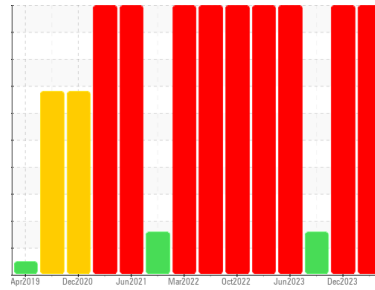




PROBLEM SUMMARY

Sample Rating Trend

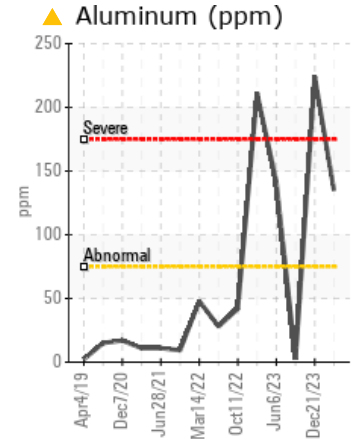
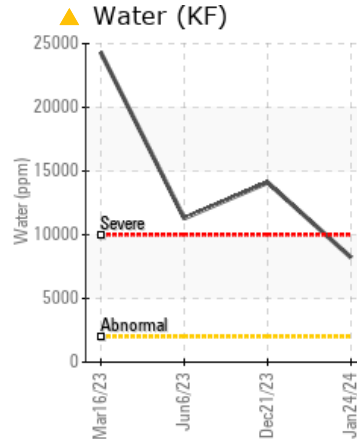
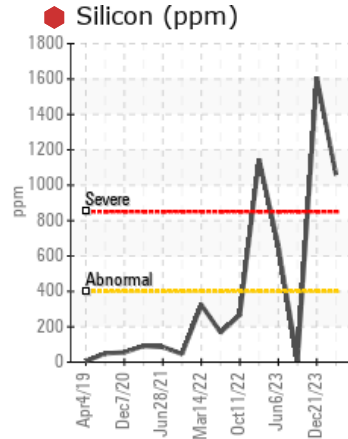
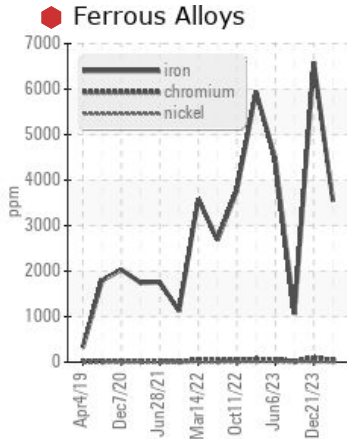


WEAR



Machine Id
CATERPILLAR 299D SKIDSTEER 040-0019 (S/N CAT0299DAFD204356)
 Component
Left Final Drive
 Fluid
SCHAEFFER SCHAEFFER 293 MOLY 75W90 (1 QTS)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>800	3548	6586	1060
Chromium	ppm	ASTM D5185m	>10	47	98	22
Silicon	ppm	ASTM D5185m	>400	1061	1608	9
Water	%	ASTM D6304	>0.2	0.822	1.41	---
ppm Water	ppm	ASTM D6304	>2000	8215	14100	---

Customer Id: AECCHATN
 Sample No.: WC0868416
 Lab Number: 06074223
 Test Package: CONST



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check all areas where dirt can enter the system.
Check Water Access	---	---	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

21 Dec 2023 Diag: Jonathan Hester

WEAR



We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high concentration of water present in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report



03 Oct 2023 Diag: Jonathan Hester

WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. Gear wear is indicated. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report



06 Jun 2023 Diag: Don Baldrige

WEAR



We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high concentration of water present in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
CATERPILLAR 299D SKIDSTEER 040-0019 (S/N CAT0299DAFD204356)
 Component
Left Final Drive
 Fluid
SCHAEFFER SCHAEFFER 293 MOLY 75W90 (1 QTS)

DIAGNOSIS

Recommendation

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear

Gear wear is indicated.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high concentration of water present in the oil.

Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0868416	WC0868389	WC0815227
Sample Date	Client Info		24 Jan 2024	21 Dec 2023	03 Oct 2023
Machine Age	hrs	Client Info	11409	11252	10384
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Chngd	Changed	Not Chngd
Sample Status			SEVERE	SEVERE	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >800	3548	6586	1060
Chromium	ppm	ASTM D5185m >10	47	98	22
Nickel	ppm	ASTM D5185m >5	4	8	2
Titanium	ppm	ASTM D5185m >15	8	13	<1
Silver	ppm	ASTM D5185m >2	<1	<1	0
Aluminum	ppm	ASTM D5185m >75	135	224	2
Lead	ppm	ASTM D5185m >10	<1	1	<1
Copper	ppm	ASTM D5185m >75	5	10	3
Tin	ppm	ASTM D5185m >8	<1	1	0
Vanadium	ppm	ASTM D5185m	<1	1	0
Cadmium	ppm	ASTM D5185m	<1	1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	65	167	32
Barium	ppm	ASTM D5185m	2	3	0
Molybdenum	ppm	ASTM D5185m	242	124	80
Manganese	ppm	ASTM D5185m	32	60	11
Magnesium	ppm	ASTM D5185m	97	149	0
Calcium	ppm	ASTM D5185m	1368	2088	41
Phosphorus	ppm	ASTM D5185m	733	1160	1004
Zinc	ppm	ASTM D5185m	37	27	13
Sulfur	ppm	ASTM D5185m	16218	28357	21028

CONTAMINANTS

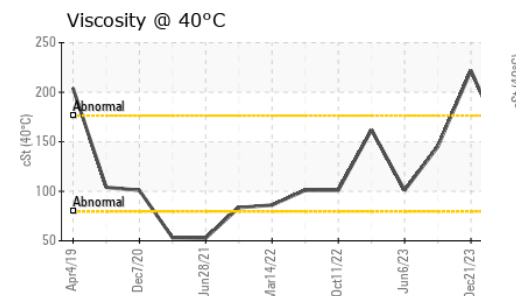
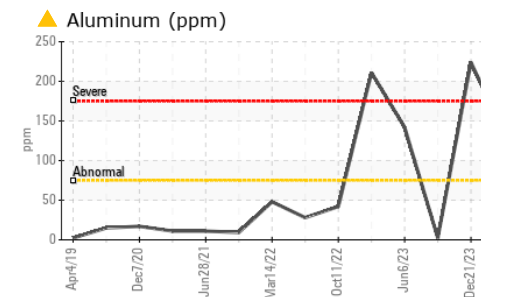
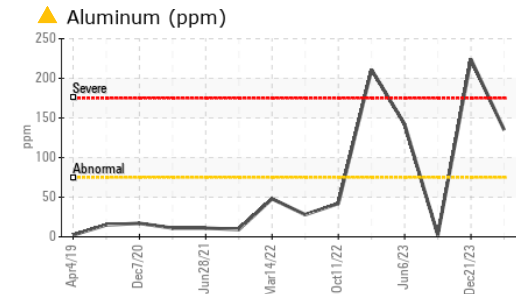
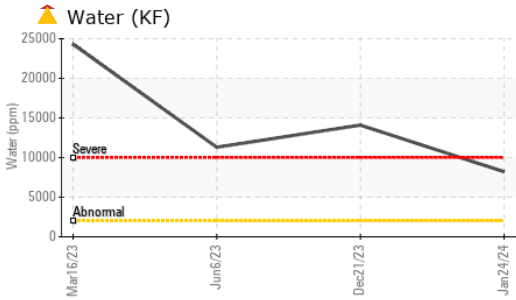
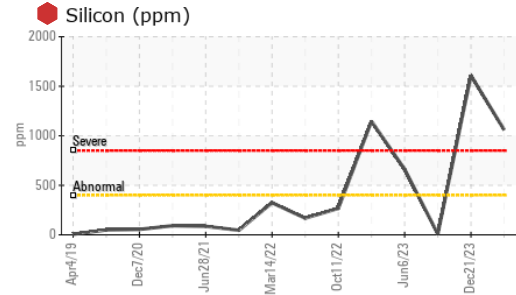
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >400	1061	1608	9
Sodium	ppm	ASTM D5185m	6	8	<1
Potassium	ppm	ASTM D5185m >20	36	57	4
Water	%	ASTM D6304 >0.2	0.822	1.41	---
ppm Water	ppm	ASTM D6304 >2000	8215	14100	---

VISUAL

	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
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	0.2%	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG



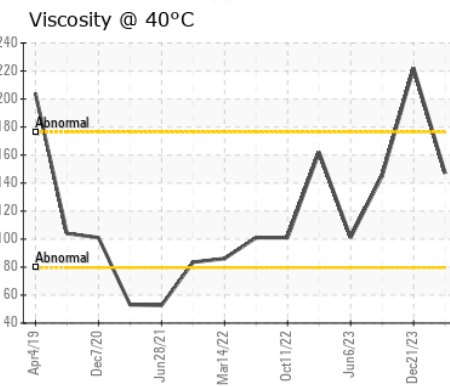
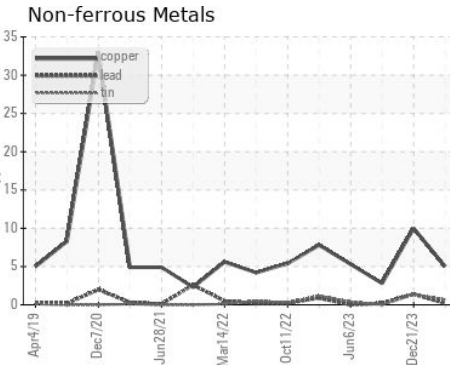
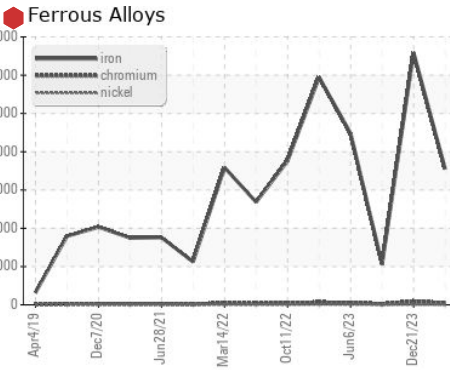
OIL ANALYSIS REPORT



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		147	222	145

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						no image
Bottom						no image

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0868416 **Received** : 30 Jan 2024
Lab Number : **06074223** **Diagnosed** : 31 Jan 2024
Unique Number : 10856314 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: KF)

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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 5535 TRAILHEAD DRIVE
 CHATTANOOGA, TN
 US 37415
 Contact: DANIEL LISELLA
 daniel.lisella@shimmick.com

T:
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