

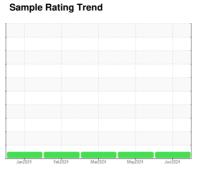
OIL ANALYSIS REPORT



MINING ME-61 CATERPILLAR 980M MK700210

Component Front Differential

CAT TDTO SAE 50 (22 GAL)





Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the fluid.

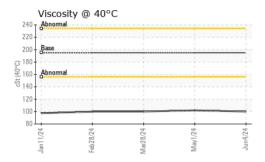
Fluid Condition

The condition of the fluid is acceptable for the time in service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0950840	WC0910935	WC0909688
Sample Date		Client Info		04 Jun 2024	01 May 2024	28 Mar 2024
Machine Age	hrs	Client Info		12200	11790	11312
Oil Age	hrs	Client Info		2000	1500	1000
Oil Changed		Client Info		Changed	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Water		WC Method	>.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>500	95	71	57
Chromium	ppm	ASTM D5185m	>3	<1	<1	<1
Nickel	ppm	ASTM D5185m	>3	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	6	5	6
Lead	ppm	ASTM D5185m	>13	<1	0	<1
Copper	ppm	ASTM D5185m	>103	8	6	5
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
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		2	3	2
Barium	ppm	ASTM D5185m		0	1	0
Molybdenum	ppm	ASTM D5185m		1	0	2
		ASTM D5185m		1	<1	<1
Manganese	ppm	HICOLCA INLOW				
Manganese Magnesium	ppm ppm	ASTM D5185m		24	22	22
-			2980	24 3056	22 2992	22 3078
Magnesium	ppm	ASTM D5185m	2980 1100			
Magnesium Calcium	ppm	ASTM D5185m ASTM D5185m		3056	2992	3078
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1100	3056 1072	2992 1093	3078 1034
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1100	3056 1072 1252	2992 1093 1218	3078 1034 1235
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1100 1270 limit/base	3056 1072 1252 7587	2992 1093 1218 7319	3078 1034 1235 6750
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1100 1270 limit/base	3056 1072 1252 7587 current	2992 1093 1218 7319 history1	3078 1034 1235 6750 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1100 1270 limit/base	3056 1072 1252 7587 current	2992 1093 1218 7319 history1	3078 1034 1235 6750 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m MSTM D5185m Method ASTM D5185m ASTM D5185m	1100 1270 limit/base >100	3056 1072 1252 7587 current 19	2992 1093 1218 7319 history1 17	3078 1034 1235 6750 history2 18 <1
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m MSTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1100 1270 limit/base >100 >20	3056 1072 1252 7587 current 19 1	2992 1093 1218 7319 history1 17 1	3078 1034 1235 6750 history2 18 <1
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1100 1270 limit/base >100 >20 limit/base	3056 1072 1252 7587 current 19 1 <1	2992 1093 1218 7319 history1 17 1 0	3078 1034 1235 6750 history2 18 <1 2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *Visual	1100 1270 limit/base >100 >20 limit/base NONE	3056 1072 1252 7587 current 19 1 <1 current NONE	2992 1093 1218 7319 history1 17 1 0 history1 NONE	3078 1034 1235 6750 history2 18 <1 2 history2 NONE
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE	3056 1072 1252 7587 current 19 1 <1 current NONE	2992 1093 1218 7319 history1 17 1 0 history1 NONE	3078 1034 1235 6750 history2 18 <1 2 history2 NONE
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m METHOD ASTM D5185m METHOD ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE	3056 1072 1252 7587 current 19 1 <1 current NONE NONE	2992 1093 1218 7319 history1 17 1 0 history1 NONE NONE	3078 1034 1235 6750 history2 18 <1 2 history2 NONE NONE
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE	3056 1072 1252 7587 current 19 1 <1 current NONE NONE NONE	2992 1093 1218 7319 history1 17 1 0 history1 NONE NONE NONE LIGHT	3078 1034 1235 6750 history2 18 <1 2 history2 NONE NONE NONE
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE NONE	3056 1072 1252 7587 current 19 1 <1 current NONE NONE NONE NONE NONE NONE NONE NON	2992 1093 1218 7319 history1 17 1 0 history1 NONE NONE NONE LIGHT NONE	3078 1034 1235 6750 history2 18 <1 2 history2 NONE NONE NONE
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE NONE	3056 1072 1252 7587 current 19 1 <1 current NONE NONE NONE NONE NONE NONE	2992 1093 1218 7319 history1 17 1 0 history1 NONE NONE NONE NONE LIGHT NONE NONE	3078 1034 1235 6750 history2 18 <1 2 history2 NONE NONE NONE NONE NONE
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NON	3056 1072 1252 7587 current 19 1 <1 current NONE NONE NONE NONE NONE NONE NONE NON	2992 1093 1218 7319 history1 17 1 0 history1 NONE NONE NONE NONE LIGHT NONE NONE NONE NONE NONE NONE NONE NON	3078 1034 1235 6750 history2 18 <1 2 history2 NONE NONE NONE NONE NONE NONE NONE NON
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM U5185m ASTM D5185m ASTM D5185m *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NON	3056 1072 1252 7587 current 19 1 <1 current NONE NONE NONE NONE NONE NONE NONE NON	2992 1093 1218 7319 history1 17 1 0 history1 NONE NONE NONE NONE LIGHT NONE NONE NORML NORML	3078 1034 1235 6750 history2 18 <1 2 history2 NONE NONE NONE NONE NONE NONE NONE NON

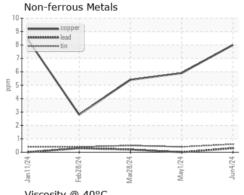


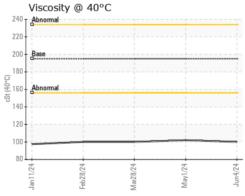
OIL ANALYSIS REPORT



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	195	100	102	100
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image

Ferrous Alloys 100 90 80 70 60 E 50 40 30









Certificate 12367

Sample No. : WC0950840 Lab Number : 06206962 Unique Number : 11074423

Test Package : CONST

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 11 Jun 2024 Tested : 13 Jun 2024

Diagnosed

: 13 Jun 2024 - Don Baldridge

COVIA - CAMDEN - 094

1700 SAND MILL RD CAMDEN, TN US 38320

Contact: TRACY KEE tracy.kee@coviacorp.com T:

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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