

OIL ANALYSIS REPORT

Sample Rating Trend



CATERPILLAR R1300 SCP228

Diesel Engine

DIESEL ENGINE OIL SAE 40 (--- GAL)

DIAGNOSIS
Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION method initibase current history1 history2 Sample Number Client Info WC0863856 Sample Date Client Info 90 Oil Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Age hrs Client Info 0 Oil Changed Client Info 0 Sample Status method Imit/base current history1 History2 Fuel VC Method >5 <1.0 Glycol WC Method >0.2 NEG Glycol WC Method >0.2 1 Cromium ppm ASTM 0516500 >2 <1 Nickel ppm ASTM 0516500 >2 <1 <td< th=""><th>AE 40 (GAL)</th><th></th><th></th><th></th><th>Jan2024</th><th></th><th></th></td<>	AE 40 (GAL)				Jan2024			
Sample Date Info 17 Jan 2024 Machine Age hrs Client Info 980 Oil Age hrs Client Info 0 Sample Status Imit base Charged CONTAMINATION method Imit base current history1 Fistory2 Fuel WC Method >5 <1.0 Qiycol WC Method >0.2 NEG WEAR METALS method Init/base current history1 history2 Iron ppm ASTM051600 >20 <1 WEAR METALS method Init/base current history1 history2 Iron ppm ASTM051600 >20 <1 Silver ppm ASTM051600 >2 <1 Silver ppm ASTM051600	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2	
Sample Date Info 17 Jan 2024 Machine Age hrs Client Info 980 Oil Age hrs Client Info 0 Sample Status Imit base Charged CONTAMINATION method Imit base current history1 Fistory2 Fuel WC Method >5 <1.0 Qiycol WC Method >0.2 NEG WEAR METALS method Init/base current history1 history2 Iron ppm ASTM051600 >20 <1 WEAR METALS method Init/base current history1 history2 Iron ppm ASTM051600 >20 <1 Silver ppm ASTM051600 >2 <1 Silver ppm ASTM051600	Sample Number		Client Info		WC0883856			
Machine Age hrs Client Info 980 Oil Age hrs Client Info 0 Oil Changed Client Info Changed Sample Status Imit/base current History1 History2 Fuel WC Method >0.2 NEG Water WC Method >0.2 NEG WEAR METALS method Imit/base current History1 History2 Iron ppm ASTM0518(m) >20 <1 Nickel ppm ASTM0518(m) >22 <1 Itanium ppm ASTM0518(m) >22 <1 Aluminum ppm ASTM0518(m) >22 <1 Itanium ppm ASTM0518(m) >22 <1 Itanium ppm <t< th=""><th>•</th><th></th><th></th><th></th><th>17 Jan 2024</th><th></th><th></th></t<>	•				17 Jan 2024			
Oil Age Inrs Client Info 0 Sample Status Client Info Changed CONTAMINATION method Imitibase current History1 History2 Fuel WC Method >5.5 <1.0		hrs			980			
Oil Changed Client Info Changed Sample Status Imit/base current History1 History2 CONTAMINATION method Imit/base current History1 History2 Fuel WC Method >5.5 <1.0	0	hrs	Client Info		0			
Sample Status method Imit/base current History1 History2 Fuel WC Method >5 <1.0	-							
Fuel WC Method >5 <1.0	-				-			
Water WC Method >0.2 NEG Glycol WC Method Imit/base current history1 history2 WEAR METALS method Imit/base current history1 Nickel ppm ASTM D5185(m) >20 <1 Nickel ppm ASTM D5185(m) >2 <1 Nickel ppm ASTM D5185(m) >2 <1 Aluminum ppm ASTM D5185(m) >2 <1 Lead ppm ASTM D5185(m) >2 <1 Antimony ppm ASTM D5185(m) >40 3 Vanadium ppm ASTM D5185(m) >15 2 Antimony ppm ASTM D5185(m) 0 Antimony ppm ASTM D5185(m) 10 -1<	CONTAMINATION	٧	method	limit/base	current	history1	history2	
Glycol WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >20 <1	Fuel		WC Method	>5	<1.0			
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5186(m) >100 32 Chromium ppm ASTM D5186(m) >20 <1	Water		WC Method	>0.2	NEG			
Iron ppm ASTM D5185(m) >100 32 Chromium ppm ASTM D5185(m) >20 <1	Glycol		WC Method		NEG			
Chromium ppm ASTM D5185(m) >20 <1 Nickel ppm ASTM D5185(m) >2 <1	WEAR METALS		method	limit/base	current	history1	history2	
Nickel ppm ASTM D5185(m) >2 <1 Titanium ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 <1	Iron	ppm	ASTM D5185(m)	>100	32			
Titanium ppm ASTM D5185(m) >2 0 Silver ppm ASTM D5185(m) >2 <1	Chromium	ppm	ASTM D5185(m)	>20	<1			
Silver ppm ASTM D5185(m) >2 <1 Aluminum ppm ASTM D5185(m) >25 4 Lead ppm ASTM D5185(m) >40 3 Copper ppm ASTM D5185(m) >15 2 Antimony ppm ASTM D5185(m) 0 Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 10 <1	Nickel	ppm	ASTM D5185(m)	>2	<1			
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Copper ppm ASTM D5185(m) >330 14 Tin ppm ASTM D5185(m) >15 2 Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 250 45 Molybdenum ppm ASTM D5185(m) 10 <1	Aluminum	ppm	ASTM D5185(m)	>25	4			
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Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 250 45 Barium ppm ASTM D5185(m) 10 <1 Malpdenum ppm ASTM D5185(m) 100 36 Manganese ppm ASTM D5185(m) 100 36 Magnesium ppm ASTM D5185(m) 100 36 Magnesium ppm ASTM D5185(m) 100 36 Calcium ppm ASTM D5185(m) 3000 1720 Zinc ppm ASTM D5185(m) 1350 988 Sulfur ppm ASTM D5185(m) 4250 2532 Solifur ppm ASTM D5185(m)>25	Vanadium	ppm	ASTM D5185(m)		0			
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 250 45 Barium ppm ASTM D5185(m) 10 <1	Beryllium	ppm	ASTM D5185(m)		0			
Boron ppm ASTM D5185(m) 250 45 Barium ppm ASTM D5185(m) 10 <1	Cadmium	ppm	ASTM D5185(m)		0			
Barium ppm ASTM D5185(m) 10 <1	ADDITIVES		method	limit/base	current	history1	history2	
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Manganese ppm ASTM D5185(m) <1 Magnesium ppm ASTM D5185(m) 450 503 Calcium ppm ASTM D5185(m) 3000 1720 Phosphorus ppm ASTM D5185(m) 3000 1720 Zinc ppm ASTM D5185(m) 1150 870 Zinc ppm ASTM D5185(m) 1350 988 Sulfur ppm ASTM D5185(m) 4250 2532 Lithium ppm ASTM D5185(m) 4250 2532 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >216 16 Potassium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/	Barium	ppm	ASTM D5185(m)	10	<1			
Magnesium ppm ASTM D5185(m) 450 503 Calcium ppm ASTM D5185(m) 3000 1720 Phosphorus ppm ASTM D5185(m) 1150 870 Zinc ppm ASTM D5185(m) 1350 988 Sulfur ppm ASTM D5185(m) 4250 2532 Lithium ppm ASTM D5185(m) 4250 2532 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >216 16 Sodium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624*<	Molybdenum	ppm	ASTM D5185(m)	100	36			
Calcium ppm ASTM D5185(m) 3000 1720 Phosphorus ppm ASTM D5185(m) 1150 870 Zinc ppm ASTM D5185(m) 1350 988 Sulfur ppm ASTM D5185(m) 1350 988 Sulfur ppm ASTM D5185(m) 4250 2532 Lithium ppm ASTM D5185(m) < <td><1</td> CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >216 16 Sodium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624*	<1	Manganese	ppm	ASTM D5185(m)		<1		
Phosphorus ppm ASTM D5185(m) 1150 870 Zinc ppm ASTM D5185(m) 1350 988 Sulfur ppm ASTM D5185(m) 4250 2532 Lithium ppm ASTM D5185(m) 4250 2532 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 9 Sodium ppm ASTM D5185(m) >216 16 Potassium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	Magnesium	ppm	ASTM D5185(m)	450	503			
Zinc ppm ASTM D5185(m) 1350 988 Sulfur ppm ASTM D5185(m) 4250 2532 Lithium ppm ASTM D5185(m) 4250 2532 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 9 Sodium ppm ASTM D5185(m) >216 16 Potassium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	Calcium	ppm	ASTM D5185(m)	3000	1720			
Sulfur ppm ASTM D5185(m) 4250 2532 Lithium ppm ASTM D5185(m) 4250 2532 Lithium ppm ASTM D5185(m) <1	Phosphorus	ppm	ASTM D5185(m)	1150	870			
Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 9 Sodium ppm ASTM D5185(m) >216 16 Potassium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	Zinc	ppm	ASTM D5185(m)	1350	988			
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 9 Sodium ppm ASTM D5185(m) >216 16 Potassium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	Sulfur	ppm	ASTM D5185(m)	4250	2532			
Silicon ppm ASTM D5185(m) >25 9 Sodium ppm ASTM D5185(m) >216 16 Potassium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	Lithium	ppm	ASTM D5185(m)		<1			
Sodium ppm ASTM D5185(m) >216 16 Potassium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	CONTAMINANTS		method	limit/base	current	history1	history2	
Potassium ppm ASTM D5185(m) >20 2 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	Silicon	ppm	ASTM D5185(m)	>25	9			
INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	Sodium	ppm	ASTM D5185(m)	>216	16			
Soot % % ASTM D7844* >3 0.4 Nitration Abs/cm ASTM D7624* >20 7.2	Potassium	ppm	ASTM D5185(m)	>20	2			
Nitration Abs/cm ASTM D7624* >20 7.2	INFRA-RED		method	limit/base	current	history1	history2	
	Soot %	%	ASTM D7844*	>3	0.4			
Sulfation Abs/.1mm ASTM D7415* >30 22.5	Nitration	Abs/cm	ASTM D7624*	>20	7.2			
	Sulfation	Abs/.1mm	ASTM D7415*	>30	22.5			



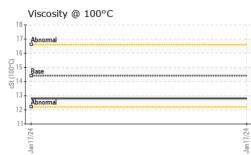


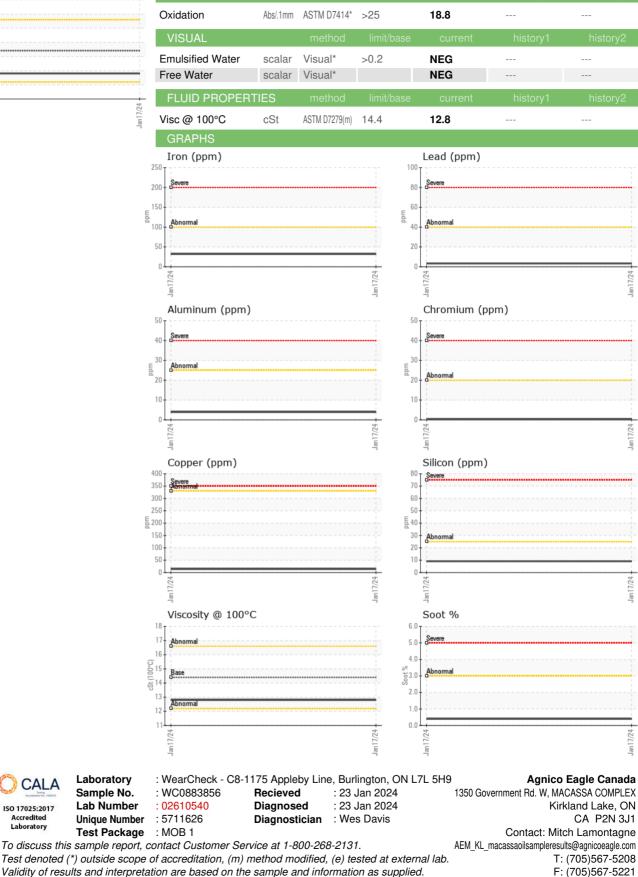
NORMAL



OIL ANALYSIS REPORT

FLUID DEGRADATION





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CALA

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