

OIL ANALYSIS REPORT



Machine Id **ANN T** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

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 suitable for further service.

SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0773897	WC0773893	WC0691811
Sample Date		Client Info		25 May 2024	22 May 2024	31 Mar 2024
Machine Age	hrs	Client Info		3424	2919	2049
Oil Age	hrs	Client Info		250	250	250
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	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 METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4	2	3
Chromium	ppm	ASTM D5185m	>20	0	0	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		4	5	4
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	1	<1	0
Copper	ppm	ASTM D5185m	>330	<1	1	0
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 253	history1 281	history2 241
	ppm ppm				· · · · ·	
Boron		ASTM D5185m	250	253	281	241
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	253 0	281 0	241 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	253 0 92	281 0 88	241 0 90
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	253 0 92 0	281 0 88 0	241 0 90 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	253 0 92 0 610	281 0 88 0 610	241 0 90 0 678
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	253 0 92 0 610 1618	281 0 88 0 610 1650	241 0 90 0 678 1757
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	253 0 92 0 610 1618 816	281 0 88 0 610 1650 771	241 0 90 0 678 1757 807
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	253 0 92 0 610 1618 816 937	281 0 88 0 610 1650 771 862	241 0 90 0 678 1757 807 895
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	253 0 92 0 610 1618 816 937 3383	281 0 88 0 610 1650 771 862 3216	241 0 90 0 678 1757 807 895 3453
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	253 0 92 0 610 1618 816 937 3383 current	281 0 88 0 610 1650 771 862 3216 history1	241 0 90 0 678 1757 807 895 3453 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	253 0 92 0 610 1618 816 937 3383 current 5	281 0 88 0 610 1650 771 862 3216 history1 0	241 0 90 0 678 1757 807 895 3453 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	253 0 92 0 610 1618 816 937 3383 current 5 3	281 0 88 0 610 1650 771 862 3216 history1 0 2	241 0 90 0 678 1757 807 895 3453 history2 4 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	253 0 92 0 610 1618 816 937 3383 <u>current</u> 5 3 3 2	281 0 88 0 610 1650 771 862 3216 history1 0 2 2 <1	241 0 90 0 678 1757 807 895 3453 history2 4 2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >158 >20 Imit/base	253 0 92 0 610 1618 816 937 3383 current 5 3 3 <1 current	281 0 88 0 610 1650 771 862 3216 history1 0 2 <1 +	241 0 90 0 678 1757 807 895 3453 history2 4 2 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3	253 0 92 0 610 1618 816 937 3383 current 5 3 3 <1 current 0.2	281 0 88 0 610 1650 771 862 3216 history1 0 2 <1 history1 0.2	241 0 90 0 678 1757 807 895 3453 history2 4 2 <1 2 <1 history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 imit/base >3 >20	253 0 92 0 610 1618 816 937 3383 current 5 3 3 3 1 2 1 current 0.2 7.0	281 0 88 0 610 1650 771 862 3216 history1 0 2 <1 0 2 <1 history1 0.2 6.7	241 0 90 0 678 1757 807 895 3453 history2 4 2 2 <1 history2 0.2 6.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 imit/base >3 >20	253 0 92 0 610 1618 816 937 3383 current 5 3 3 <1 current 0.2 7.0 21.1	281 0 88 0 610 1650 771 862 3216 history1 0 2 <1 0 2 <1 history1 0.2 6.7 20.1	241 0 90 0 678 1757 807 895 3453 history2 4 2 <1 history2 0.2 6.7 20.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 imit/base >25 >158 >20 imit/base >3 >20 >30	253 0 92 0 610 1618 816 937 3383 current 5 3 3 <1 current 0.2 7.0 21.1 current	281 0 88 0 610 1650 771 862 3216 history1 0 2 <1 0 2 <1 history1 0.2 6.7 20.1 history1	241 0 90 0 678 1757 807 895 3453 history2 4 2 <1 history2 0.2 6.7 20.3 history2



OIL ANALYSIS REPORT

VISUAL		method	limit/bas	е	current	history1	history2
White Metal	scalar	*Visual	NONE		NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE		NONE	NONE	NONE
							NONE
Silt			NONE			NONE	NONE
							NONE
							NONE
							NORML
Odor							NORML
							NEG
			20.L				NEG
		VISUAI			NEG		
		method		e	current	history1	history2
	cSt	ASTM D445	14.4		13.2	13.1	13.1
GRAPHS							
Ferrous Alloys							
10 T							
8							
nickel							
E 6							
읍 4							
2							
0							
1/24	2/24		5/24				
Mar3	May2.		May2				
Non-ferrous Meta	ls –		_				
10 T							
8							
tin tin							
6							
d 4							
2-							
	Concession of the Owner water	ARCENTER AND ADDRESS OF THE OWNER	Contraction of the local division of the loc				
124	1/24		-724				
Mar31	May22		May25				
– Viscosity @ 100°0	2		2	_	Dana Nicco I		
¹⁸	·				base Number		
17- Abnormal				12.0 + 9	Abnormal		
16			(B/HC	10.0			
2 15 P			ng KC	8.0	Base		
् स् 14			ther (r	6.0			
12	1		e Nurr		Abnormal		
Abnormal			Bas				
12-				2.0-			
				0.0			
11	24 -		24	ΨC	. + 7	24.	
11 + 42/12 mar 31/24	May22/24 -		May25/24	Mar21/24	- 	May22/24 -	
	Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water Free Water Visc @ 100°C GRAPHS Ferrous Alloys Non-ferrous Meta	Precipitate scalar Silt scalar Debris scalar Sand/Dirt scalar Appearance scalar Odor scalar Emulsified Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Ferrous Alloys Non-ferrous Metals Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C	Precipitate scalar *Visual Silt scalar *Visual Debris scalar *Visual Sand/Dirt scalar *Visual Appearance scalar *Visual Cdor scalar *Visual Emulsified Water scalar *Visual Free Water scalar *Visual FLUID PROPERTIES method Visc @ 100°C cSt ASTM D445 GRAPHS Ferrous Alloys Mon-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C	Precipitate scalar *Visual NONE Silt scalar *Visual NONE Debris scalar *Visual NONE Sand/Dirt scalar *Visual NORML Appearance scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.2 Free Water scalar *Visual >0.2 Free Water scalar *Visual Visual >0.2 Free Water scalar *Visual >0.2 Free Water scalar *Visual >0.2 Free Water scalar *Visual >0.2 Free Water scalar *Visual >0.2 Non-ferrous Alloys Mon-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C	Precipitate scalar *Visual NONE Silt 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 Free Water scalar *Visual >0.2 Free Water scalar *Visual * Visc @ 100°C cSt ASTM D445 14.4 GRAPHS Ferrous Alloys 000°C rest ASTM D445 14.4 GRAPHS Ferrous Metals 000°C rest ASTM D445 14.4 000°C rest ASTM	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 NORML NORML Emulsified Water scalar *Visual >0.2 NEG Free Water scalar *Visual NEG FLUID PROPERTIES method imit/base current Visc @ 100°C cSt ASTM D445 14.4 13.2 GRAPHS Ferrous Alloys Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C	Precipitate scalar *Visual NONE NONE NONE NONE Sitt scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE 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 Visual NORML NORML NORML Scalar *Visual NORML NORML NORML Scalar *Visual NORML NORML NORML NORML Scalar *Visual NORML NORML NORML NORML NORML NORML Scalar *Visual NORML NORML NORML NORML Scalar *Visual NORML

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