

OIL ANALYSIS REPORT





Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 5W30 (--- QTS)

DIAGNOSIS

Machine Id 1848

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

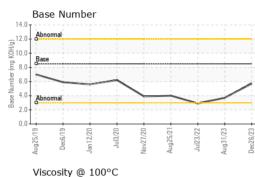
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

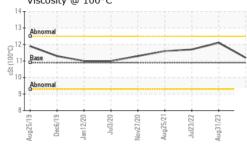
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0876673	WC0836274	WC0686086
Sample Date		Client Info		26 Dec 2023	31 Aug 2023	23 Jul 2022
Machine Age	mls	Client Info		0	518949	392671
Oil Age	mls	Client Info		50000	50000	100000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINATION	J	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	25	77	103
Chromium	ppm	ASTM D5185m	>20	2	6	7
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	11	17
Lead	ppm	ASTM D5185m	>40	4	12	24
Copper	ppm	ASTM D5185m	>330	1	2	3
Tin	ppm	ASTM D5185m	>15	<1	1	2
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
oddinian	ppin	AOTIM DOTODITI		U	0	0
ADDITIVES	ppm	method	limit/base	current	0 history1	history2
	ppm		limit/base 250			
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	250	current	history1 15	history2 13
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	250 10	current 18 0	history1 15 0	history2 13 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 18 0 73	history1 15 0 67	history2 13 0 68
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current 18 0 73 <1	history1 15 0 67 1	history2 13 0 68 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	current 18 0 73 <1 1275	history1 15 0 67 1 1179	history2 13 0 68 2 1052
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	current 18 0 73 <1 1275 968	history1 15 0 67 1 1179 1000	history2 13 0 68 2 1052 906
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	current 18 0 73 <1 1275 968 1219	history1 15 0 67 1 1179 1000 1126	history2 13 0 68 2 1052 906 1001
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	current 18 0 73 <1 1275 968 1219 1452	history1 15 0 67 1 1179 1000 1126 1418	history2 13 0 68 2 1052 906 1001 1255
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	current 18 0 73 <1 1275 968 1219 1452 3800	history1 15 0 67 1 1179 1000 1126 1418 3625	history2 13 0 68 2 1052 906 1001 1255 2819
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current 18 0 73 <1 1275 968 1219 1452 3800 current	history1 15 0 67 1 1179 1000 1126 1418 3625 history1	history2 13 0 68 2 1052 906 1001 1255 2819 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	current 18 0 73 <1 1275 968 1219 1452 3800 current 7	history1 15 0 67 1 1179 1000 1126 1418 3625 history1 11	history2 13 0 68 2 1052 906 1001 1255 2819 history2 11
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	current 18 0 73 <1 1275 968 1219 1452 3800 current 7 4	history1 15 0 67 1 1179 1000 1126 1418 3625 history1 11 6	history2 13 0 68 2 1052 906 1001 1255 2819 history2 11 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	current 18 0 73 <1 1275 968 1219 1452 3800 current 7 4 4	history1 15 0 67 1 1179 1000 1126 1418 3625 history1 11 6 11	history2 13 0 68 2 1052 906 1001 1255 2819 history2 11 6 20
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >20 Iimit/base >3	current 18 0 73 <1 1275 968 1219 1452 3800 current 7 4 4 current	history1 15 0 67 1 1179 1000 1126 1418 3625 history1 11 6 11 Kistory1	history2 13 0 68 2 1052 906 1001 1255 2819 history2 11 6 20 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 i mit/base >25 >20 i mit/base >3 >20	current 18 0 73 <1 1275 968 1219 1452 3800 current 7 4 4 current 0 0.4	history1 15 0 67 1 1179 1000 1126 1418 3625 history1 11 6 11 6 11 6 11 0.9	history2 13 0 68 2 1052 906 1001 1255 2819 history2 11 6 20 history2 1.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 i mit/base >25 >20 i mit/base >3 >20	current 18 0 73 <1 1275 968 1219 1452 3800 current 7 4 current 0.4 11.3	history1 15 0 67 1 1179 1000 1126 1418 3625 history1 11 6 11 6 11 6 11 0.9 14.6	history2 13 0 68 2 1052 906 1001 1255 2819 history2 11 6 20 history2 1.2 1.2 16.7
ADDITIVES 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	method ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 imit/base >3 >20 >30	current 18 0 73 <1 1275 968 1219 1452 3800 current 7 4 0.4 11.3 24.9	history1 15 0 67 1 1179 1000 1126 1418 3625 history1 11 6 11 6 11 6 11 6 11 6 11 14.6 30.5	history2 13 0 68 2 1052 906 1001 1255 2819 history2 11 6 20 history2 1.2 16.7 37.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	250 10 100 450 3000 1150 1350 4250 25 20 >20 >20 >30 20 30 20 30 20 30 20 30	current 18 0 73 <1 1275 968 1219 1452 3800 current 7 4 current 0.4 11.3 24.9 current	history1 15 0 67 1 1179 1000 1126 1418 3625 history1 11 6 11 6 11 0.9 14.6 30.5 history1	history2 13 0 68 2 1052 906 1001 1255 2819 history2 11 6 20 history2 1.2 16.7 37.1 history2

Contact/Location: MAINTENANCE ? - MABEDE

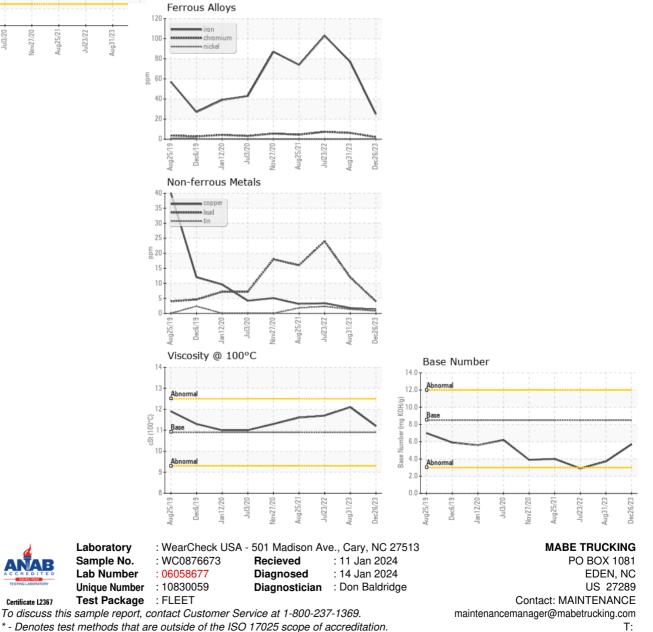


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	11.2	12.1	11.7
CRAPHS						





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