

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 531414 [] Component

Diesel Engine Fluid DIESEL ENGINE OIL SAE 10W30 (--- GAL)

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.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0101254	PCA0067712	
Sample Date		Client Info		30 Aug 2023	14 Aug 2022	
Machine Age	hrs	Client Info		8017	4436	
Oil Age	hrs	Client Info		3000	4436	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method	20	NEG	NEG	
-						
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	13	42	
Chromium	ppm	ASTM D5185m	>20	0	1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	0	<1	
Aluminum	ppm	ASTM D5185m	>20	3	7	
Lead	ppm	ASTM D5185m	>40	0	4	
Copper	ppm	ASTM D5185m	>330	3	36	
Tin	ppm	ASTM D5185m	>15	0	1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 1	history1 26	history2
	ppm ppm					
Boron		ASTM D5185m	250	1	26	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	1 0	26 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	1 0 68	26 0 19	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	1 0 68 <1	26 0 19 1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	1 0 68 <1 1216	26 0 19 1 646	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	1 0 68 <1 1216 1479	26 0 19 1 646 1842	
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	1 0 68 <1 1216 1479 1204	26 0 19 1 646 1842 806	
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	1 0 68 <1 1216 1479 1204 1535	26 0 19 1 646 1842 806 1004	
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	250 10 100 450 3000 1150 1350 4250 limit/base	1 0 68 <1 1216 1479 1204 1535 3798	26 0 19 1 646 1842 806 1004 3265	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm 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 limit/base	1 0 68 <1 1216 1479 1204 1535 3798 current	26 0 19 1 646 1842 806 1004 3265 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	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 imit/base >25	1 0 68 <1 1216 1479 1204 1535 3798 current 5	26 0 19 1 646 1842 806 1004 3265 history1 25	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	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 imit/base >25	1 0 68 <1 1216 1479 1204 1535 3798 current 5 10	26 0 19 1 646 1842 806 1004 3265 history1 25 27	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	1 0 68 <1 1216 1479 1204 1535 3798 current 5 10 0	26 0 19 1 646 1842 806 1004 3265 history1 25 27 6	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >20 Imit/base >3	1 0 68 <1 1216 1479 1204 1535 3798 current 5 10 0	26 0 19 1 646 1842 806 1004 3265 history1 25 27 6 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >20 Imit/base >3	1 0 68 <1 1216 1479 1204 1535 3798 <u>current</u> 5 10 0 <u>current</u>	26 0 19 1 646 1842 806 1004 3265 history1 25 27 6 history1 0.1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >20 imit/base >3 >20	1 0 68 <1 1216 1479 1204 1535 3798 <i>current</i> 5 10 0 <i>current</i> 0.1 10.3	26 0 19 1 646 1842 806 1004 3265 history1 25 27 6 history1 0.1 18.9	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm Abs/cm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 imit/base >25 -20 imit/base >3 >20 >30	1 0 68 <1 1216 1479 1204 1535 3798 <i>current</i> 5 10 0 <i>current</i> 0.1 10.3 22.7 <i>current</i>	26 0 19 1 646 1842 806 1004 3265 history1 25 27 6 <u>history1</u> 0.1 18.9 35.1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >20 >30 >20 >30 imit/base >20	1 0 68 <1 1216 1479 1204 1535 3798 <u>current</u> 5 10 0 <u>current</u> 0.1 10.3 22.7	26 0 19 1 646 1842 806 1004 3265 history1 25 27 6 <u>history1</u> 0.1 18.9 35.1	 history2 history2 history2 history2



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cSt (100°C)

Abi

Base

4/22

Aug1-

Abnorma

OIL ANALYSIS REPORT

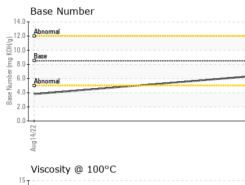
VISUAL

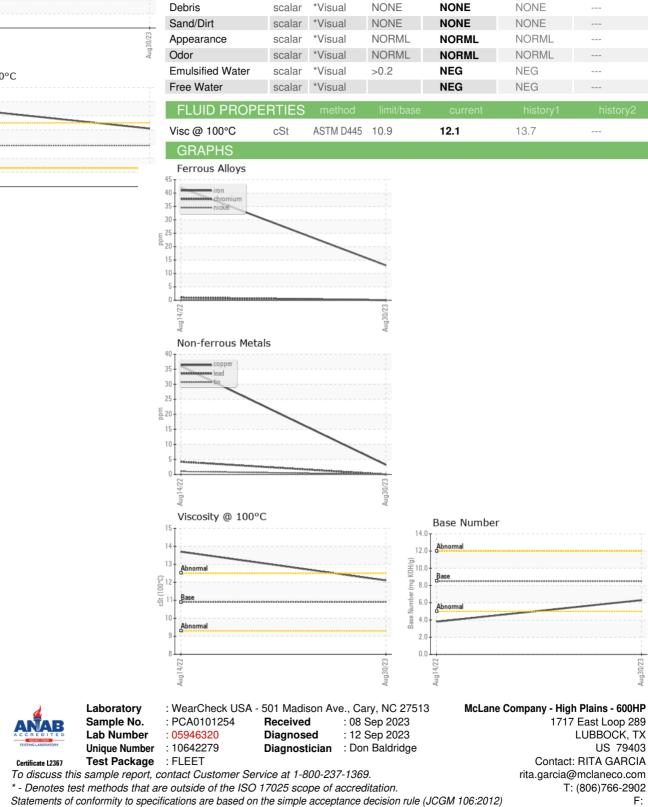
White Metal

Yellow Metal

Precipitate

Silt





*Visual

*Visual

*Visual

scalar *Visual

scalar

scalar

scalar

NONE

Contact/Location: RITA GARCIA - MCLLUB