

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **309549** Component **Diesel Engine**

Fluid 10W40 T5 (--- 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 INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0102904	PCA0076727	PCA0054782
Sample Date		Client Info		03 Aug 2023	24 Nov 2022	02 Nov 2021
Machine Age	mls	Client Info		11562	21687	66234
Oil Age	mls	Client Info		11562	21687	13790
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	20	15	30
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		5	9	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	5	4	4
Lead	ppm	ASTM D5185m	>40	4	3	9
Copper	ppm	ASTM D5185m	>330	2	2	11
Tin	ppm	ASTM D5185m	>15	1	1	3
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 3	history1 9	history2 9
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 3 1	history1 9 0	history2 9 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 1 57	history1 9 0 51	history2 9 0 59
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 1 57 <1	history1 9 0 51 <1	history2 9 0 59 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 1 57 <1 874	history1 9 0 51 <1 747	history2 9 0 59 1 890
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 1 57 <1 874 1233	history1 9 0 51 <1 747 1217	history2 9 0 59 1 890 1341
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 1 57 <1 874 1233 1048	history1 9 0 51 <1 747 1217 955	history2 9 0 59 1 890 1341 971
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 3 1 57 <1 874 1233 1048 1253	history1 9 0 51 <1 747 1217 955 1163	history2 9 0 59 1 890 1341 971 1142
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	limit/base	current 3 1 57 <1 874 1233 1048 1253 3293	history1 9 0 51 <1 747 1217 955 1163 3538	history2 9 0 59 1 890 1341 971 1142 2752
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	limit/base	current 3 1 57 <1 874 1233 1048 1253 3293 current	history1 9 0 51 <10 747 1217 955 1163 3538 history1	history2 9 0 59 1 890 1341 971 1142 2752 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base limit/base >25	current 3 1 57 <1 874 1233 1048 1253 3293 current 4	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4	history2 9 0 59 1 890 1341 971 1142 2752 history2 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base limit/base >25	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5 4	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5 4 5 4	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	limit/base 	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5 4 5 4 5.1.0	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5 4 5 4 5.1 4.10	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10 4 <1.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base limit/base >25 >20 >5 limit/base	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5 4 5 4 5. 4. <1.0	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5 4 5 4 5.1 4.1.0 history1	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10 4 <1.0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	method ASTM D5185m	limit/base limit/base >25 >20 >5 limit/base >3	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5 4 5 4 5. 4 <1.0 current 1.3	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5 4 5 4 5 4 5.1 4.0 5.1 4.1.0 history1 1.1	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10 4 <1.0 history2 1.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5 4 5 4 5. 4 5. 4. 5. 1.0 current 1.3 11.5	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5 4 5 4 5 4 5 4 5 4 5. 4. 5. 4. 5. 4. 5. 4. 5. 4. 7.0 1.1 1.1.1	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10 4 <1.0 history2 1.3 12.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5 4 5 4 5. 4 5. 4. 5. 4. 5. 4. 5. 4. 5. 2.0	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5 4 5 4 5 4 5. 4. 5. 4. 5. 4. 5. 4. 5. 4. 2.1.0 history1 1.1 1.1.4 22.7	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10 4 <1.0 history2 1.3 12.1 24.5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 >5 limit/base >3 >20 >30 limit/base	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5 4 51 4 52 4 53 4 52 4 53 53 4 55 4 52 4 53 54 55 4 52 53 54 55 61 61 70 70 70 70 70 70 70 71 71 73 74 75 74 75 74 75	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5 4 5 4 5 4 5. 4 5. 4 2.7 history1	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10 4 <1.0 history2 1.3 12.1 24.5 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m *ASTM D7844 *ASTM D7415 method *ASTM D7414	limit/base >25 >20 >5 limit/base >3 >20 >30 limit/base >25	current 3 1 57 <1 874 1233 1048 1253 3293 current 4 5 4 5 4 5 4 5. 4 200 current 1.3 11.5 22.0 current 18.8	history1 9 0 51 <1 747 1217 955 1163 3538 history1 4 5 4 5 4 5 4 5 4 52 1.1 1.1 11.4 22.7 history1 19.0	history2 9 0 59 1 890 1341 971 1142 2752 history2 3 10 4 <1.0 history2 1.3 12.1 24.5 history2 20.3



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Certificate L2367

Contact/Location: ROSTY VITER - MILPHINE