



WEAR CONTAMINATION FLUID CONDITION

NORMAL NORMAL NORMAL

Area

Store 9 - Marietta

CATERPILLAR D5K2XL D1 (S/N W202701)

Diesel Engine

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Test	DIESEL ENGINE OIL SAE 15W4	10 (GAL)						
Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. Sample Date Client Info Changed Ch	RECOMMENDATION	Test	HOM	Method	Limit/Δhn	Current	History1	History2
Résample 2 at the next service interval to montor. Please specity the brand, type, and viscosity of the oil on your next sample.	HEOOMINICHDATION		COM		Littleyton			
Machine Age hrs Client Info 1902 1902 1903 1		•						
Oil Age hrs Client Info 500			hrs					
Filter Age Oil Client Info Changed Changed Client Info Changed Changed		•						
Oil Changed Client Info Changed Change								
Filter Changed Sample Status			1113					
MEAR								
Variable Variable				Olletti IIIIO		_		
Chromium ppm ASTM 05186m >20 <1 Nickel ppm ASTM 05186m >2 <1 Trianium ppm ASTM 05186m >2 <1 Silver ppm ASTM 05186m >2 <1 Silver ppm ASTM 05186m >2 <1 Silver ppm ASTM 05186m >2 <1 ASTM 05186m >2 0 ASTM 05186m >4 0 0						INONIVIAL		
All component wear rates are normal. Chromium ppm ASTIN D5185m >2 0 Trianium ppm ASTIN D5185m >2 0 Trianium ppm ASTIN D5185m >2 0 All component wear rates are normal. All component wear rates are normal.	WEAR	Iron	ppm	ASTM D5185m	>100	29		
Nickel ppm ASTM 05185m 22 0		Chromium		ASTM D5185m	>20			
Titanium ppm ASTM 05185m >2 <1	All component wear rates are normal.	Nickel				0		
Silver ppm ASTM D5185m 22 0		Titanium		ASTM D5185m	>2	<1		
Aluminum ppm ASTM D5185m >25 7		Silver						
Lead								
Copper								
Time								
Vanadium								
White Metal Scalar *Visual NONE NO								
Yellow Metal Scalar Visual NONE NO					NONE	-		
Silicon ppm ASTM D5185m >120 9		Yellow Metal						
Potassium ppm ASTM D5185m >20 2								
Potassium ppm ASTM D5185m >20 2	CONTAMINATION	Silicon	ppm	ASTM D5185m	>!20	9		
Water Wo Method So.2 NEG Glycol WC Method So.2 NEG Glycol WC Method So.2 NEG Sot %		Potassium	ppm	ASTM D5185m	>20	2		
Glycol	There is no indication of any contamination in the oil.	Fuel		WC Method	>5	<1.0		
Soot %		Water		WC Method	>0.2	NEG		
Nitration Abs/cm *ASTM D7624 >20 10.5		Glycol		WC Method		NEG		
Sulfation Abs.\timm *ASTM D7415 >30 21.2 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML NORML NORML Odor scalar *Visual NORML		Soot %	%	*ASTM D7844	>3	0.1		
Silt scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NORML NORM		Nitration	Abs/cm	*ASTM D7624	>20	10.5		
Debris Scalar *Visual NONE NONE NONE NONE Sand/Dirt Scalar *Visual NONE NORML NORM		Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2		
Sand/Dirt Scalar *Visual NONE NONE Appearance Scalar *Visual NORML		Silt	scalar	*Visual	NONE	NONE		
Appearance Scalar *Visual NORML NORM		Debris	scalar	*Visual	NONE	NONE		
Color Scalar Visual NORML NORML NORML Emulsified Water Scalar Visual Scalar Scalar Visual Scalar Scalar Visual Scalar Scalar Scalar Visual Scalar Scal		Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.2 NEG		Appearance	scalar	*Visual	NORML	NORML		
Sodium ppm ASTM D5185m >158 12		Odor	scalar	*Visual	NORML	NORML		
Boron ppm ASTM D5185m 250 51 Barium ppm ASTM D5185m 10 0 0 Molybdenum ppm ASTM D5185m 100 70 Magnesium ppm ASTM D5185m 450 469 Phosphorus ppm ASTM D5185m 3000 1740 Zinc ppm ASTM D5185m 1350 1194 Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7144 >25 18.1		Emulsified Water	scalar	*Visual	>0.2	NEG		
Boron ppm ASTM D5185m 250 51 Barium ppm ASTM D5185m 10 0 0 Molybdenum ppm ASTM D5185m 100 70 Magnesium ppm ASTM D5185m 450 469 Phosphorus ppm ASTM D5185m 3000 1740 Zinc ppm ASTM D5185m 1350 1194 Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7144 >25 18.1								
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Barium ppm ASTM D5185m 10 70 Molybdenum ppm ASTM D5185m 100 70 Manganese ppm ASTM D5185m 450 469 Calcium ppm ASTM D5185m 3000 1740 Phosphorus ppm ASTM D5185m 1150 995 Zinc ppm ASTM D5185m 1350 1194 Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7414 >25 18.1	FLUID CONDITION		ppm					
oil. The condition of the oil is suitable for further service. Molybdenum ppm ASTM D5185m 100 70 Manganese ppm ASTM D5185m 450 469 Calcium ppm ASTM D5185m 3000 1740 Phosphorus ppm ASTM D5185m 1150 995 Zinc ppm ASTM D5185m 1350 1194 Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7414 >25 18.1	The RN result indicates that there is suitable alkalinity remaining in the		ppm					
Molybdenum ppm ASTM D5185m 100 70 Manganese ppm ASTM D5185m <1			• •					
Magnesium ppm ASTM D5185m 450 469 Calcium ppm ASTM D5185m 3000 1740 Phosphorus ppm ASTM D5185m 1150 995 Zinc ppm ASTM D5185m 1350 1194 Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7414 >25 18.1		-	ppm		100			
Calcium ppm ASTM D5185m 3000 1740 Phosphorus ppm ASTM D5185m 1150 995 Zinc ppm ASTM D5185m 1350 1194 Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7414 >25 18.1								
Phosphorus ppm ASTM D5185m 1150 995 Zinc ppm ASTM D5185m 1350 1194 Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7414 >25 18.1		•						
Zinc ppm ASTM D5185m 1350 1194 Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7414 >25 18.1								
Sulfur ppm ASTM D5185m 4250 3380 Oxidation Abs/.1mm *ASTM D7414 >25 18.1								
Oxidation								
Base Number (BN) mg KOH/g ASTM D2896 8.5 6.3								
Visc @ 100°C cSt ASTM D445 14.4 12.5		Viaa (a) 10000	~ £ 34	VCTM DAVE	1/1/	125		





Certificate L2367

Laboratory Sample No.

: LEC0048034 Lab Number : 06196413 Unique Number : 11058536

To discuss this sample report, contact Customer Service at 1-800-237-1369.

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

Diagnosed Test Package : CONST (Additional Tests: TBN)

: 02 Jun 2024 - Wes Davis

: 31 May 2024

: 02 Jun 2024

US 26330 Contact: JESSE WILBURN jesseowilburn@gmail.com T: (740)440-0927

* - 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)

LANE PIPELINE

2946 E MAIN ST

BRIDGEPORT, WV