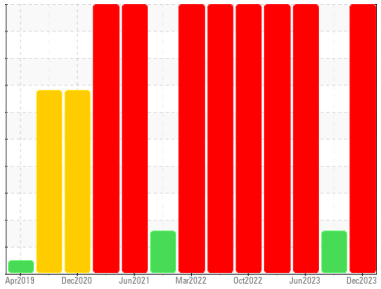
PROBLEM SUMMARY

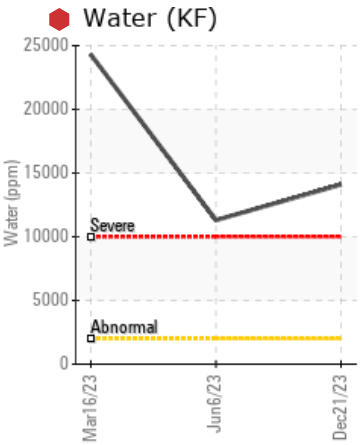
Machine Id
CATERPILLAR 299D SKIDSTEER 040-0019 (S/N CAT0299DAFD204356)
Component
Left Final Drive
Fluid
SCHAEFFER SCHAEFFER 293 MOLY 75W90 (1 QTS)

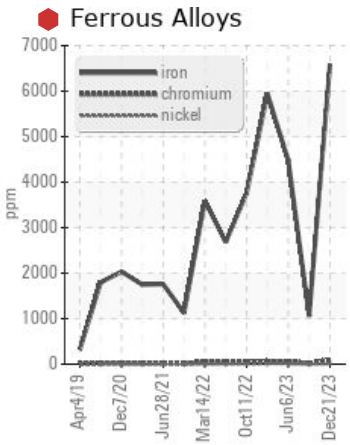
Sample Rating Trend

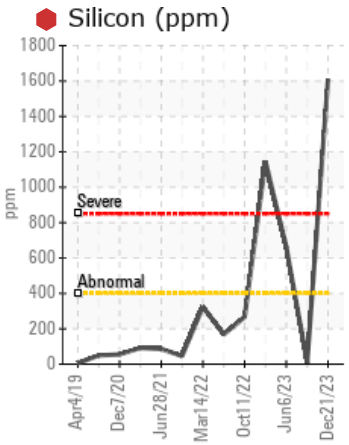


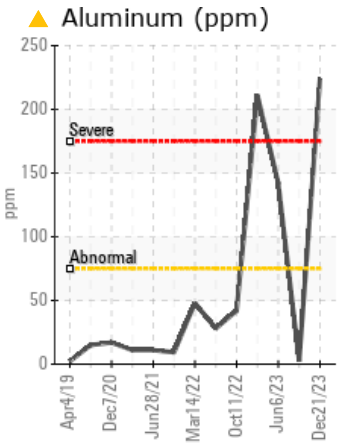
WEAR

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. 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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Iron	ppm	ASTM D5185m	>800	**6586**	1060	4480
Chromium	ppm	ASTM D5185m	>10	**98**	22	57
Nickel	ppm	ASTM D5185m	>5	**8**	2	7
Silicon	ppm	ASTM D5185m	>400	**1608**	9	662
Water	%	ASTM D6304	>0.2	**1.41**	---	1.13
ppm Water	ppm	ASTM D6304	>2000	**14100**	---	11300
Emulsified Water	scalar	*Visual	>0.2	**0.2%**	NEG	0.2%

Customer Id: AECCHATN
Sample No.: WC0868389
Lab Number: 06074221
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	MISSED	Jan 31 2024	?	We advise that you inspect for the source(s) of wear.
Resample	MISSED	Jan 31 2024	?	We recommend an early resample to monitor this condition.
Check Dirt Access	MISSED	Jan 31 2024	?	We advise that you check all areas where dirt can enter the system.
Check Water Access	MISSED	Jan 31 2024	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

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 Baldridge

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

16 Mar 2023 Diag: Doug Bogart

WEAR

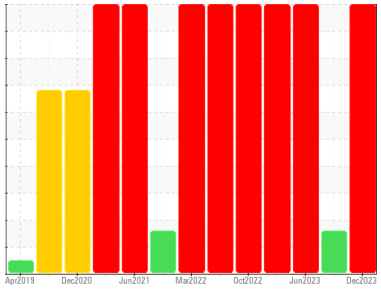
We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (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

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

Sample Rating Trend



WEAR

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. 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.

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		**WC0868389**	WC0815227	WC0815193
Sample Date		Client Info		**21 Dec 2023**	03 Oct 2023	06 Jun 2023
Machine Age	hrs	Client Info		**11252**	10384	9154
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Sample Status				**SEVERE**	ABNORMAL	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>800	**6586**	1060	4480
Chromium	ppm	ASTM D5185m	>10	**98**	22	57
Nickel	ppm	ASTM D5185m	>5	**8**	2	7
Titanium	ppm	ASTM D5185m	>15	**13**	<1	7
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>75	**224**	2	142
Lead	ppm	ASTM D5185m	>10	**1**	<1	0
Copper	ppm	ASTM D5185m	>75	**10**	3	5
Tin	ppm	ASTM D5185m	>8	**1**	0	<1
Vanadium	ppm	ASTM D5185m		**1**	0	<1
Cadmium	ppm	ASTM D5185m		**1**	0	<1

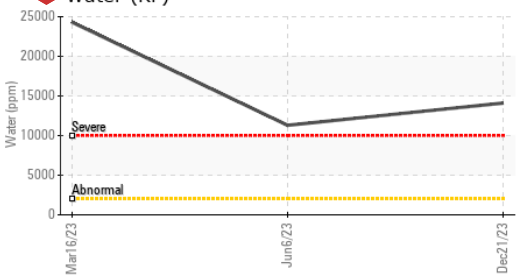
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**167**	32	53
Barium	ppm	ASTM D5185m		**3**	0	0
Molybdenum	ppm	ASTM D5185m		**124**	80	272
Manganese	ppm	ASTM D5185m		**60**	11	37
Magnesium	ppm	ASTM D5185m		**149**	0	74
Calcium	ppm	ASTM D5185m		**2088**	41	1112
Phosphorus	ppm	ASTM D5185m		**1160**	1004	582
Zinc	ppm	ASTM D5185m		**27**	13	37
Sulfur	ppm	ASTM D5185m		**28357**	21028	14866

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>400	**1608**	9	662
Sodium	ppm	ASTM D5185m		**8**	<1	4
Potassium	ppm	ASTM D5185m	>20	**57**	4	32
Water	%	ASTM D6304	>0.2	**1.41**	---	1.13
ppm Water	ppm	ASTM D6304	>2000	**14100**	---	11300

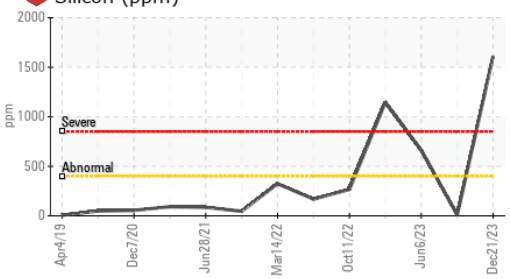
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

OIL ANALYSIS REPORT

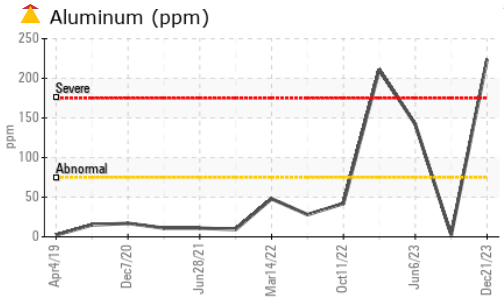
Water (KF)



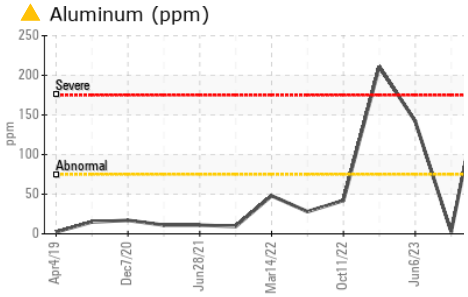
Silicon (ppm)



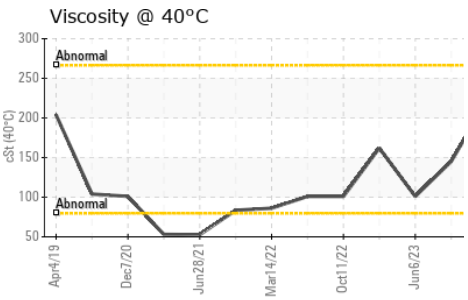
Aluminum (ppm)



Aluminum (ppm)



Viscosity @ 40°C

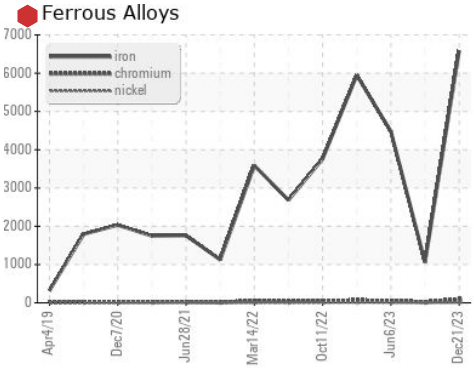


FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**222**	145	101

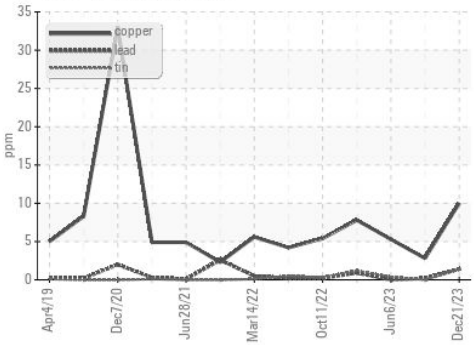
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

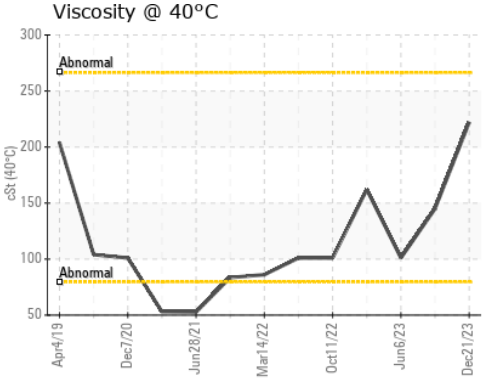
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0868389 **Recieved** : 30 Jan 2024
Lab Number : 06074221 **Diagnosed** : 31 Jan 2024
Unique Number : 10856312 **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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