Unique Number : 10441999 **Diagnosed** : 28 Apr 2023 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: KV100, PQ, VI)

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 US 74137

Contact: MIKE SNYDER
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To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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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