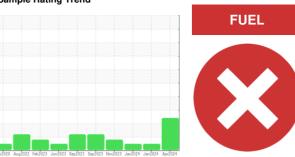


OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id **CATERPILLAR 972H 5585 (S/N A7D00894)** Diesel Engine

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

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

▲ Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

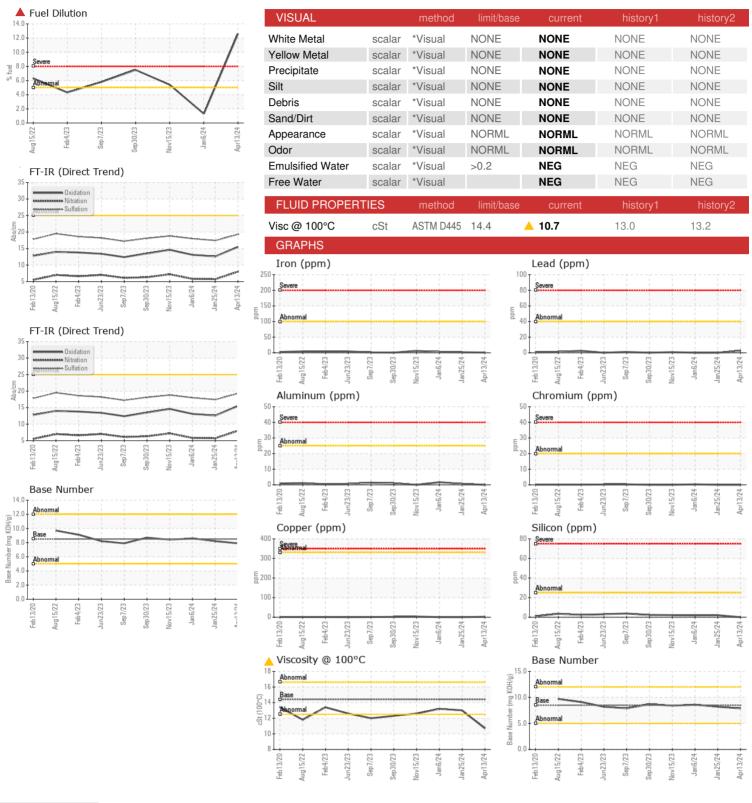
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION method limitbase current history1 history2 Sample Number Client Info WC0924838 WC0858399 WC0889576 Sample Date Client Info 4712 25 Jan 2024 06 Jan 2024 Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info N/A N/A N/A N/A Oil Changed Client Info N/A N/A N/A N/A N/A Sample Status SEVERE NORMAL NORMAL NORMAL NORMAL NORMAL Water WC Method >0.2 NEG NEG NEG NEG Water WC Method >0.2 NEG NEG NEG NEG Water WC Method >0.2 NEG NEG NEG NEG Iron ppm ASTM 05185m >0.0 0 <1 1 2 3 Iron ppm ASTM 05185m >2.0 <th>AE 15W40 (0</th> <th><i>1</i>72)</th> <th>Feb2020 Auga</th> <th>022 P802023 JUN2023 3892</th> <th>023 Sep2023 Nov2023 Jan2024 Jan</th> <th>EULT PRIEUZY</th> <th></th>	AE 15W40 (0	<i>1</i> 72)	Feb2020 Auga	022 P802023 JUN2023 3892	023 Sep2023 Nov2023 Jan2024 Jan	EULT PRIEUZY	
Client Info	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		WC0924838	WC0858399	WC0889576
Machine Age hrs Client Info 4712 4209 4078 Oil Age hrs Client Info 0 0 0 0 Dil Changed Client Info N/A N/A N/A N/A Sample Status VE SEVERE NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG Overage NEG NEG NEG NEG NEG PPM ASTMD5185n <td></td> <td></td> <td>Client Info</td> <td></td> <th>13 Apr 2024</th> <td>25 Jan 2024</td> <td>06 Jan 2024</td>			Client Info		13 Apr 2024	25 Jan 2024	06 Jan 2024
Dil Changed Client Info SEVERE NORMAL NORMAL	•	hrs	Client Info		4712	4209	4078
Sevent Sevent Normal Normal	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG Silycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 fron ppm ASTM D5185m >100 <1	Oil Changed		Client Info		N/A	N/A	N/A
Water WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 <1 2 3 Chromium ppm ASTM D5185m >20 0 0 <1 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 <1 0 Silver ppm ASTM D5185m >25 0 <1 2 Copper ppm ASTM D5185m >40 3 0 0 0 Copper ppm ASTM D5185m >330 2 <1 0 0 Copper ppm ASTM D5185m >10 0 0 0 0 Calmium ppm ASTM D5185m	Sample Status				SEVERE	NORMAL	NORMAL
WEAR METALS	CONTAMINATIO	N	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >100 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 0 0 <1 Nickel ppm ASTM D5185m >2 0 0 0 Titianium ppm ASTM D5185m >2 0 0 0 Siliver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 <1 2 Lead ppm ASTM D5185m >40 3 0 0 Copper ppm ASTM D5185m >40 3 0 0 Copper ppm ASTM D5185m >40 3 0 0 Vanadium ppm ASTM D5185m 15 0 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 10 0 0 3	WEAR METALS		method	limit/base	current	history1	history2
Strickel	ron	ppm	ASTM D5185m	>100	<1	2	3
Description	Chromium	ppm	ASTM D5185m	>20	0	0	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum ppm ASTM D5185m >25 0 <1 2 Lead ppm ASTM D5185m >40 3 0 0 Copper ppm ASTM D5185m >330 2 <1 <1 OLadmium ppm ASTM D5185m >15 0 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 10 0 0 0 3 Molybdenum ppm ASTM D5185m 10 0 0 0 3 Molybdenum ppm ASTM D5185m 10 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 110 0 46 54 60 Magnesium ppm ASTM D5185m 110 0 0 0 0 Magnesium ppm ASTM D5185m 110 0 0 0 0 Magnesium ppm ASTM D5185m 1150 877 940 960 Zinc ppm ASTM D5185m 1350 980 11116 1173 Sulfur ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m 22 3026 3062 3454 CONTAMINANTS method limit/base current history1 history2 Sodium ppm ASTM D5185m >20 0 2 2 Edel % ASTM D5185m >20 0 1 2 Edel % ASTM D5185m >20 0 1 3 INFRA-RED method limit/base current history1 history2 Soot % % "ASTM D7844 >3 0.2 0.1 0.1 Nifration Abs/tmm "ASTM D7845 >30 19.3 17.4 18.0 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/tmm "ASTM D7414 >25 15.5 12.6 13.1	Γitanium	ppm	ASTM D5185m	>2	0	<1	0
Lead ppm ASTM D5185m >40 3 0 0 Copper ppm ASTM D5185m >330 2 <1 <1 Tin ppm ASTM D5185m >15 0 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 11 27 28 Barium ppm ASTM D5185m 10 0 0 3 Molybdenum ppm ASTM D5185m 100 46 54 60 Manganese ppm ASTM D5185m 100 46 54 60 Magnesium ppm ASTM D5185m 450 694 795 874 Calcium ppm ASTM D5185m 3000 1014 1053 1115 Phosphorus ppm ASTM D5185m 1350 980<	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >330 2 <1 <1 Fin ppm ASTM D5185m >15 0 <1	Aluminum	ppm	ASTM D5185m	>25	0	<1	2
Tin	_ead	ppm	ASTM D5185m	>40	3	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 11 27 28 Barium ppm ASTM D5185m 10 0 0 3 Molybdenum ppm ASTM D5185m 100 46 54 60 Manganese ppm ASTM D5185m 100 46 54 60 Magnesium ppm ASTM D5185m 100 0 0 0 Magnesium ppm ASTM D5185m 450 694 795 874 Calcium ppm ASTM D5185m 3000 1014 1053 1115 Phosphorus ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m 25 3026 3062	Copper	ppm	ASTM D5185m	>330	2	<1	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 250 11 27 28 Barium ppm ASTM D5185m 10 0 0 3 Molybdenum ppm ASTM D5185m 100 46 54 60 Manganese ppm ASTM D5185m 100 46 54 60 Manganesium ppm ASTM D5185m 450 694 795 874 Calcium ppm ASTM D5185m 3000 1014 1053 1115 Phosphorus ppm ASTM D5185m 3000 1014 1053 1115 Phosphorus ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m >25 0 2 2 CONTAMINANTS method limit/base current	Γin	ppm	ASTM D5185m	>15	0	<1	0
ADDITIVES	/anadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 100 46 54 60 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 450 694 795 874 Calcium ppm ASTM D5185m 3000 1014 1053 1115 Phosphorus ppm ASTM D5185m 1150 877 940 960 Zinc ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m 4250 3026 3062 3454 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 2 2 Sodium ppm ASTM D5185m >20 0 <1 2 Fuel % ASTM D5185m >20 0 <1 2 Fuel % ASTM D7844 >3 0.2	Boron	ppm	ASTM D5185m	250	11	27	28
Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 450 694 795 874 Calcium ppm ASTM D5185m 3000 1014 1053 1115 Phosphorus ppm ASTM D5185m 1150 877 940 960 Zinc ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m 4250 3026 3062 3454 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 2 2 Solium ppm ASTM D5185m >158 2 <1 0 Potassium ppm ASTM D5185m >20 0 <1 2 Fuel % ASTM D5185m >20 0 <1 2 Soot % % ASTM D5185m >3 0.2	Barium	ppm	ASTM D5185m	10	0	0	3
Magnesium ppm ASTM D5185m 450 694 795 874 Calcium ppm ASTM D5185m 3000 1014 1053 1115 Phosphorus ppm ASTM D5185m 1150 877 940 960 Zinc ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m 4250 3026 3062 3454 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 2 2 Solicon ppm ASTM D5185m >158 2 <1	Molybdenum	ppm	ASTM D5185m	100	46	54	60
Calcium ppm ASTM D5185m 3000 1014 1053 1115 Phosphorus ppm ASTM D5185m 1150 877 940 960 Zinc ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m 4250 3026 3062 3454 CONTAMINANTS method limit/base current history1 history2 Gilicon ppm ASTM D5185m >25 0 2 2 Godium ppm ASTM D5185m >158 2 <1	Manganese	ppm	ASTM D5185m		0	0	0
Phosphorus ppm ASTM D5185m 1150 877 940 960 Zinc ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m 4250 3026 3062 3454 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 2 2 Sodium ppm ASTM D5185m >158 2 <1	Magnesium	ppm	ASTM D5185m	450	694	795	874
Zinc ppm ASTM D5185m 1350 980 1116 1173 Sulfur ppm ASTM D5185m 4250 3026 3062 3454 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 2 2 Sodium ppm ASTM D5185m >158 2 <1	Calcium	ppm	ASTM D5185m	3000	1014	1053	1115
Gulfur ppm ASTM D5185m 4250 3026 3062 3454 CONTAMINANTS method limit/base current history1 history2 Gilicon ppm ASTM D5185m >25 0 2 2 Godium ppm ASTM D5185m >158 2 <1	Phosphorus	ppm	ASTM D5185m	1150	877	940	960
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 0 2 2 Sodium ppm ASTM D5185m >158 2 <1	Zinc	ppm	ASTM D5185m	1350	980	1116	1173
Silicon ppm ASTM D5185m >25 0 2 2 Sodium ppm ASTM D5185m >158 2 <1 0 Potassium ppm ASTM D5185m >20 0 <1 2 Fuel % ASTM D3524 >5 ▲ 12.6 <1.0 1.3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.0 5.7 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.3 17.4 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 12.6 13.1	Sulfur	ppm	ASTM D5185m	4250	3026	3062	3454
Sodium ppm ASTM D5185m >158 2 <1 0 Potassium ppm ASTM D5185m >20 0 <1 2 Fuel % ASTM D3524 >5 ▲ 12.6 <1.0 1.3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.0 5.7 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.3 17.4 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 12.6 13.1	CONTAMINANTS	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 <1 2 Fuel % ASTM D3524 >5 ▲ 12.6 <1.0 1.3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.0 5.7 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.3 17.4 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 12.6 13.1	Silicon	ppm	ASTM D5185m	>25	0	2	2
Fuel % ASTM D3524 >5	Sodium	ppm	ASTM D5185m	>158	2	<1	0
INFRA-RED	Potassium	ppm	ASTM D5185m	>20	0	<1	2
Soot % % *ASTM D7844 >3 0.2 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.0 5.7 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.3 17.4 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 12.6 13.1	Fuel	%	ASTM D3524	>5	12.6	<1.0	1.3
Nitration Abs/cm *ASTM D7624 >20 8.0 5.7 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.3 17.4 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 12.6 13.1	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 8.0 5.7 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 19.3 17.4 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 12.6 13.1	Soot %	%	*ASTM D7844	>3	0.2	0.1	0.1
Sulfation Abs/.1mm *ASTM D7415 >30 19.3 17.4 18.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.5 12.6 13.1	Vitration	Abs/cm	*ASTM D7624	>20		5.7	5.8
Oxidation	Sulfation						
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.5	12.6	13.1
	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.9	8.2	8.6



OIL ANALYSIS REPORT







Certificate 12367

Laboratory

Sample No.

: WC0924838 Lab Number : 06157406 Unique Number : 10992829

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 23 Apr 2024 **Tested** : 25 Apr 2024

Diagnosed : 25 Apr 2024 - Wes Davis Test Package: MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

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

 st - 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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