

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **1803** 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.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

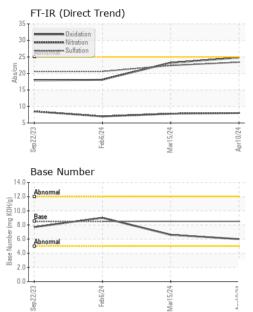
Fluid Condition

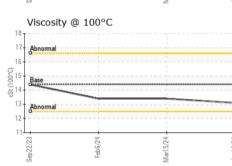
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0897922	WC0894009	WC0894010
Sample Date		Client Info		10 Apr 2024	15 Mar 2024	06 Feb 2024
Machine Age	mls	Client Info		0	0	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL
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	15	20	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	310	145	15
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
A						
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
	ppm ppm		limit/base 250	-	-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	250	current 2	history1 3	history2 44
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	250 10	current 2 0	history1 3 <1	history2 44 4
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 2 0 53	history1 3 <1 59	history2 44 4 46
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current 2 0 53 <1	history1 3 <1 59 1	history2 44 4 46 4
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 2 0 53 <1 869	history1 3 <1 59 1 984	history2 44 4 46 4 824
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	Current 2 0 53 <1 869 1038	history1 3 <1 59 1 984 1089	history2 44 4 46 4 4 824 1162
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 2 0 53 <1 869 1038 967	history1 3 <1 59 1 984 1089 1030	history2 44 4 46 4 824 1162 731
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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 2 0 53 <1 869 1038 967 1178	history1 3 <1 59 1 984 1089 1030 1273	history2 44 4 46 4 824 1162 731 905
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm 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 2 0 53 <1 869 1038 967 1178 3032	history1 3 <1 59 1 984 1089 1030 1273 3597	history2 44 4 46 4 824 1162 731 905 2350
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 2 0 53 <1 869 1038 967 1178 3032 Current	history1 3 <1 59 1 984 1089 1030 1273 3597 history1	history2 44 46 4 824 1162 731 905 2350 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 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 limit/base	Current 2 0 53 <1 869 1038 967 1178 3032 current 18	history1 3 <1 59 1 984 1089 1030 1273 3597 history1 14	history2 44 4 46 4 824 1162 731 905 2350 history2 ▲ 26
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 >158	current 2 0 53 <1 869 1038 967 1178 3032 current 18 <1	history1 3 <1 59 1 984 1089 1030 1273 3597 history1 14 3	history2 44 4 46 4 824 1162 731 905 2350 history2 ▲ 26 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium 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 >158 >20	current 2 0 53 <1 869 1038 967 1178 3032 current 18 <1 0	history1 3 <1 59 1 984 1089 1030 1273 3597 history1 14 3 <1	history2 44 4 46 4 824 1162 731 905 2350 history2 ▲ 26 3 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3	Current 2 0 53 <1 869 1038 967 1178 3032 Current 18 <1 0 Current	history1 3 <1 59 1 984 1089 1030 1273 3597 history1 14 3 <1 history1 history1	history2 44 4 46 4 824 1162 731 905 2350 history2 26 3 1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >158 >20 Iimit/base >3	current 2 0 53 <1 869 1038 967 1178 3032 current 18 <1 0 current 0.2	history1 3 <1 59 1 984 1089 1030 1273 3597 history1 14 3 <1 history1 0.2	history2 44 4 46 4 824 1162 731 905 2350 history2 ▲ 26 3 1 history2 0.1
ADDITIVES 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	method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 i mit/base >25 >158 >20 i mit/base >3 >20	current 2 0 53 <1 869 1038 967 1178 3032 current 18 <1 0 current 0.2 8.0	history1 3 <1 59 1 984 1089 1030 1273 3597 history1 14 3 <1 history1 0.2 7.8	history2 44 4 46 42 1162 731 905 2350 history2 ▲ 26 3 1 history2 0.1 7.0
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 >158 >20 Imit/base >3 >20	current 2 0 53 <1 869 1038 967 1178 3032 current 18 <1 0 current 0.2 8.0 23.4	history1 3 <1 59 1 984 1089 1030 1273 3597 history1 14 3 <1 history1 0.2 7.8 22.4	history2 44 4 46 4 824 1162 731 905 2350 history2 ▲ 26 3 1 history2 0.1 7.0 20.6



OIL ANALYSIS REPORT





1.00								
VIS	SUAL		method	limit/base	current	history1	history2	
White	e Metal	scalar	*Visual	NONE	LIGHT	NONE	NONE	
Yello	w Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
	ipitate	scalar	*Visual	NONE	NONE	NONE	NONE	
Silt		scalar	*Visual	NONE	NONE	NONE	NONE	
Debr	is	scalar	*Visual	NONE	NONE	NONE	NONE	
Sand	l/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Appe	earance	scalar	*Visual	NORML	NORML	NORML	NORML	
Odor		scalar	*Visual	NORML	NORML	NORML	NORML	
Emu	Isified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
Free	Water	scalar	*Visual		NEG	NEG	NEG	
FL	UID PROPERT	IES	method	limit/base	current	history1	history2	
	@ 100°C	cSt	ASTM D445	14.4	13.1	13.4	13.4	
GF	APHS							
Iro 250 т	n (ppm)			10	Lead (ppm)			
200 - Seve	ere				Severe			
					50 -			
150 100 Abn	ormal			i d	40 - Abnormal		 	
50					20 -			
0					0			
Sep 22/23	Feb 6/2 4		Mar15/24	Apr10/24	Sep 22/23	Feb.6/24	+7/c Lipelvi	
			Mar	Apr		-	IVIal	
Alu	minum (ppm)			,	Chromium (ppm)		
40 Seve	ere				10 Severe	1	1	
20 Abn	ormal		1	mdd	Abnormal		1 1 1	
10					10			
				_	0		1	
Sep22/23	Feb 6/2 4		Mar15/24	Apr10/24	Sep 22/23	Feb.6/24	+7/c LJPIM	
			Mar	Apr		-	Mar	
400	pper (ppm)				Silicon (ppm)		
300 Seve	ere onmai				50	1		
튭 200 -				ud d	Abnormal			
100					20			
0					0			
Sep 22/23	Feb6/24		Mar15/24	Apr10/24	Sep 22/23	Feb 6/24 .	+7/c LJPIM	
			Ma	Ap			N N N N N N N N N N N N N N N N N N N	
¹⁸ T	Viscosity @ 100°C				Base Number			
16 -	ormal			Base Number (mg KOH/d)	Abnormal		 	
D-00 14 Bas	e			B10	Base			
tig Abn	ormal			- Inde	Abnormal			
12 -				ase N				
10				0	.0 ++		: +	
2	Feb 6/24		Mar15/24	Apr10/24	Sep 22/23	Feb6/24	+7/clapiM	
Sep22/23			10	5	a)	ш	5	

- Unique Number : 1 Test Package : MOB 1 (Additional Tests: TBN)
- To discuss this sample report, contact Customer Service at 1-800-237-1369. * - 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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Certificate L2367

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