

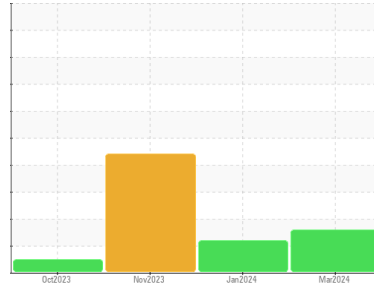


OIL ANALYSIS REPORT



Area
MINING
Machine Id
ME-66 CATERPILLAR 980M MK700460
Component
Hydraulic System
Fluid
CAT TDTO 10W (43 GAL)

Sample Rating Trend



WEAR



DIAGNOSIS

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0909666	WC0880670	WC0880649
Sample Date	Client Info			12 Mar 2024	22 Jan 2024	30 Nov 2023
Machine Age	hrs	Client Info		5546	5015	4480
Oil Age	hrs	Client Info		2000	1500	1000
Oil Changed	Client Info			N/A	Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.1	NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	4	6	4
Chromium	ppm	ASTM D5185m	>10	0	<1	0
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	▲ 11	7	3
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>75	<1	2	1
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

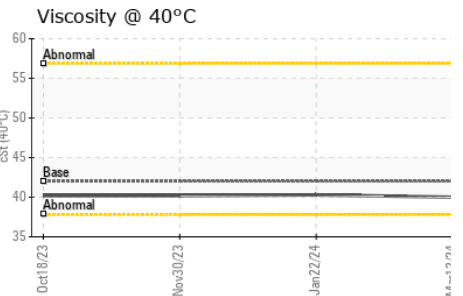
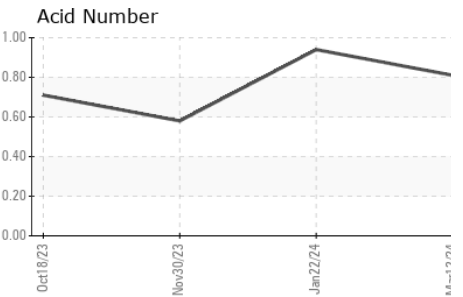
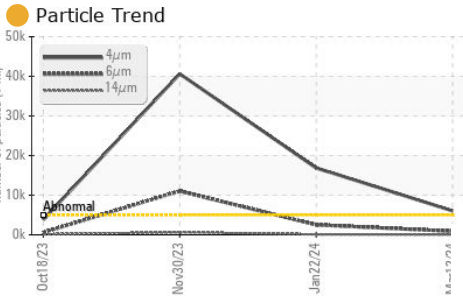
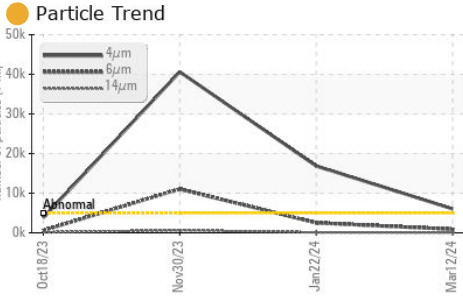
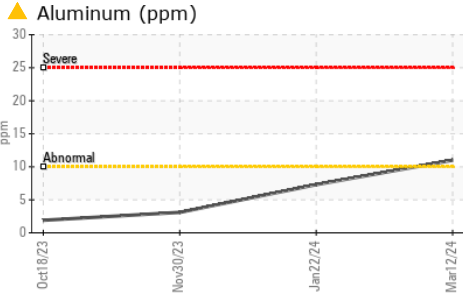
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	<1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	1	1
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		0	11	11
Calcium	ppm	ASTM D5185m	2980	229	208	227
Phosphorus	ppm	ASTM D5185m	1100	727	716	776
Zinc	ppm	ASTM D5185m	1270	937	912	945
Sulfur	ppm	ASTM D5185m		1978	1854	1851

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	13	11	6
Sodium	ppm	ASTM D5185m		0	0	0
Potassium	ppm	ASTM D5185m	>20	0	1	2

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	● 6042	▲ 16871	▲ 40623
Particles >6µm		ASTM D7647	>1300	896	▲ 2520	▲ 11034
Particles >14µm		ASTM D7647	>160	45	92	▲ 621
Particles >21µm		ASTM D7647	>40	11	12	▲ 113
Particles >38µm		ASTM D7647	>10	1	1	2
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	● 20/17/13	▲ 21/19/14	▲ 23/21/16

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.81	0.94	0.58

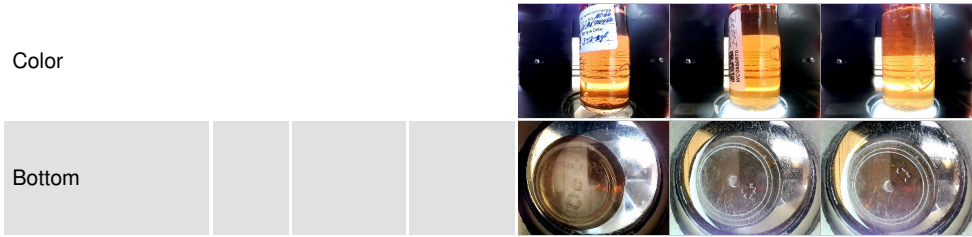
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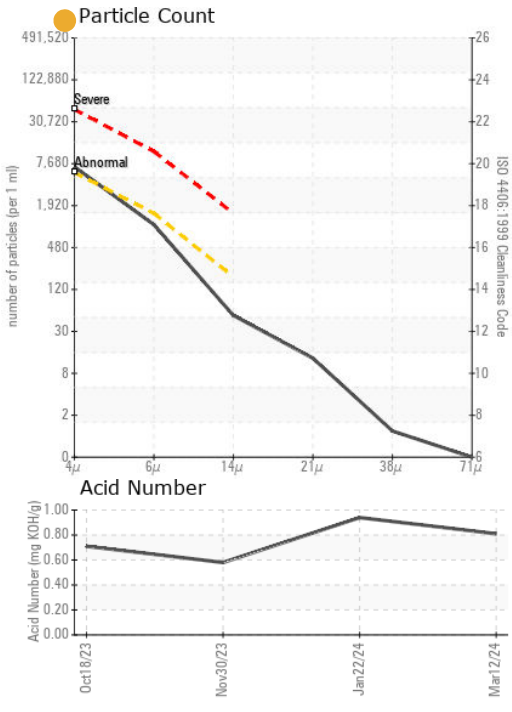
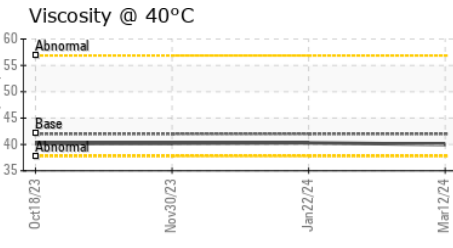
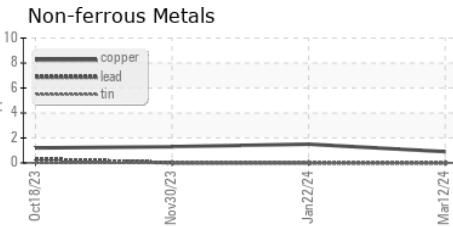
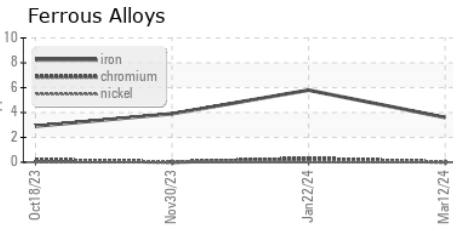
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	42.0	40.3	40.2

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0909666 **Received** : 19 Mar 2024
Lab Number : 06122279 **Tested** : 20 Mar 2024
Unique Number : 10936430 **Diagnosed** : 21 Mar 2024 - Don Baldrige
Test Package : CONST

COVIA - CAMDEN - 094
 1700 SAND MILL RD
 CAMDEN, TN
 US 38320
 Contact: TRACY KEE
 tracy.kee@coviacorp.com
 T:
 F:

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)