



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR D4K2 002117 (S/N KR202630)

Component
Hydraulic System

Fluid
CASTROL DUAL RANGE HV HYD OIL ISO 46 (16 GAL)

RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

WEAR

All component wear rates are normal.

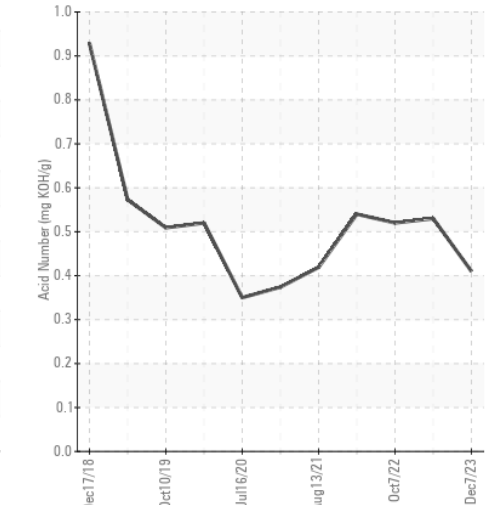
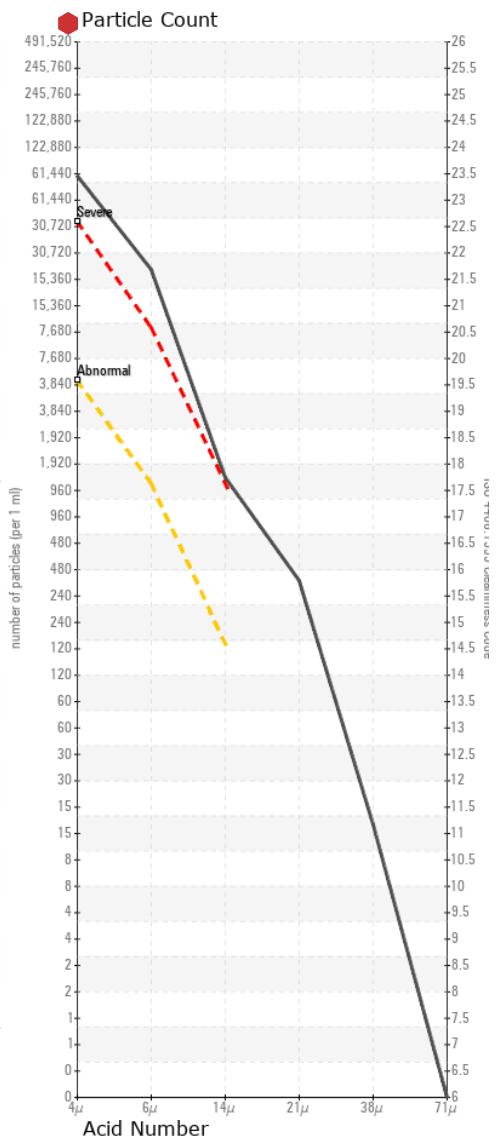
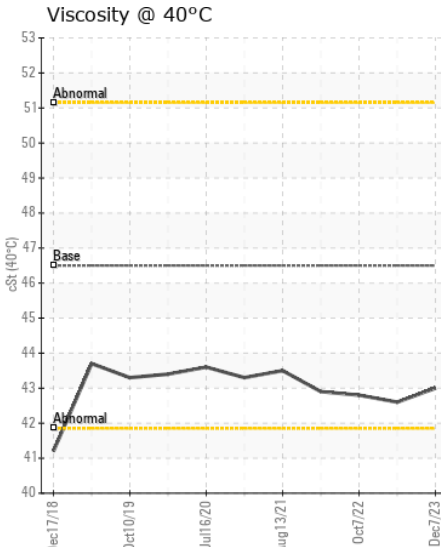
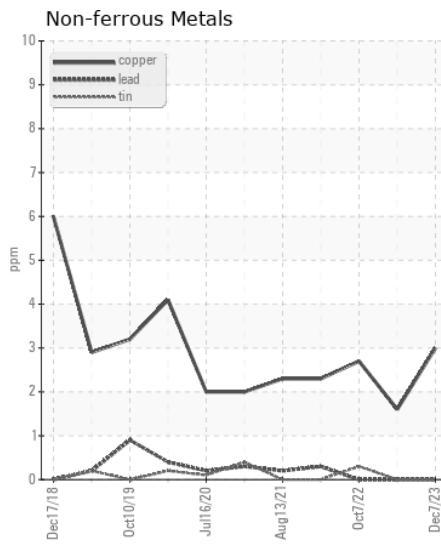
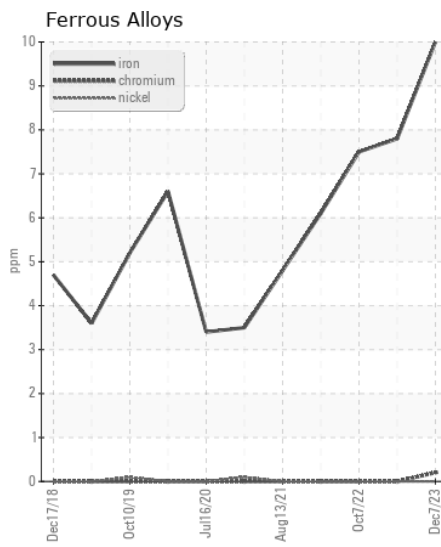
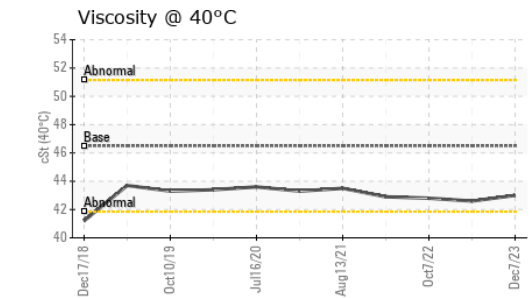
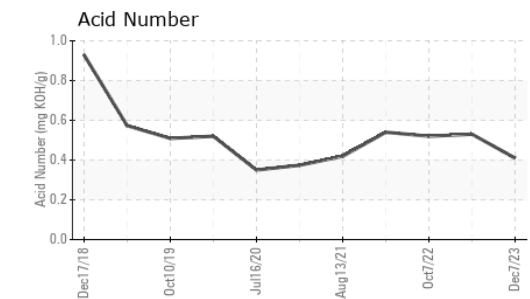
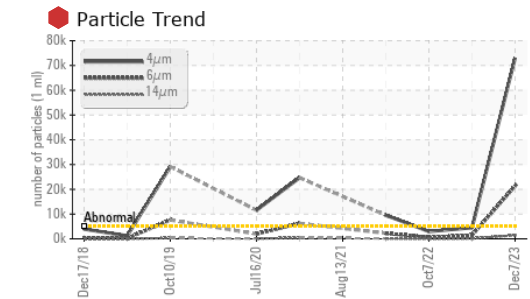
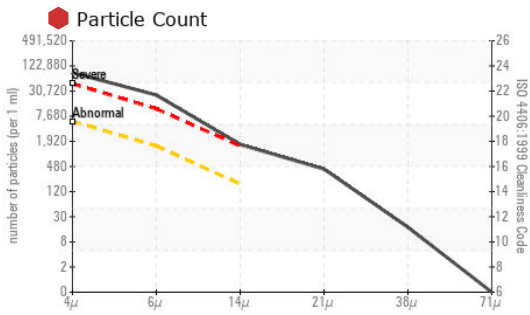
CONTAMINATION

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0800504	WC0758008	WC0701058
Sample Date		Client Info		07 Dec 2023	31 Mar 2023	07 Oct 2022
Machine Age	hrs	Client Info		5693	5242	4731
Oil Age	hrs	Client Info		451	511	521
Filter Age	hrs	Client Info		451	511	521
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	ATTENTION	NORMAL
Iron	ppm	ASTM D5185m	>20	10	8	8
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	2	3	3
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>75	3	2	3
Tin	ppm	ASTM D5185m	>10	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	6	5	4
Potassium	ppm	ASTM D5185m	>20	3	1	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	73001	4492	2962
Particles >6µm		ASTM D7647	>1300	21375	▲ 1460	545
Particles >14µm		ASTM D7647	>160	1409	130	20
Particles >21µm		ASTM D7647	>40	365	31	5
Particles >38µm		ASTM D7647	>10	15	3	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	23/22/18	▲ 19/18/14	19/16/11
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	LIGHT	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
Sodium	ppm	ASTM D5185m		0	<1	<1
Boron	ppm	ASTM D5185m		2	2	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		1	1	2
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		21	18	13
Calcium	ppm	ASTM D5185m		174	152	154
Phosphorus	ppm	ASTM D5185m		442	405	398
Zinc	ppm	ASTM D5185m		525	527	490
Sulfur	ppm	ASTM D5185m		1186	1104	1352
Acid Number (AN)	mg KOH/g	ASTM D8045		0.41	0.53	0.52
Visc @ 40°C	cSt	ASTM D445	46.5	43.0	42.6	42.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0800504 **Received** : 12 Jan 2024
Lab Number : 06060158 **Diagnosed** : 16 Jan 2024
Unique Number : 10831540 **Diagnostician** : Wes Davis
Test Package : CONST

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)

CJ MILLER LLC
 2903 DEDE RD
 FINKSBURG, MD
 US 21048
 Contact: JOE ROSS
 jross@cjmillerllc.com
 T: (410)239-8006
 F: (410)239-1051