

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id **CATERPILLAR 980M 6161 (S/N MK210767)** Component **Rear Left Differential** Fluid **TULCO LUBSOIL TO-4 50 (--- GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

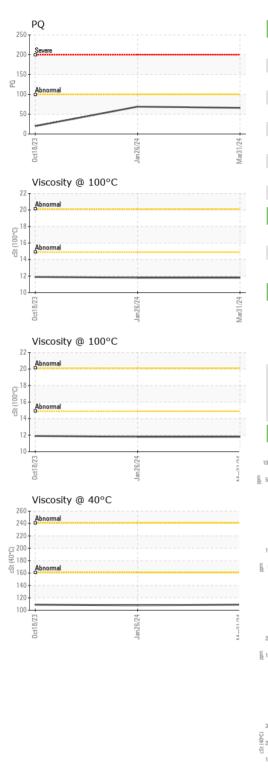
Fluid Condition

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

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		TO10003306	TO10003036	TO10002793
Sample Date		Client Info		31 Mar 2024	26 Jan 2024	18 Oct 2023
Machine Age	hrs	Client Info		9552	8990	8534
Oil Age	hrs	Client Info		1318	756	300
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Water		WC Method	>.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		66	69	20
Iron	ppm	ASTM D5185m	>500	121	94	15
Chromium	ppm	ASTM D5185m	>3	0	<1	<1
Nickel	ppm	ASTM D5185m	>3	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	2	2	1
Lead	ppm	ASTM D5185m	>13	0	<1	0
Copper	ppm	ASTM D5185m	>103	10	6	2
Tin	ppm	ASTM D5185m	>5	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		2	1	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	3	1
Manganese	ppm	ASTM D5185m		2	1	<1
Magnesium	ppm	ASTM D5185m		26	28	28
Calcium	ppm	ASTM D5185m		3102	2790	2943
Phosphorus	ppm	ASTM D5185m		1061	1037	1018
Zinc	ppm	ASTM D5185m		1244	1184	1246
Sulfur	ppm	ASTM D5185m		7020	6278	6422
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>100	8	7	7
Sodium	ppm	ASTM D5185m		2	<1	0
Potassium	ppm	ASTM D5185m	>20	0	0	<1
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		1.74	1.59	1.46



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_	VISUAL		method	limit/base	current	history1	history2
١	White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
١	ellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
F	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
5	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Ddor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROPERT		method	limit/base	current	history1	history
``	/isc @ 40°C	cSt	ASTM D445	in the bacc	109	108	109
	/isc @ 100°C	cSt	ASTM D445		11.8	11.8	11.9
`	/iscosity Index (VI)	Scale	ASTM D2270		96	97	97
	SAMPLE IMAGES	5	method	limit/base	current	history1	history
(Color				no image	no image	no image
E	Bottom				no image	no image	no image
	GRAPHS Iron (ppm)				Lead (ppm)		
1000 E. 500	Severe	1			Severe		
8. 555				8.2	Abnormal		
	0ct18/23 -	Jan26/24 -		Mar 31/24	0ct18/23 -	Jan26/24 -	
	Aluminum (ppm)				Chromium (p	pm)	
100	1			1	Severe		
lig 50	Severe Abnormal			udd	5 Abnormal		
0				24		54	
	0ct18/23	Jan26/24		Mar31/	0ct18/	Jan26/24	
200	Copper (ppm)			- 20	Silicon (ppm)		
	Abnormal						
a				_	0		
J	ct18/23	m26/24				n26/24 -	
		eh.		-		ы,	
300	, -			(B) HO 2	Acid Number		
9 9 201	1			y Die a 1	0		
45 100	Abnormal Q			Number			
100	18/23	26/24 -		31/24 -		26/24	
토 100 0 300 27 전 100	Viscosity @ 40°C	Jan 60, 24		mg KOH'g)	Acid Number	PERSONAL PERSONAL	

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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Certificate L2367

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