



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 336EL 001455 (S/N BZY07187)
 Component
Hydraulic System
 Fluid
CASTROL DUAL RANGE HV HYD OIL ISO 46 (51 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0856121	WC0823970	WC0724663
Sample Date		Client Info		05 Apr 2024	01 Nov 2023	11 Jul 2023
Machine Age	hrs	Client Info		16002	15524	14915
Oil Age	hrs	Client Info		478	1500	609
Filter Age	hrs	Client Info		478	600	609
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	7	7	7
Chromium	ppm	ASTM D5185m	>10	4	4	4
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	1	2	1
Lead	ppm	ASTM D5185m	>10	1	0	0
Copper	ppm	ASTM D5185m	>75	2	<1	<1
Tin	ppm	ASTM D5185m	>10	1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

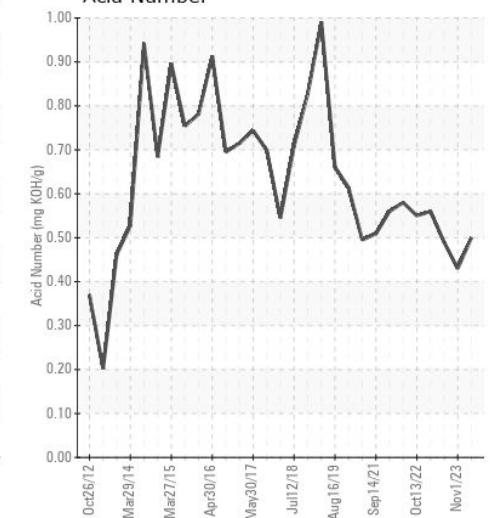
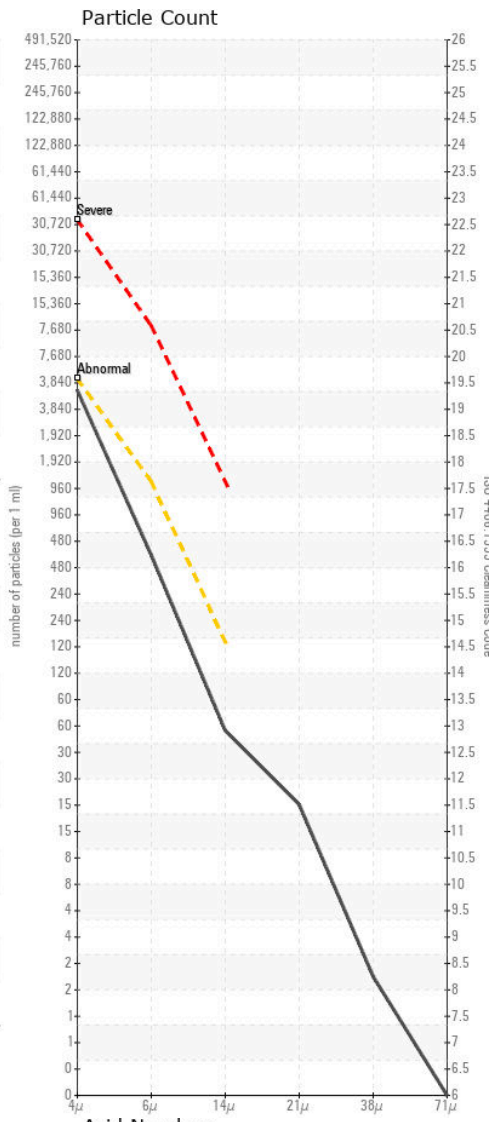
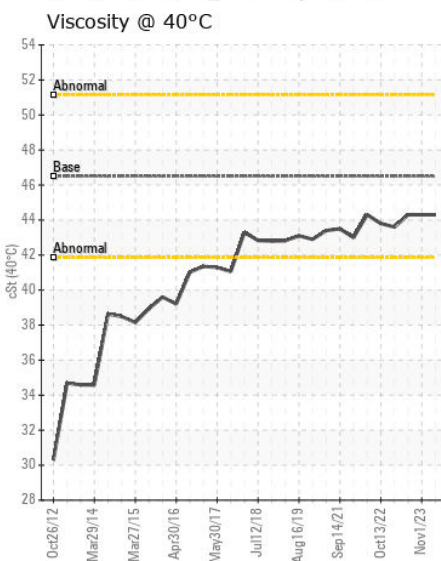
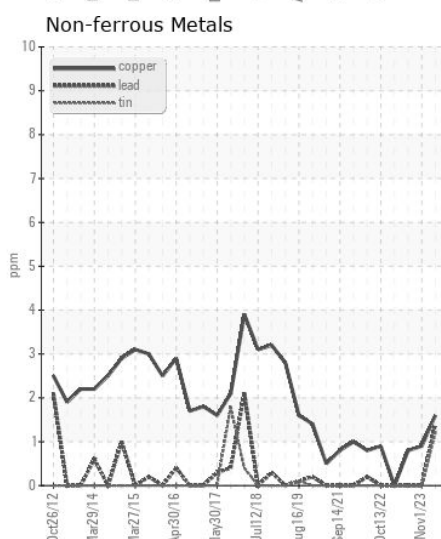
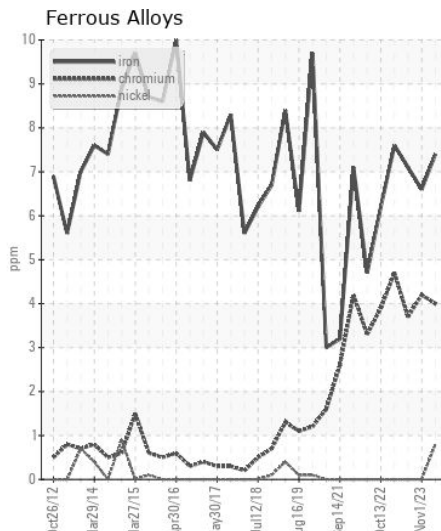
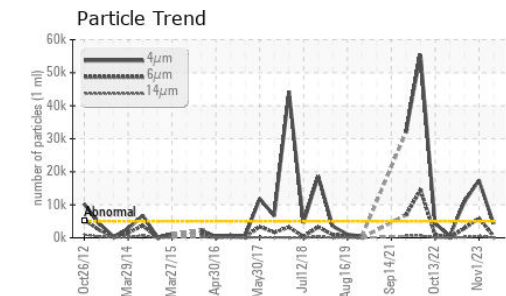
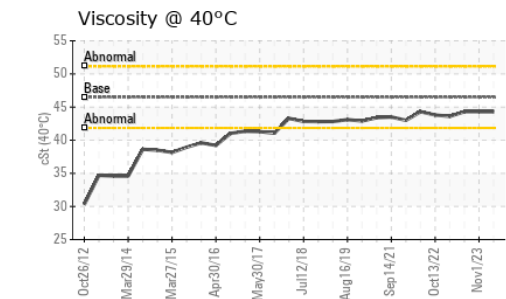
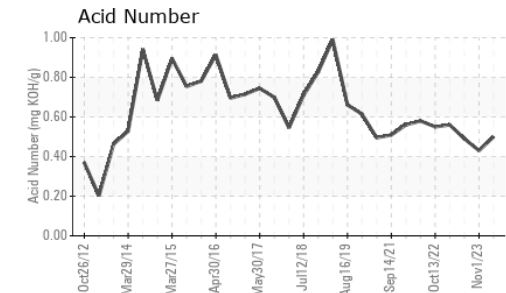
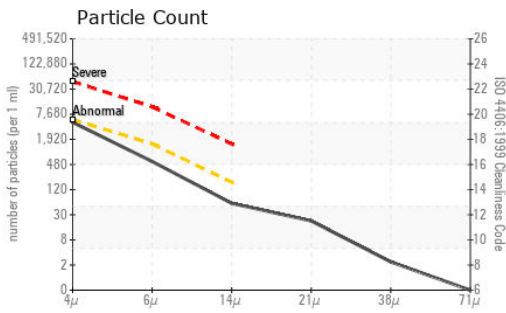
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>20	3	3	3
Potassium	ppm	ASTM D5185m	>20	2	<1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	4296	▲ 17438	▲ 10883
Particles >6µm		ASTM D7647	>1300	497	▲ 5974	▲ 2867
Particles >14µm		ASTM D7647	>160	50	▲ 517	▲ 180
Particles >21µm		ASTM D7647	>40	19	▲ 132	▲ 53
Particles >38µm		ASTM D7647	>10	2	7	3
Particles >71µm		ASTM D7647	>3	0	1	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	19/16/13	▲ 21/20/16	▲ 21/19/15
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

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		0	2	1
Boron	ppm	ASTM D5185m		1	2	1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		3	<1	2
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		54	54	55
Calcium	ppm	ASTM D5185m		187	193	203
Phosphorus	ppm	ASTM D5185m		359	316	357
Zinc	ppm	ASTM D5185m		385	391	414
Sulfur	ppm	ASTM D5185m		1151	1097	1275
Acid Number (AN)	mg KOH/g	ASTM D8045		0.50	0.43	0.49
Visc @ 40°C	cSt	ASTM D445	46.5	44.3	44.3	44.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0856121 **Received** : 12 Apr 2024
Lab Number : 06147266 **Tested** : 15 Apr 2024
Unique Number : 10977344 **Diagnosed** : 15 Apr 2024 - Wes Davis
Test Package : CONST

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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)