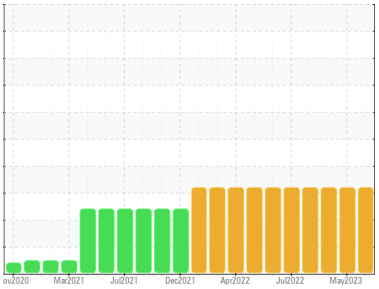
PROBLEM SUMMARY

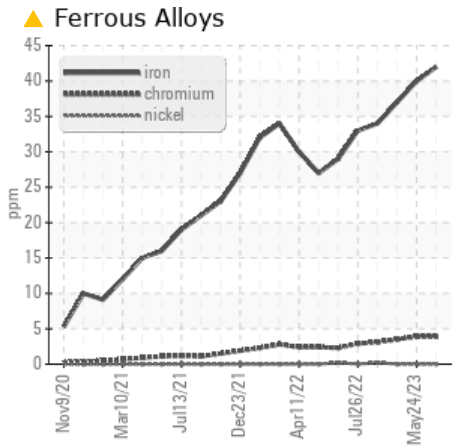
Sample Rating Trend

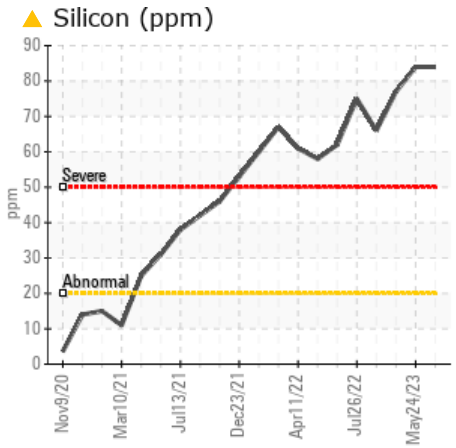


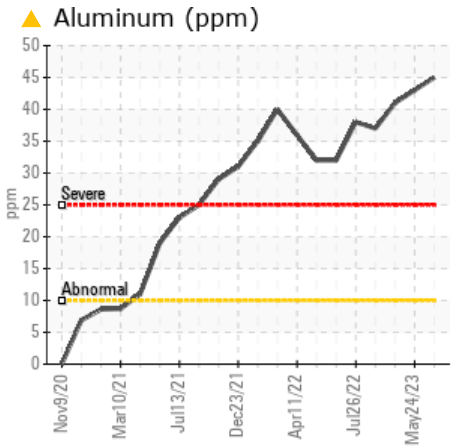
DIRT

Machine Id
CATERPILLAR D6 8178 (S/N KEW00465)
Component
Hydraulic System
Fluid
NOT GIVEN (--- GAL)

COMPONENT CONDITION SUMMARY







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	ABNORMAL
Iron	ppm	ASTM D5185m	>20	▲ **42**	▲ 40	▲ 37
Aluminum	ppm	ASTM D5185m	>10	▲ **45**	▲ 43	▲ 41
Silicon	ppm	ASTM D5185m	>20	▲ **84**	▲ 84	▲ 77

Customer Id: TRANEW
Sample No.: WC0837165
Lab Number: 05932068
Test Package: CONST

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

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

24 May 2023 Diag: Jonathan Hester

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.The iron level is abnormal. All other 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 oil is suitable for further service.

view report

02 Feb 2023 Diag: Jonathan Hester

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.The iron level is abnormal. All other 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 oil is suitable for further service.

view report

09 Nov 2022 Diag: Don Baldridge

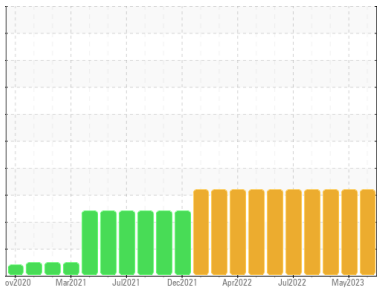
DIRT

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.The iron level is abnormal. All other 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 oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
CATERPILLAR D6 8178 (S/N KEW00465)
Component
Hydraulic System
Fluid
NOT GIVEN (--- GAL)

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
The iron level is abnormal. All other component wear rates are normal.

▲ Contamination
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.

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		**WC0837165**	WC0816168	WC0775947
Sample Date		Client Info		**15 Aug 2023**	24 May 2023	02 Feb 2023
Machine Age	hrs	Client Info		**11325**	10892	10319
Oil Age	hrs	Client Info		**11325**	10892	10319
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	▲ **42**	▲ 40	▲ 37
Chromium	ppm	ASTM D5185m	>10	**4**	4	4
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**2**	2	2
Silver	ppm	ASTM D5185m		**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>10	▲ **45**	▲ 43	▲ 41
Lead	ppm	ASTM D5185m	>10	**2**	<1	1
Copper	ppm	ASTM D5185m	>75	**17**	16	17
Tin	ppm	ASTM D5185m	>10	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**58**	62	55
Barium	ppm	ASTM D5185m		**0**	0	<1
Molybdenum	ppm	ASTM D5185m		**2**	2	2
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**38**	40	32
Calcium	ppm	ASTM D5185m		**2010**	2124	1888
Phosphorus	ppm	ASTM D5185m		**865**	945	828
Zinc	ppm	ASTM D5185m		**1131**	1198	1066
Sulfur	ppm	ASTM D5185m		**2843**	3084	2738

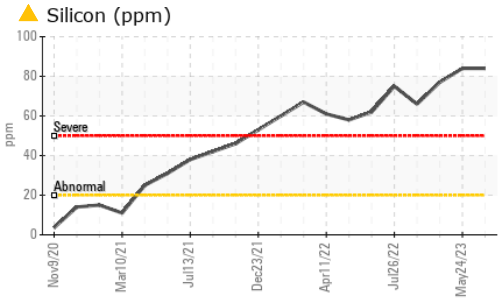
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	▲ **84**	▲ 84	▲ 77
Sodium	ppm	ASTM D5185m		**7**	8	7
Potassium	ppm	ASTM D5185m	>20	**6**	6	5

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**1230**	914	2061
Particles >6µm		ASTM D7647	>1300	**396**	107	290
Particles >14µm		ASTM D7647	>160	**73**	7	14
Particles >21µm		ASTM D7647	>40	**34**	2	5
Particles >38µm		ASTM D7647	>10	**3**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**17/16/13**	17/14/10	18/15/11

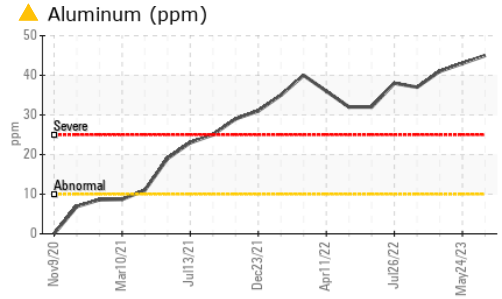
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.81**	0.76	0.68

OIL ANALYSIS REPORT

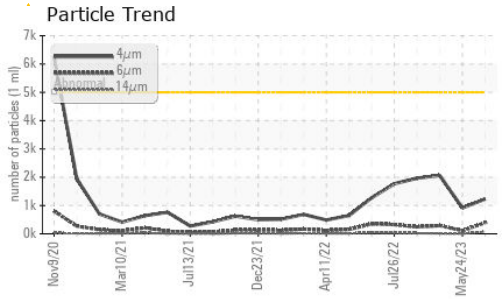
Silicon (ppm)



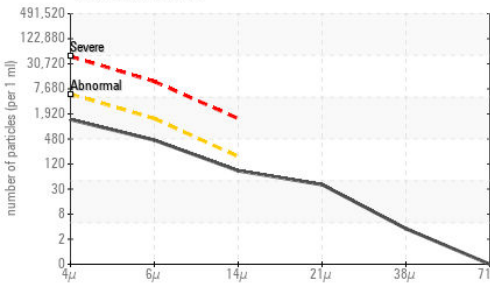
Aluminum (ppm)



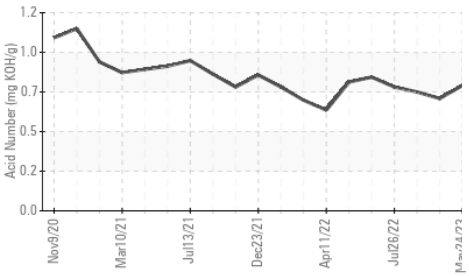
Particle Trend



Particle Count



Acid Number



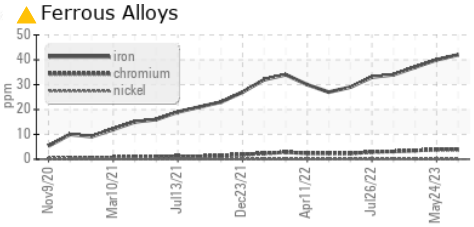
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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		**35.4**	35.4	35.5

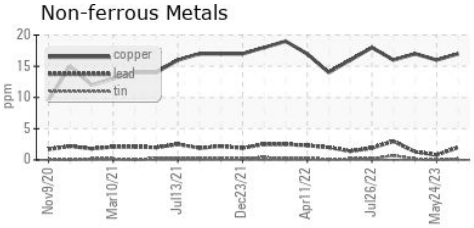
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

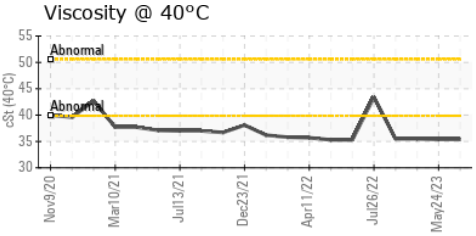
Ferrous Alloys



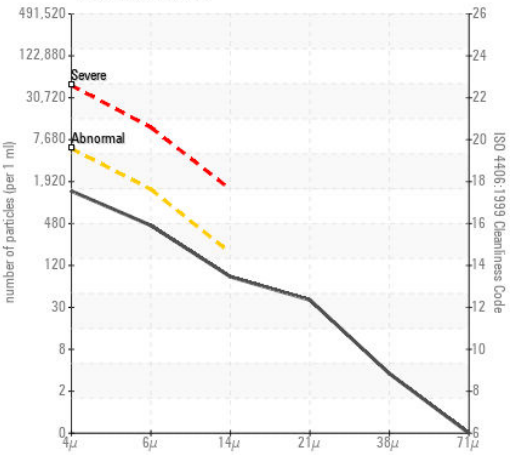
Non-ferrous Metals



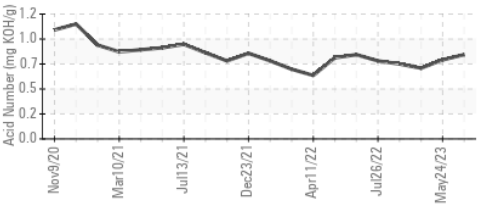
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0837165
Lab Number : 05932068
Unique Number : 10617339
Test Package : CONST

Received : 23 Aug 2023
Diagnosed : 24 Aug 2023
Diagnostician : Don Baldridge

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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