

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 0646168 34463-1-04-98 Component

Diesel Engine

DIESEL ENGINE OIL SAE 15W40 (6 QTS)

DIAGNOSIS

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

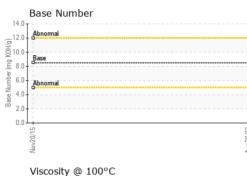
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

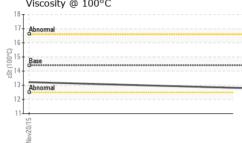
			Nov2015	Aug2023		
SAMPLE INFORM	ATION	method				history2
Sample Number		Client Info		WC0834350	WCM1359912	
Sample Date		Client Info		20 Aug 2023	20 Nov 2015	
Machine Age	hrs	Client Info		0	1010	
Oil Age	hrs	Client Info		0	34	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	1	6	
Chromium	ppm	ASTM D5185m	>20	<1	1	
Nickel	ppm	ASTM D5185m	>2	<1	<1	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>25	1	2	
Lead	ppm	ASTM D5185m	>40	0	6	
Copper	ppm	ASTM D5185m	>330	<1	1	
Tin	ppm	ASTM D5185m	>15	0	8	
Antimony	ppm	ASTM D5185m	>10		0	
Vanadium		ASTM D5185m		0	0	
Cadmium	ppm ppm	ASTM D5185m		0	0	
oaannann	pp					
		method	limit/base	current		history?
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	73	history1 5	
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	250 10	73 0	history1 5 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250	73 0 59	history1 5 0 13	
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	73 0 59 0	history1 5 0 13 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	73 0 59 0 725	history1 5 0 13 <1 191	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	73 0 59 0 725 1077	history1 5 0 13 <1 191 2557	
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	73 0 59 0 725 1077 820	history1 5 0 13 <1 191 2557 1046	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	73 0 59 0 725 1077 820 991	history1 5 0 13 <1 191 2557 1046 1154	
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	73 0 59 0 725 1077 820	history1 5 0 13 <1 191 2557 1046	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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	73 0 59 0 725 1077 820 991	history1 5 0 13 <1 191 2557 1046 1154	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	250 10 100 450 3000 1150 1350 4250 limit/base >25	73 0 59 0 725 1077 820 991 2947 2947 2947	history1 5 0 13 <1 191 2557 1046 1154 4198	
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	73 0 59 0 725 1077 820 991 2947 current	history1 5 0 13 <1 191 2557 1046 1154 4198 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	250 10 100 450 3000 1150 1350 4250 limit/base >25	73 0 59 0 725 1077 820 991 2947 2947 2947	history1 5 0 13 <1 191 2557 1046 1154 4198 history1 11	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m 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 kimit/base >25 >158	73 0 59 0 725 1077 820 991 2947 2947 current 2 2 2	history1 5 0 13 <1 191 2557 1046 1154 4198 history1 11 6	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	73 0 59 0 725 1077 820 991 2947 current 2 2 2 4	history1 5 0 13 <1 191 2557 1046 1154 4198 history1 11 6 2	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	73 0 59 0 725 1077 820 991 2947 current 2 2 2 4 current	history1 5 0 13 <1 191 2557 1046 1154 4198 history1 11 6 2 history1	 history2 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 limit/base >25 >158 >20 limit/base >3	73 0 59 0 725 1077 820 991 2947 current 2 2 4 current 0	history1 5 0 13 <1 191 2557 1046 1154 4198 history1 11 6 2 history1 0	 history2 history2
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 limit/base >25 >158 >20 limit/base >3 >20	73 0 59 0 725 1077 820 991 2947 current 2 2 2 4 2 4 0 4.6	history1 5 0 13 <1 191 2557 1046 1154 4198 history1 11 6 2 history1 0 5.	 history2 history2
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	73 0 59 0 725 1077 820 991 2947 <u>current</u> 2 2 4 <u>current</u> 0 4.6 15.7	history1 5 0 13 <1 191 2557 1046 1154 4198 history1 11 6 2 history1 0 5. 16.	 history2 history2 history2
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 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 bimit/base >25 >158 >20 bimit/base >3 >20 >30	73 0 59 0 725 1077 820 991 2947 Current 2 2 2 4 Current 0 4.6 15.7 Current	history1 5 0 13 <1	 history2 history2 history2 history2

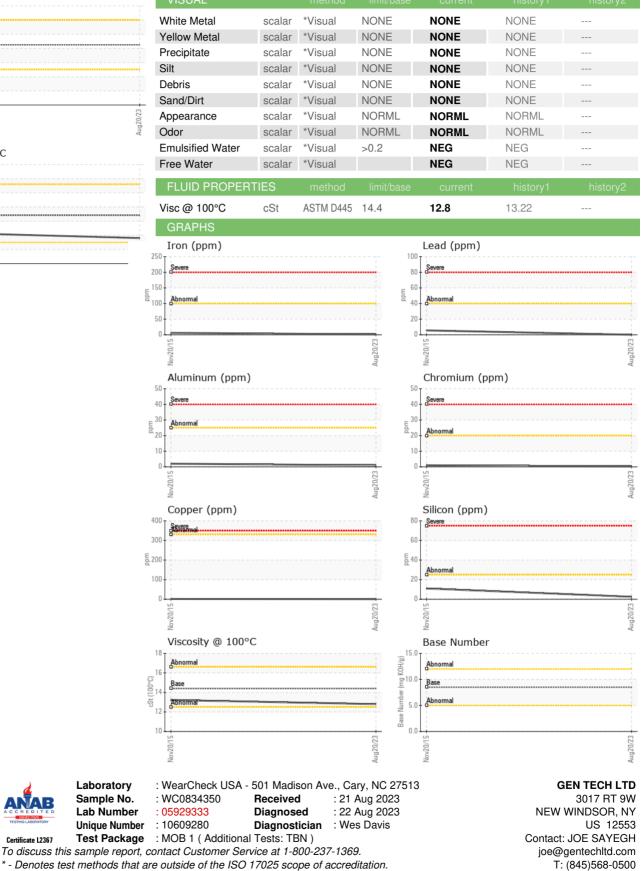


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Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)







Certificate L2367

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