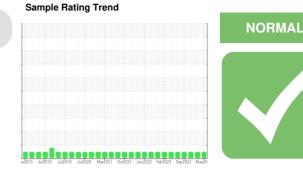


OIL ANALYSIS REPORT





DE Samples - CAT LAB CATERPILLAR 980K LOADER 6775 (S/N W7K01443) Front Left Final Drive Fluid TULCO LUBSOIL TO-4 50 (--- GAL)

SAMPLE INFORMATION method TO10003397 TO10003118 TO10002815 Sample Number **Client Info** 04 Dec 2023 Sample Date Client Info 04 May 2024 22 Feb 2024 28486 Machine Age hrs **Client Info** 27973 27433 Oil Age hrs Client Info 502 4171 3631 Oil Changed **Client Info** Not Changd Not Changd Not Changd Sample Status NORMAL NORMAL NORMAL CONTAMINATION Water WC Method >0.2 NEG NEG NEG WEAR METALS PQ ASTM D8184 >500 45 43 37 Iron ASTM D5185m >800 51 48 42 ppm Chromium 0 0 ppm ASTM D5185m >10 <1 Nickel ASTM D5185m >5 0 0 0 ppm 0 0 ASTM D5185m >15 <1 Titanium ppm Silver ppm ASTM D5185m >2 0 0 0 Aluminum ASTM D5185m >75 2 3 2 ppm Lead >10 0 <1 0 ppm ASTM D5185m Copper ASTM D5185m >75 11 11 10 ppm 0 Tin ppm ASTM D5185m >8 <1 <1 0 Vanadium 0 ppm ASTM D5185m <1 Cadmium ppm ASTM D5185m 0 0 0 0 0 0 Boron ppm ASTM D5185m Barium ppm ASTM D5185m <1 0 0 Molybdenum ASTM D5185m 0 0 0 ppm Manganese ppm ASTM D5185m <1 <1 <1 14 Magnesium ppm ASTM D5185m 12 13 Calcium ASTM D5185m 3299 3259 3200 ppm Phosphorus ppm ASTM D5185m 1016 968 939 Zinc ppm ASTM D5185m 1186 1191 1205 Sulfur 4776 4925 ppm ASTM D5185m 5821 CONTAMINANTS Silicon ASTM D5185m >400 16 16 16 ppm 5 5 Sodium ASTM D5185m 4 ppm Potassium ASTM D5185m >20 0 2 0 ppm FLUID DEGRADATION Acid Number (AN) mg KOH/g ASTM D8045 1.12 1.02 1.05

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Area

Wear

All component wear rates are normal.

Contamination

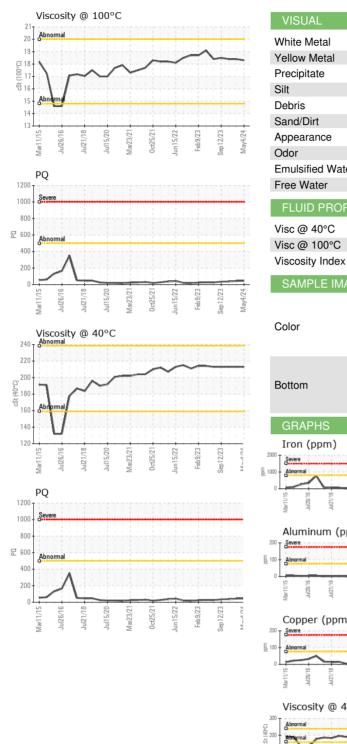
There is no indication of any contamination in the oil.

Fluid Condition

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



OIL ANALYSIS REPORT



	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
/23 /23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Feb 9/23 Sep 1 2/23 May4/24	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
				>0.2	NEG		
	Free Water	scalar	*Visual			NEG	NEG
	FLUID PROPERTI		method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D445		213	213	213
	Visc @ 100°C	cSt	ASTM D445		18.3	18.4	18.4
	Viscosity Index (VI)	Scale	ASTM D2270		94	95	95
23 23 24	SAMPLE IMAGES		method	limit/base	current	history1	history2
- Feb9/23 Sep12/23 May4/24	Color				no image	no image	no image
	Bottom				no image	no image	no image
	GRAPHS			In			
23	Iron (ppm)				Lead (ppm)		
Feb 9/23 Sep 1 2/23 ^^ ^ ^	Severe				Severe		
	E 1000 - Abnormal			B. 2	Abnormal		
	Mar 11/15 Ju/28/16 Ju/15/20	Mar23/21	Jun 15/22 - Feb9/23 -	May4/24	Jul26/16	Jui 15/20	Jun15/22 Feb9/23 Sep12/23 May4/24
	2	0 N	J T S	M	2		Mr. See
	Aluminum (ppm)			4	Chromium (p	om)	
	E 100 - Abnormal			<u>6</u> 2	0 - Abnormal		
	0				₀↓ ↓ + + + + + + + + + + + + + + + + + + 		
	Mar11/15 Juf26/16 Juf21/18	Mar 23/21 Oct 25/21	Jun15/22 Febg/23 Sep12/23	May4/24	Jul/26/16 Jul/26/16	Jul 15/20 Mar 23/21 Oct 25/21	Jun15/23 Feb9/23 Sep12/23 May4/24
Feb9/23 =	Copper (ppm)				Silicon (ppm)		
Feb 9/ Sep 1 2/	200 Severe			100			
	E 100 - Abnormal			<u>ğ</u> 50	0 - Abnormal		
		21	23			20	23
	Mar11/15 Ju/26/16 Ju/2/18	Mar 23/21 Oct 25/21	Jun15/22 Feb9/23 Sep12/23	May4/24	Mar 11/15 Jui 26/16	Jul 15/20 Mar 23/21	Jun 15/23 Feb9/23 Sep 12/23 May4/24
	Viscosity @ 40°C			(6)	Acid Number		
				724 Acid Number (mg K0H/g) 00 100 100 100 100 100 100 100 100 100			
	북 200 Athema			1.0 E		\sim	\sim
		21 621	(23	Acid N	9 <u>1</u> 12 12 10	/20	/22
	Mar 11/15 Jul 26/16 Jul 15/20	Mar 23/21 Oct 25/21	Jun15/22 Feb3/23 Sep12/23	May4/24	Mar 11/15 Jul26/16	Jul 15/20 Mar 23/21	Jun 15/22 Feidg/23 Sep 12/23 May4/24
Unique Number	: WearCheck USA - 501 : TO10003397 : 06176197 : 11022250 : MOB 2 (Additional Tes	Recei Teste Diagr	ved : 10 d : 13 iosed : 13	v, NC 27513) May 2024 3 May 2024 3 May 2024 - V	TULSA RC	CK QUARRY, 66TH	E TULSA ROCK ST N 145TH AVENUE TULSA, OK US 74137 MIKE SNYDER

Unique Number : 11022250 Certificate 12367

Test Package : MOB 2 (Additional Tests: KV100, PQ, VI) 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)

Report Id: ANCTUL [WUSCAR] 06176197 (Generated: 07/15/2024 13:25:48) Rev: 1

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F:

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