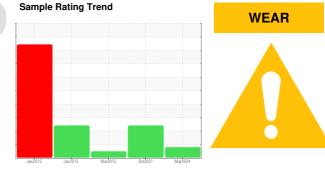


OIL ANALYSIS REPORT





CATERPILLAR BULLDOZER D8N Component Diesel Engine

Fluid

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

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0109575	WC0542291	WCM224208
Sample Date		Client Info		11 Mar 2024	09 Oct 2021	23 Mar 2015
Machine Age	hrs	Client Info		17286	16787	15615
Oil Age	hrs	Client Info		500	500	500
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	116	68	5
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>2	2	1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	8	3	<1
Lead	ppm	ASTM D5185m	>40	23	6	0
Copper	ppm	ASTM D5185m	>330	188	5 11	<1
Tin	ppm	ASTM D5185m	>15	7	5	<1
Antimony	ppm	ASTM D5185m			0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	9	10	12
Barium	ppm	ASTM D5185m	10	0	<1	0
Molybdenum	ppm	ASTM D5185m	100	59	71	36
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m	450	799	940	652
Calcium	ppm	ASTM D5185m	3000	1246	1236	1149
Phosphorus	ppm	ASTM D5185m	1150	959	1048	884
Zinc	ppm	ASTM D5185m	1350	1193	1246	965
Sulfur	ppm	ASTM D5185m	4250	2638	2593	1338
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	20	2 6	2
Sodium	ppm	ASTM D5185m	>158	11	15	12
Detereium	ppm	ASTM D5185m	>20	6	1	9
Potassium						
INFRA-RED		method	limit/base	current	history1	history2
	%	method *ASTM D7844		current 0.2	history1 0.2	<mark>history2</mark> 0
INFRA-RED	% Abs/cm		>3			
INFRA-RED Soot %		*ASTM D7844	>3 >20	0.2	0.2	0
INFRA-RED Soot % Nitration	Abs/cm Abs/.1mm	*ASTM D7844 *ASTM D7624 *ASTM D7415	>3 >20	0.2 15.6	0.2 13.7	5.
INFRA-RED Soot % Nitration Sulfation	Abs/cm Abs/.1mm	*ASTM D7844 *ASTM D7624 *ASTM D7415	>3 >20 >30	0.2 15.6 24.1	0.2 13.7 25.5	0 5. 15.

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

📥 Wear

Cylinder, crank, or cam shaft wear is indicated.

Contamination

There is no indication of any contamination in the oil.

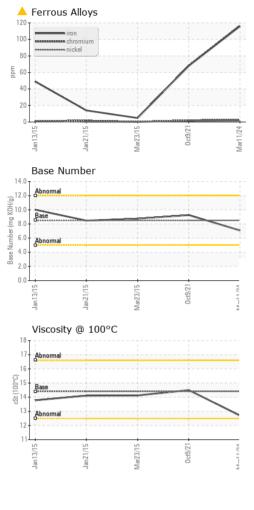
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Submitted By: JOHN HATZISTEFANOU



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history		
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		
Appearance	scalar					NORML		
						NORML		
Emulsified Water Free Water	scalar scalar	*Visual *Visual	>0.2	NEG NEG	NEG	NEG NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history		
Visc @ 100°C	cSt	ASTM D445	14.4	12.7	14.5	14.12		
GRAPHS								
Iron (ppm)			1(
Severe		1		Severe	1			
Abnormal			L L					
50 -								
0				0				
n13/15	II 23/15	0ct9/21	ar11/24	n13/15	II(23/15	0ct9/21		
	Ma	0	Ma			0		
50 Severe				50	//			
TOT STOLEN		1						
E 30 Abnormal			u d	Abnormal				
0				0				
21/15 .	23/15	ct9/21	11/24	21/15	23/15	0ct9/21-		
	Mar	Ó	Mar		Mari	Ő		
Copper (ppm)								
500 -				1				
400 - Stofformal		$\langle \rangle$						
-				Abnormal		1		
100-	/		1	20-	/			
	5	21+				21+		
an 13/1 an 2 1/1	ar23/1	0ct9/2	ar11/2	an 13/1 in 21/1	ar23/1	0ct9/21		
			W		W			
18 Abnormal	1		(B/H	.0 _T				
16			ОУ _{В1} 10					
014			nber (r	Abnormal				
12 - Abhomai			N N S	.0+0				
10			0					
13/15	r23/15)ct9/2	r11/24	13/15	r23/15	0ct9/21		
Jan	Mai	0	Mai	Jan	Mar	0		
: WearCheck USA - 50	1 Madiso	n Ave., Car	, NC 27513	TRESC	A BROS SAND	& GRAVEL I		
: PCA0109575	Recei	ived : 2	7 Mar 2024	66 MAIN				
r : 06130808	: 06130808 Tested : 28 Mar 2024					MILLIS, M		
	Diagr	nosed : 01	Apr 2024 - Jona	unan Hester	Contect	US 020 FRAN ROS ::		
	MOB 2 contact Customer Service at 1-800-237-1369.							
r	Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS Aluminum (ppm) Copper (ppm) Coppe	Yellow Metal scalar Precipitate scalar Silt scalar Debris scalar Sand/Dirt scalar Appearance scalar Odor scalar Free Water scalar FLUID PROPERTIES Visc @ 100°C cSt GRAPHS Iron (ppm)	Yellow Metal scalar *Visual Precipitate scalar *Visual Silt scalar *Visual Debris scalar *Visual Sand/Dirt scalar *Visual Appearance scalar *Visual Odor scalar *Visual Emulsified Water scalar *Visual Free Water scalar *Visual Free Water scalar *Visual GRAPHS Iron (ppm)	Yellow Metal scalar *Visual NONE Precipitate scalar *Visual NONE Silt scalar *Visual NONE Debris scalar *Visual NONE Sand/Dirt scalar *Visual NONE Appearance scalar *Visual NORML Odor scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.2 FLUID PROPERTIES method limit/base Visc @ 100°C cSt ASTM D445 14.4 GRAPHS Iron (pm) Iron (pm) Iron (pm) Iron (pm) Image: Scalar Strugger Strugger Strugger Image: Scalar Viscosity @ 100°C Strugger Strugger Image: Scalar Strugger Image: Scalar Strugger Strugger Image: Scalar Strugger Image: Scalar Strugger Strugger Image: Scalar Strugger Image: Scalar Strugger Strugger Image: S	Yellow Metal scalar *Visual NONE NONE Precipitate scalar *Visual NONE NONE Sitt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE Appearance scalar *Visual NORML NORML Odor scalar *Visual NOR NORML Emulsified Water scalar *Visual >0.2 NEG FLUID PROPERTIES method limit/base current Visc @ 100°C cst ASTM D445 14.4 12.7 GRAPHS for oppor for oppor for oppor for oppor for oppor Viscosity @ 100°C strange strange strange for oppor for oppor for oppor	Yellow Metal scalar Visual NONE NONE NONE None NONE NONE NONE NONE NONE Sitt scalar Visual NONE NONE NONE Debris scalar Visual NONE NONE NONE Appearance scalar Visual NORML NORML NORML Odor scalar Visual NORML NORML NORML Odor scalar Visual NORML NORML NORML Odor scalar Visual NORML NORML NORML Visc @ 100°C cSt ASTM D445 14.4 12.7 14.5 GRAPHS Imit/base current history1 Visc @ 100°C cSt ASTM D445 14.4 12.7 14.5 Graph Graph		

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Submitted By: JOHN HATZISTEFANOU