

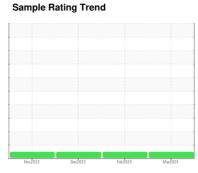
OIL ANALYSIS REPORT



MINING ME-60 CATERPILLAR 982M MK800210

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

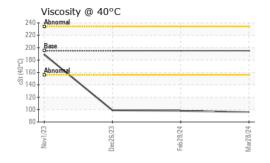
Fluid Condition

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

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0909680	WC0909674	WC0880658
Sample Date		Client Info		28 Mar 2024	28 Feb 2024	26 Dec 2023
Machine Age	hrs	Client Info		11887	11413	10932
Oil Age	hrs	Client Info		1000	500	2000
Oil Changed		Client Info		N/A	Not Changd	Changed
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	23	28	22
Chromium	ppm	ASTM D5185m	>3	<1	<1	<1
Nickel	ppm	ASTM D5185m	>3	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	3	3	2
Lead	ppm	ASTM D5185m	>13	0	1	<1
Copper	ppm	ASTM D5185m	>103	3	4	7
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		7	5	2
Barium	ppm	ASTM D5185m		0	0	7
Danum	ppiii	AO INI DO IOOIII			Ü	
Molybdenum	ppm	ASTM D5185m		2	2	2
						2 <1
Molybdenum	ppm	ASTM D5185m		2	2	
Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	2980	2 <1	2 <1	<1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2980 1100	2 <1 26	2 <1 27	<1 24
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		2 <1 26 3031	2 <1 27 2961	<1 24 3149
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1100	2 <1 26 3031 1064	2 <1 27 2961 1108	<1 24 3149 997
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1100	2 <1 26 3031 1064 1280	2 <1 27 2961 1108 1297	<1 24 3149 997 1287
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1100 1270 limit/base	2 <1 26 3031 1064 1280 7158	2 <1 27 2961 1108 1297 7976	<1 24 3149 997 1287 6985
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1100 1270 limit/base	2 <1 26 3031 1064 1280 7158	2 <1 27 2961 1108 1297 7976 history1	<1 24 3149 997 1287 6985 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1100 1270 limit/base	2 <1 26 3031 1064 1280 7158 current	2 <1 27 2961 1108 1297 7976 history1 15	<1 24 3149 997 1287 6985 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1100 1270 limit/base >100	2 <1 26 3031 1064 1280 7158 current 8 <1	2 <1 27 2961 1108 1297 7976 history1 15 <1	<1 24 3149 997 1287 6985 history2 6 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1100 1270 limit/base >100 >20	2 <1 26 3031 1064 1280 7158 current 8 <1 2	2 <1 27 2961 1108 1297 7976 history1 15 <1 1	<1 24 3149 997 1287 6985 history2 6 0 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	1100 1270 limit/base >100 >20 limit/base	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 history1	<1 24 3149 997 1287 6985 history2 6 0 2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	1100 1270 limit/base >100 >20 limit/base NONE	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 history1 NONE	<1 24 3149 997 1287 6985 history2 6 0 2 history2 NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current NONE NONE	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 history1 NONE NONE	<1 24 3149 997 1287 6985 history2 6 0 2 history2 NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m Method *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current NONE NONE NONE	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 NONE NONE NONE	<1 24 3149 997 1287 6985 history2 6 0 2 history2 NONE NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m method ASTM D5185m *Visual *Visual *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current NONE NONE NONE NONE	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 NONE NONE NONE NONE	<1 24 3149 997 1287 6985 history2 6 0 2 history2 NONE NONE NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m 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	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current NONE NONE NONE NONE NONE NONE NONE	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 NONE NONE NONE NONE NONE NONE NONE	<1 24 3149 997 1287 6985 history2 6 0 2 NONE NONE NONE NONE NONE NONE NONE NO
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE NONE	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current NONE NONE NONE NONE NONE NONE NONE NON	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 NONE NONE NONE NONE NONE NONE NONE N	<1 24 3149 997 1287 6985 history2 6 0 2 NONE NONE NONE NONE NONE NONE NONE NO
Molybdenum Manganese 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 ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NON	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current NONE NONE NONE NONE NONE NONE NONE NON	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 NONE NONE NONE NONE NONE NONE NONE N	<1 24 3149 997 1287 6985 history2 6 0 2 NONE NONE NONE NONE NONE NONE NONE NO
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual	1100 1270 limit/base >100 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NON	2 <1 26 3031 1064 1280 7158 current 8 <1 2 current NONE NONE NONE NONE NONE NONE NONE NON	2 <1 27 2961 1108 1297 7976 history1 15 <1 1 NONE NONE NONE NONE NONE NONE NONE N	<1 24 3149 997 1287 6985 history2 6 0 2 NONE NONE NONE NONE NONE NONE NONE NO

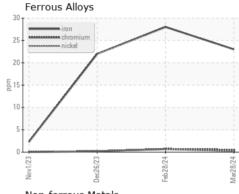


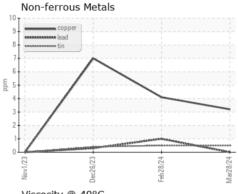
OIL ANALYSIS REPORT

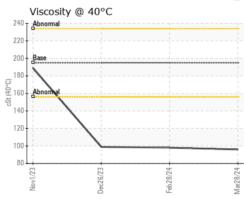


Visc @ 40°C cSt ASTM D SAMPLE IMAGES metho	445 195 od limit/base	96.0	98.0	98.9
SAMPLE IMAGES method	od limit/baco			
	ou illilliouse	current	history1	history2
Color		no image	no image	no image
Bottom		no image	no image	no image

GRAPHS











Certificate 12367

Laboratory Lab Number : 06138898 Unique Number : 10963706 Test Package : CONST

Sample No. : WC0909680

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Tested

Diagnosed

: 05 Apr 2024 : 05 Apr 2024 - Wes Davis

: 04 Apr 2024

COVIA - CAMDEN - 094 1700 SAND MILL RD

CAMDEN, TN US 38320

Contact: TRACY KEE tracy.kee@coviacorp.com

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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