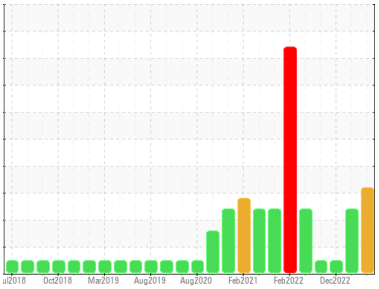
PROBLEM SUMMARY

Sample Rating Trend

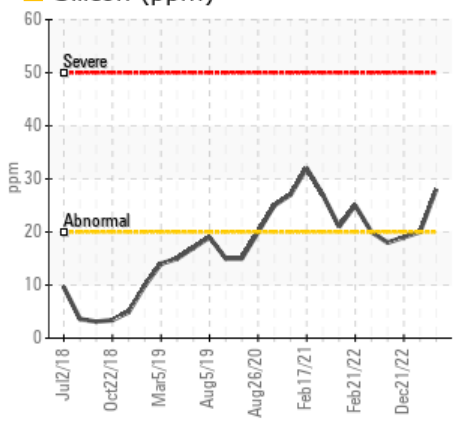


DIRT

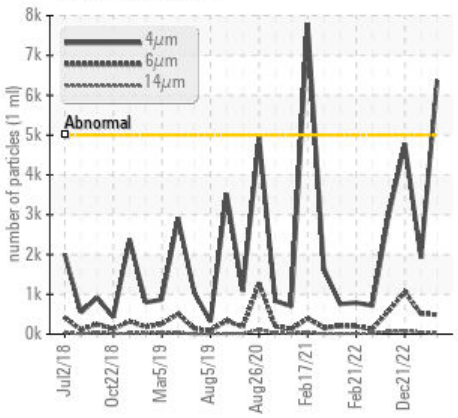
Machine Id
CATERPILLAR 349F 8369 (S/N LBZ220170)
Component
Hydraulic System
Fluid
TDH FLUID SAE 70W80 (--- GAL)

COMPONENT CONDITION SUMMARY

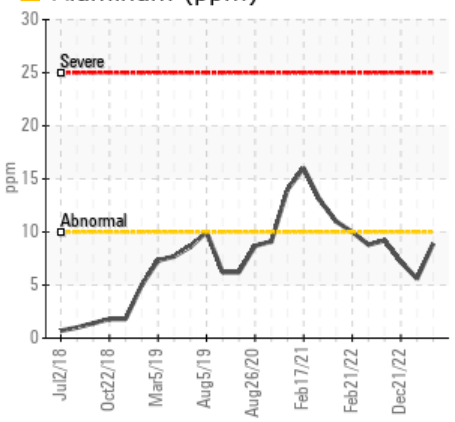
▲ Silicon (ppm)



▲ Particle Trend



▲ Aluminum (ppm)



RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	NORMAL
Aluminum	ppm	ASTM D5185m	>10	▲ **9**	▲ 6	7
Silicon	ppm	ASTM D5185m	>20	▲ **28**	▲ 20	19
Particles >4µm		ASTM D7647	>5000	▲ **6367**	1922	4779
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **20/16/11**	18/16/13	19/17/13

Customer Id: TRANEW
Sample No.: WC0862899
Lab Number: 06001536
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
Check Dirt Access	---	---	?	We advise that you check all areas where dirt can enter the system.

HISTORICAL DIAGNOSIS

10 May 2023 Diag: Doug Bogart

DIRT

We advise that you check all areas where dirt can enter the system. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oils additive package is suitable for further service.

view report

21 Dec 2022 Diag: Doug Bogart

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

11 Aug 2022 Diag: Jonathan Hester

NORMAL

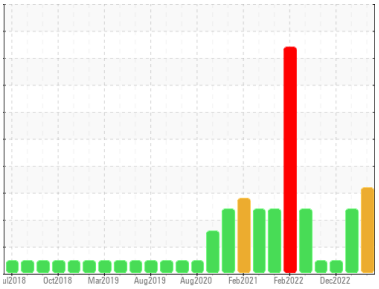
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Machine Id
CATERPILLAR 349F 8369 (S/N LBZ220170)
Component
Hydraulic System
Fluid
TDH FLUID SAE 70W80 (--- GAL)

Sample Rating Trend



DIRT

DIAGNOSIS

Recommendation
We advise that you check all areas where dirt can enter the system. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of silt (particulates < 6 microns in size) present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0862899**	WC0797681	WC0755069
Sample Date		Client Info		**30 Oct 2023**	10 May 2023	21 Dec 2022
Machine Age	hrs	Client Info		**12473**	11971	11433
Oil Age	hrs	Client Info		**12473**	11971	11433
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**16**	11	8
Chromium	ppm	ASTM D5185m	>10	**1**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	▲ **9**	▲ 6	7
Lead	ppm	ASTM D5185m	>10	**<1**	0	0
Copper	ppm	ASTM D5185m	>75	**6**	4	4
Tin	ppm	ASTM D5185m	>10	**0**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	10	**93**	70	70
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	10	**4**	4	4
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m	100	**68**	55	60
Calcium	ppm	ASTM D5185m	3500	**2952**	2508	2759
Phosphorus	ppm	ASTM D5185m	1150	**1108**	876	987
Zinc	ppm	ASTM D5185m	1150	**1422**	1100	1209
Sulfur	ppm	ASTM D5185m	5000	**3565**	2852	3448

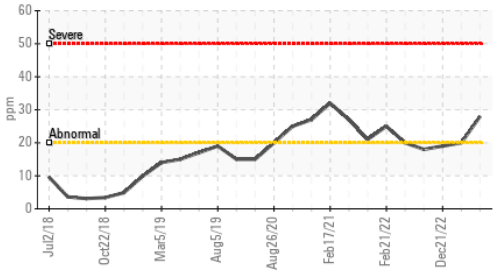
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	▲ **28**	▲ 20	19
Sodium	ppm	ASTM D5185m		**5**	4	7
Potassium	ppm	ASTM D5185m	>20	**4**	0	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **6367**	1922	4779
Particles >6µm		ASTM D7647	>1300	**486**	509	1054
Particles >14µm		ASTM D7647	>160	**19**	51	80
Particles >21µm		ASTM D7647	>40	**4**	11	14
Particles >38µm		ASTM D7647	>10	**0**	0	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **20/16/11**	18/16/13	19/17/13

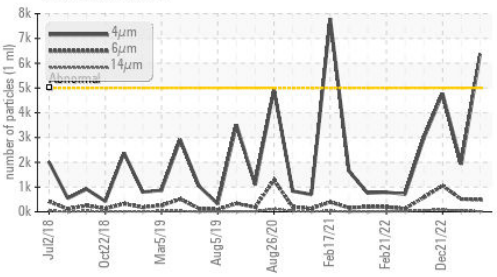
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	2.25	**0.98**	0.92	1.00

OIL ANALYSIS REPORT

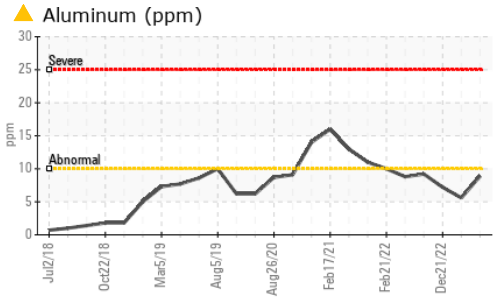
Silicon (ppm)



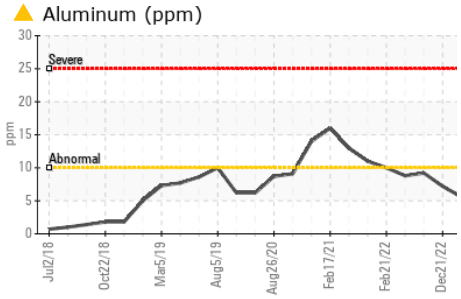
Particle Trend



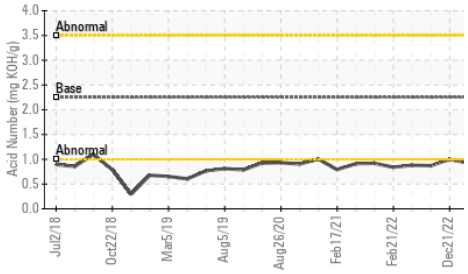
Aluminum (ppm)



Aluminum (ppm)



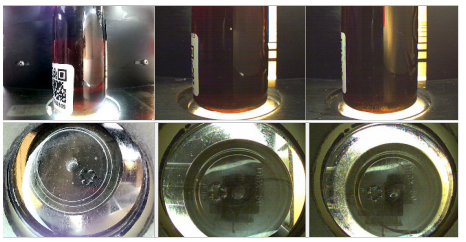
Acid Number



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	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

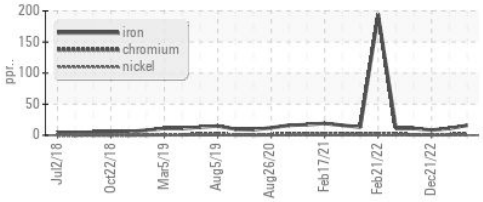
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	50	**32.1**	31.9	32.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

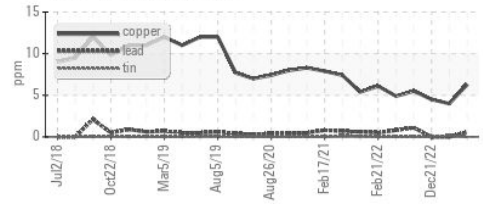


GRAPHS

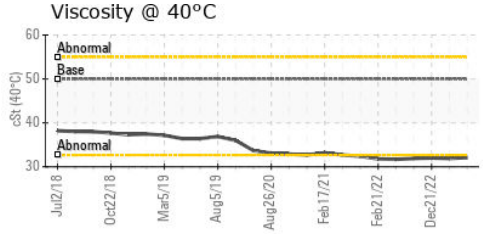
Ferrous Alloys



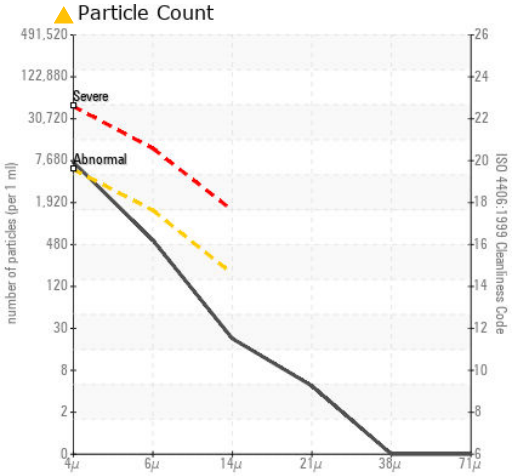
Non-ferrous Metals



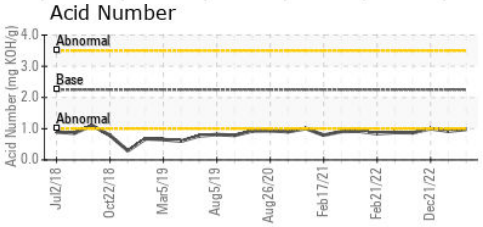
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0862899
Lab Number : 06001536
Unique Number : 10729896
Test Package : CONST

Received : 08 Nov 2023
Diagnosed : 09 Nov 2023
Diagnostician : Jonathan Hester

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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