

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **2026881** Component **Diesel Engine** Fluid

NOT GIVEN (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

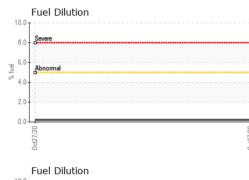
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

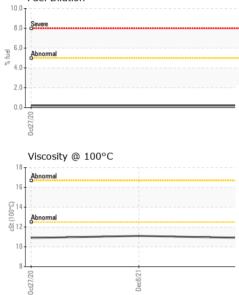
SAMPLE INFOR		method	limit/base	ourropt	history	history?
			limit/base		history1	history2
Sample Number		Client Info		PCA0108099	PCA0060718	PCA0030705
Sample Date		Client Info		24 Oct 2023	08 Dec 2021	27 Oct 2020
Machine Age	hrs	Client Info		132775	132775	0
Oil Age	hrs	Client Info		132775	132775	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINAT	ION	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	17	21	35
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	4	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	1	1
Aluminum	ppm	ASTM D5185m	>20	2	5	2 9
Lead	ppm	ASTM D5185m		<1	2	0
Copper	ppm	ASTM D5185m	>330	3	38	17
Tin	ppm	ASTM D5185m	>15	<1	2	<1
Antimony	ppm	ASTM D5185m			0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
			12 12 11			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 2	history1 4	history2 34
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	2	4	34
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	2 0	4	34 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	2 0 58	4 0 61	34 0 38
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		2 0 58 <1	4 0 61 <1	34 0 38 3
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		2 0 58 <1 902	4 0 61 <1 916	34 0 38 3 471
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		2 0 58 <1 902 994	4 0 61 <1 916 1139	34 0 38 3 471 1594
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	Imit/base	2 0 58 <1 902 994 930	4 0 61 <1 916 1139 954	34 0 38 3 471 1594 843
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	limit/base	2 0 58 <1 902 994 930 1215	4 0 61 <1 916 1139 954 1198	34 0 38 3 471 1594 843 1012
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	limit/base	2 0 58 <1 902 994 930 1215 2845	4 0 61 <1 916 1139 954 1198 2477	34 0 38 3 471 1594 843 1012 2234
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 ASTM D5185m	limit/base	2 0 58 <1 902 994 930 1215 2845 current	4 0 61 <1 916 1139 954 1198 2477 history1	34 0 38 3 471 1594 843 1012 2234 history2
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 method	limit/base	2 0 58 <1 902 994 930 1215 2845 current 4	4 0 61 <1 916 1139 954 1198 2477 history1 5	34 0 38 3 471 1594 843 1012 2234 history2 ▲ 26
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 method ASTM D5185m	limit/base >25 >20	2 0 58 <1 902 994 930 1215 2845 <u>current</u> 4 <1	4 0 61 <1 916 1139 954 1198 2477 history1 5 2	34 0 38 3 471 1594 843 1012 2234 ► 26 6
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	limit/base >25 >20	2 0 58 <1 902 994 930 1215 2845 <u>current</u> 4 <1 0	4 0 61 <1 916 1139 954 1198 2477 history1 5 2 6	34 0 38 3 471 1594 843 1012 2234 ► 26 6 6 6 6 60
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5	2 0 58 <1 902 994 930 1215 2845 <u>current</u> 4 <1 0 <1.0	4 0 61 <1 916 1139 954 1198 2477 history1 5 2 6 6 <1.0	34 0 38 3 471 1594 843 1012 2234 history2 ▲ 26 6 6 6 6 6 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5 limit/base >3	2 0 58 <1 902 994 930 1215 2845 <i>current</i> 4 <1 0 <1.0	4 0 61 <1 916 1139 954 1198 2477 history1 5 2 6 <1.0 history1	34 0 38 3 471 1594 843 1012 2234 history2 ▲ 26 6 6 6 6 0.2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5 limit/base >3	2 0 58 <1 902 994 930 1215 2845 <i>current</i> 4 <1 0 <1.0 <i>current</i>	4 0 61 <1 916 1139 954 1198 2477 history1 5 2 2 6 <1.0 history1 0.4	34 0 38 3 471 1594 843 1012 2234 history2 ▲ 26 6 6 6 6 6 0.2 history2
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	ASTM D5185m ASTM D3524 ASTM D3524 method *ASTM D7844	limit/base >25 >20 >5 limit/base >3 >20	2 0 58 <1 902 994 930 1215 2845 <i>current</i> 4 <1 0 <1.0 <i>current</i> 0.4 9.3	4 0 61 <1 916 1139 954 1198 2477 history1 5 2 2 6 <1.0 history1 0.4 8.9	34 0 38 3 471 1594 843 1012 2234 ▲ 26 6 6 6 6 6 0.2 ► 160 0.2 ► 160 0.2 • 160 0.2 • 160 0.2 • 160 0.2 • 160 0.2 • 170 0.2 • 170 • 17
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	ASTM D5185m ASTM D3524 ASTM D3524 *ASTM D7844 *ASTM D7844	limit/base >25 >20 >5 limit/base >3 >20 >30 limit/base	2 0 58 <1 902 994 930 1215 2845 <i>current</i> 4 <1 0 <1.0 <i>current</i> 0.4 9.3 19.7 <i>current</i>	4 0 61 <1 916 1139 954 1198 2477 history1 5 2 6 <1.0 history1 0.4 8.9 20.1	34 0 38 3 471 1594 843 1012 2234 ▲ 26 6 6 6 6 0.2 ▲ 60 0.2 ► 100 12 2234 ▲ 100 12 2234 ► 100 10 20 10 10 10 20 10 10 10 20 10 10 10 10 20 10 10 10 20 10 10 10 10 10 10 10 10 10 10 10 10 10
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	ASTM D5185m ASTM D5185m	limit/base >25 >20 >5 limit/base >3 >20 >30 limit/base	2 0 58 <1 902 994 930 1215 2845 <u>current</u> 4 <1 0 <1.0 <u>current</u> 0.4 9.3 19.7	4 0 61 <1 916 1139 954 1198 2477 history1 5 2 4 6 <1.0 history1 0.4 8.9 20.1 history1	34 0 38 3 471 1594 843 1012 2234 ► 26 6 6 6 6 6 0.2 ► 26 6 7.3 23.8

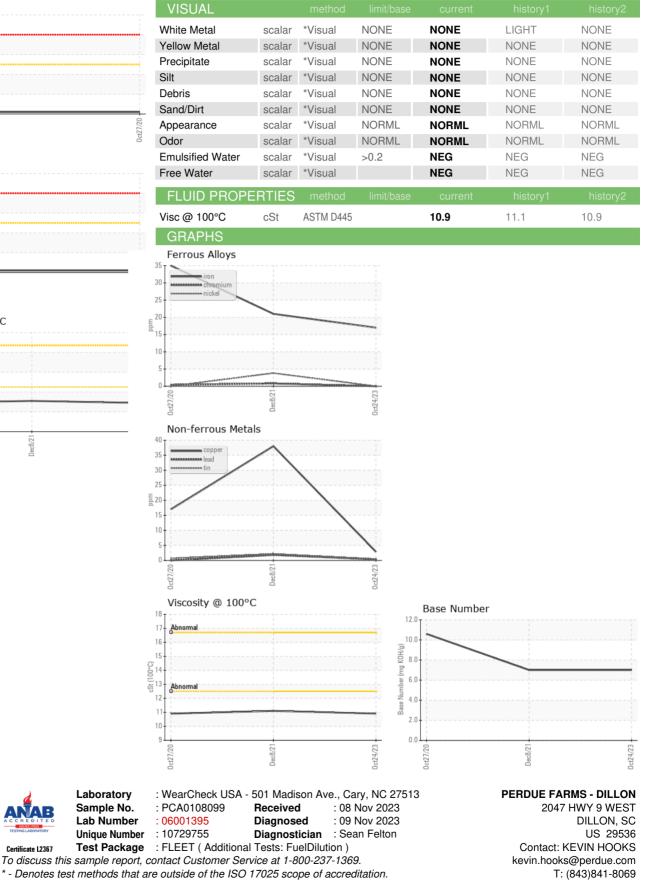


OIL ANALYSIS REPORT

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







Certificate L2367

F: (843)841-8070