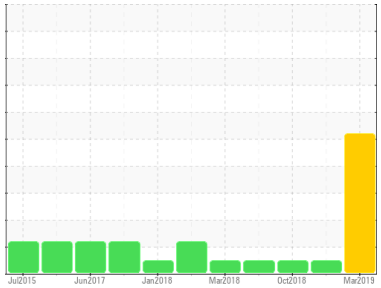
PROBLEM SUMMARY

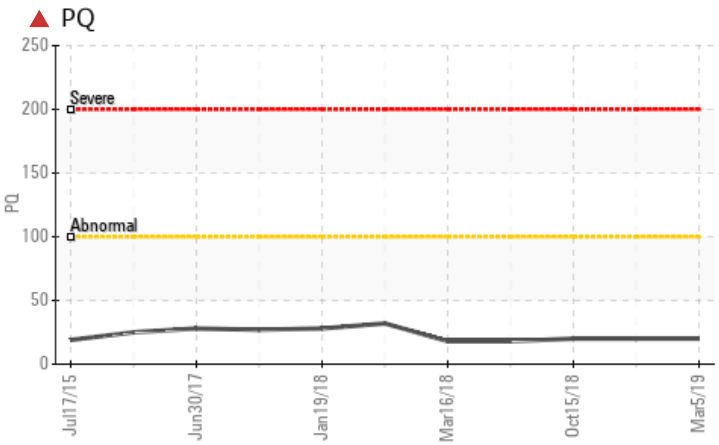
Area
DE Samples - CAT LAB
Machine Id
CATERPILLAR 990H LOADER 6572 (S/N BWX00474)
Component
Front Differential
Fluid
4-50 LUBSOIL (52 GAL)

Sample Rating Trend



WEAR

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We suspect abnormal metal contamination may be due to sampling method. We advise that you inspect for possible wear. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	NORMAL	NORMAL
PQ		ASTM D8184		▲ **20**	20	20
Yellow Metal	scalar	*Visual	NONE	▲ **HEAVY**	NONE	NONE

Customer Id: ANCTUL
Sample No.: TO1005943
Lab Number: 04679530
Test Package: IND 2

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	Feb 12 2020	?	We advise that you inspect for the source(s) of wear.

HISTORICAL DIAGNOSIS

NORMAL

02 Jan 2019 Diag: Wes Davis
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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

NORMAL

15 Oct 2018 Diag: Wes Davis
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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

NORMAL

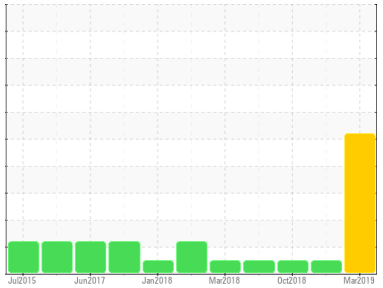
04 May 2018 Diag: Don Baldridge
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Area
DE Samples - CAT LAB
Machine Id
CATERPILLAR 990H LOADER 6572 (S/N BWX00474)
Component
Front Differential
Fluid
4-50 LUBSOIL (52 GAL)

Sample Rating Trend



WEAR

DIAGNOSIS

▲ Recommendation
We suspect abnormal metal contamination may be due to sampling method. We advise that you inspect for possible wear. Resample at the next service interval to monitor.

▲ Wear
High concentration of visible metal present. All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

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		**TO1005943**	TO1006443	TO1006417
Sample Date		Client Info		**05 Mar 2019**	02 Jan 2019	15 Oct 2018
Machine Age	hrs	Client Info		**23300**	22915	22477
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	Not Changd
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>.2	**NEG**	NEG	NEG

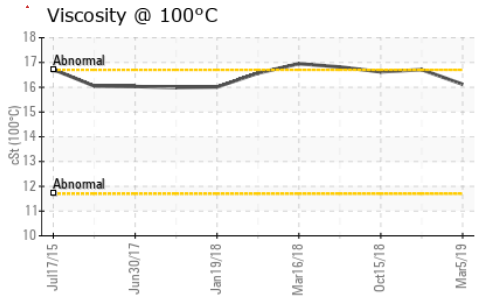
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		▲ **20**	20	20
Iron	ppm	ASTM D5185m	>500	**10**	9	8
Chromium	ppm	ASTM D5185m	>3	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>3	**<1**	2	<1
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>30	**1**	2	1
Lead	ppm	ASTM D5185m	>13	**4**	3	4
Copper	ppm	ASTM D5185m	>103	**32**	28	22
Tin	ppm	ASTM D5185m	>5	**2**	0	1
Antimony	ppm	ASTM D5185m		**0**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

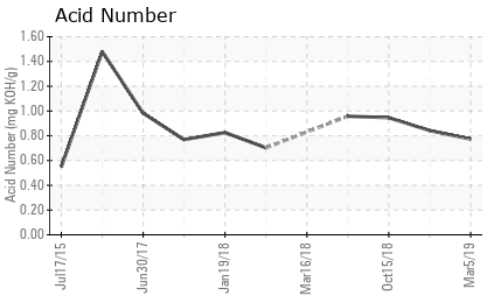
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**3**	1	2
Barium	ppm	ASTM D5185m		**0**	<1	0
Molybdenum	ppm	ASTM D5185m		**<1**	<1	<1
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**10**	10	10
Calcium	ppm	ASTM D5185m		**3664**	3442	3524
Phosphorus	ppm	ASTM D5185m		**818**	732	759
Zinc	ppm	ASTM D5185m		**944**	912	878
Sulfur	ppm	ASTM D5185m		**4035**	3372	5388

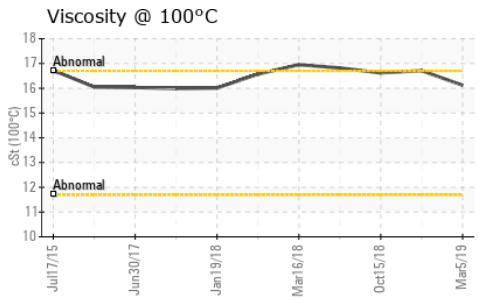
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>100	**11**	12	10
Sodium	ppm	ASTM D5185m		**0**	<1	<1
Potassium	ppm	ASTM D5185m	>20	**1**	0	<1

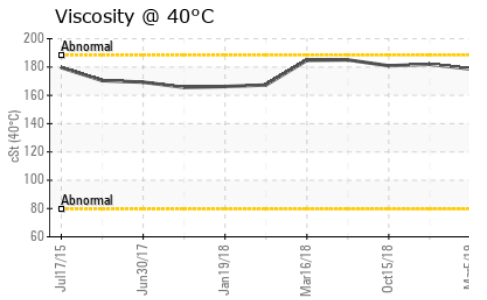
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.773**	0.842	0.946

OIL ANALYSIS REPORT



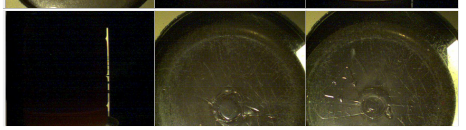




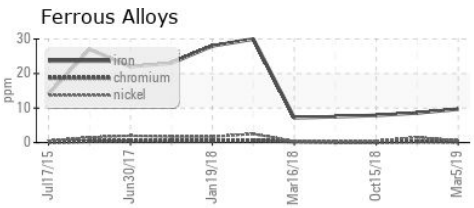


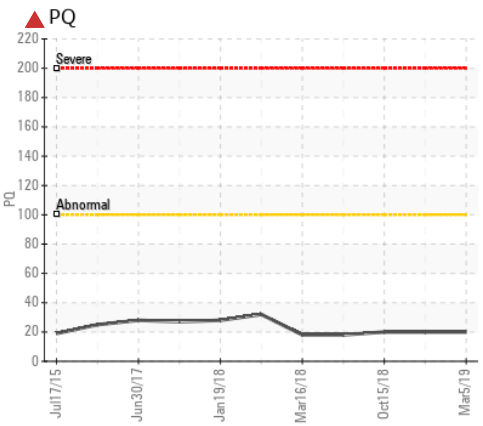
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	MODER	MODER
Yellow Metal	scalar	*Visual	NONE	▲ **HEAVY**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
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	>.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

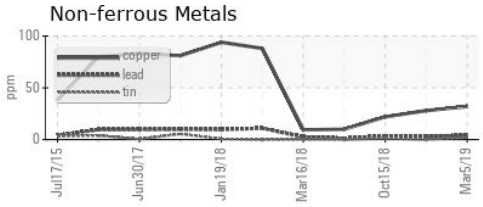
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**178.6**	181.9	180.9
Visc @ 100°C	cSt	ASTM D445		**16.12**	16.71	16.62
Viscosity Index (VI)	Scale	ASTM D2270		**92**	96	96

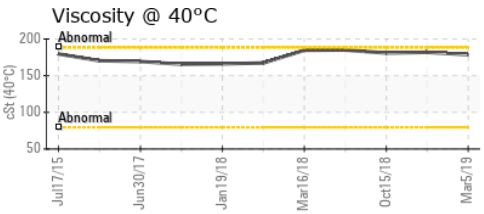
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

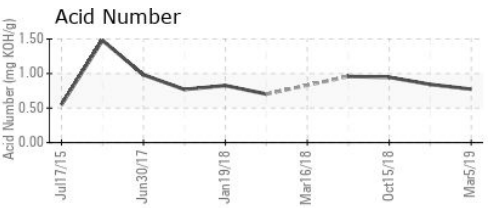
GRAPHS











ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO1005943
Lab Number : 04679530
Unique Number : 8541045
Test Package : IND 2 (Additional Tests: KV100, PQ, VI)

Received : 27 Mar 2019
Tested : 28 Mar 2019
Diagnosed : 28 Mar 2019 - 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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