

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 5239

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- 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.

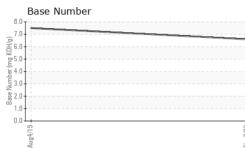
Fluid Condition

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

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0099520	PCA0006904	
Sample Date		Client Info		09 Nov 2023	04 Aug 2019	
Machine Age	hrs	Client Info		0	7500	
Oil Age	hrs	Client Info		0	7500	
Oil Changed		Client Info		N/A	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	58 5	56 5	
Chromium	ppm		>20	ວ <1	5 1	
Nickel Titanium	ppm	ASTM D5185m ASTM D5185m	>4	3	<1	
Silver	ppm	ASTM D5185m ASTM D5185m	>3	3 0	<1	
Aluminum	ppm ppm	ASTM D5185m	>3	11	23	
Lead	ppm	ASTM D5185m	>20	2	3	
Copper	ppm		>330	6	6	
Tin	ppm	ASTM D5185m	>15	۰ <1	1	
Antimony	ppm	ASTM D5185m	210		0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	<1	
ADDITIVES		method	limit/base	current	history1	history2
	ppm				history1	
Boron	ppm	ASTM D5185m	2	3	history1 8	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	3 0	history1 8 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	3 0 57	history1 8 0 57	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0	3 0 57 <1	history1 8 0	
Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	3 0 57	history1 8 0 57 1	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	3 0 57 <1 881	history1 8 0 57 1 924	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	3 0 57 <1 881 1118	history1 8 0 57 1 924 1119	
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	2 0 50 0 950 1050 995	3 0 57 <1 881 1118 1095	history1 8 0 57 1 924 1119 932	
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	2 0 50 0 950 1050 995 1180	3 0 57 <1 881 1118 1095 1238	history1 8 0 57 1 924 1119 932 1140	
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	2 0 50 950 1050 995 1180 2600	3 0 57 <1 881 1118 1095 1238 2725	history1 8 0 57 1 924 1119 932 1140 2480	
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	2 0 50 950 1050 995 1180 2600	3 0 57 <1 881 1118 1095 1238 2725 current	history1 8 0 57 1 924 1119 932 1140 2480 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	2 0 50 0 950 1050 995 1180 2600 limit/base	3 0 57 <1 881 1118 1095 1238 2725 current 9	history1 8 0 57 1 924 1119 932 1140 2480 history1 8	 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	2 0 50 0 950 1050 995 1180 2600 limit/base	3 0 57 <1 881 1118 1095 1238 2725 current 9 <1	history1 8 0 57 1 924 1119 932 1140 2480 history1 8 4	 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	2 0 50 950 1050 995 1180 2600 limit/base >25	3 0 57 <1 881 1118 1095 1238 2725 current 9 <1 1	history1 8 0 57 1 924 1119 932 1140 2480 history1 8 4 0	 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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	3 0 57 <1 881 1118 1095 1238 2725 current 9 <1 1 1	history1 8 0 57 1 924 1119 932 1140 2480 history1 8 4 0 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 ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	3 0 57 <1 881 1118 1095 1238 2725 current 9 <1 1 1 current 0.6	history1 8 0 57 1 924 1119 932 1140 2480 history1 8 4 0 history1 0.8	 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	3 0 57 <1 881 1118 1095 1238 2725 current 9 <1 1 1 current 0.6 14.4	history1 8 0 57 1 924 1119 932 1140 2480 history1 8 4 0 history1 0 history1 0.8 16.1	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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20	3 0 57 <1 881 1118 1095 1238 2725 current 9 <1 1 1 current 0.6 14.4 23.8	history1 8 0 57 1 924 1119 932 1140 2480 history1 8 4 0 history1 0.8 16.1 23.1	 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 0 50 0 950 1050 995 1180 2600 imit/base >25 20 >20 >30 >30 imit/base	3 0 57 <1 881 1118 1095 1238 2725 current 9 <1 1 0.6 14.4 23.8 current	history1 8 0 57 1 924 1119 932 1140 2480 history1 8 4 0 history1 0.8 16.1 23.1 history1	 history2 history2 history2 history2

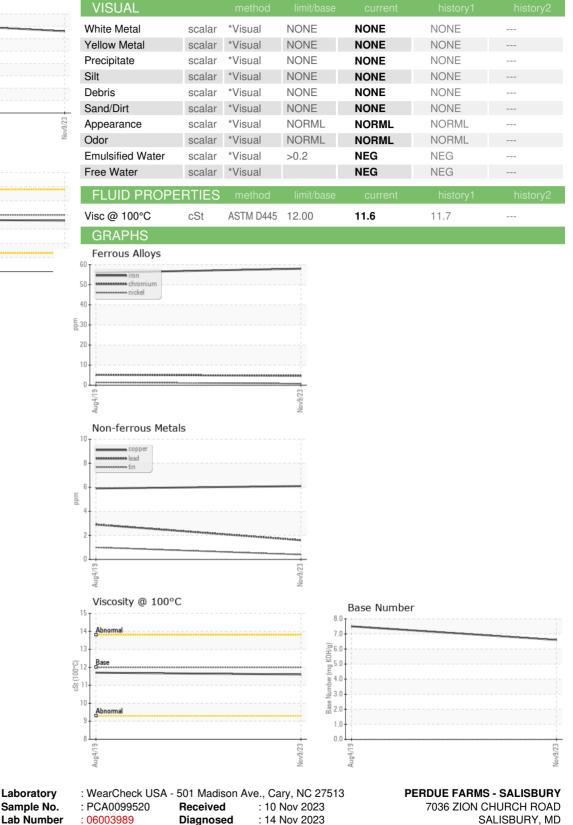


OIL ANALYSIS REPORT



Viscosity @ 100°C







: Don Baldridge Unique Number : 10737751 Diagnostician Test Package : FLEET Contact: RICHARD O`NEAL Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. richard.oneal@perdue.com * - 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)

Laboratory

Sample No.

Contact/Location: RICHARD O`NEAL - PERSALMD

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