

OIL ANALYSIS REPORT

Area ALBERT LEA Machine Id Unit 05 DB010105E Component

Natural Gas Engine

PETRO CANADA DURON MONOGRADE HD 40W (350 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: 111 gallons of lube oil added this month.)

Wear

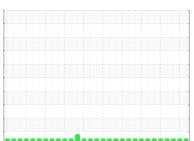
All component wear rates are normal.

Contamination

Fuel content negligible. 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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



Sample Rating Trend



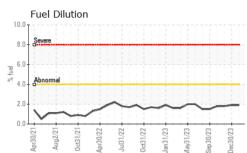
NORMAL

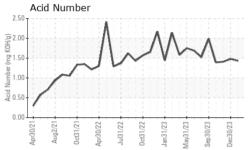
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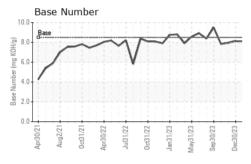
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0106488	PCA0106487	PCA0106485
Sample Date		Client Info		25 Jan 2024	30 Dec 2023	29 Nov 2023
Machine Age	hrs	Client Info		1872	1400	1052
Oil Age	hrs	Client Info		1872	1400	1052
Oil Changed		Client Info		Oil Added	Not Changd	Oil Added
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	11	7	6
Chromium	ppm	ASTM D5185m	>4	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m		2	1	1
Lead	ppm	ASTM D5185m	>30	_ <1	<1	<1
Copper	ppm	ASTM D5185m		4	3	4
Tin	ppm	ASTM D5185m	>4	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		2	<1	<1
Barium	ppm	ASTM D5185m		5	0	0
	T- T-					
Molybdenum	ppm	ASTM D5185m		1	2	2
Molybdenum Manganese		ASTM D5185m ASTM D5185m				2 <1
-	ppm			1	2	
Manganese	ppm ppm	ASTM D5185m		1 0	2 <1	<1
Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m		1 0 1314	2 <1 924	<1 937
Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		1 0 1314 1352	2 <1 924 1018	<1 937 990
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		1 0 1314 1352 1504	2 <1 924 1018 1015	<1 937 990 1075
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	1 0 1314 1352 1504 1831	2 <1 924 1018 1015 1304 2938 history1	<1 937 990 1075 1327 3308 history2
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 Method ASTM D5185m	limit/base >+100	1 0 1314 1352 1504 1831 4424	2 <1 924 1018 1015 1304 2938	<1 937 990 1075 1327 3308 history2 6
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m		1 0 1314 1352 1504 1831 4424 current	2 <1 924 1018 1015 1304 2938 history1	<1 937 990 1075 1327 3308 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>+100 >20	1 0 1314 1352 1504 1831 4424 <u>current</u> 6 0 1	2 <1 924 1018 1015 1304 2938 history1 4 <1 0	<1 937 990 1075 1327 3308 history2 6 2 0
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	>+100	1 0 1314 1352 1504 1831 4424 current 6 0	2 <1 924 1018 1015 1304 2938 history1 4 <1	<1 937 990 1075 1327 3308 history2 6 2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>+100 >20	1 0 1314 1352 1504 1831 4424 <u>current</u> 6 0 1	2 <1 924 1018 1015 1304 2938 history1 4 <1 0	<1 937 990 1075 1327 3308 history2 6 2 0
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>+100 >20 >4.0	1 0 1314 1352 1504 1831 4424 <u>current</u> 6 0 1 1 1.9	2 <1 924 1018 1015 1304 2938 history1 4 <1 0 1.9 history1 0	<1 937 990 1075 1327 3308 history2 6 2 0 0 1.8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	>+100 >20 >4.0	1 0 1314 1352 1504 1831 4424 <u>current</u> 6 0 1 1 1.9 <u>current</u>	2 <1 924 1018 1015 1304 2938 history1 4 <1 0 1.9 history1	<1 937 990 1075 1327 3308 history2 6 2 0 1.8 history2
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D7844 *ASTM D7624	>+100 >20 >4.0 limit/base	1 0 1314 1352 1504 1831 4424 <u>current</u> 6 0 1 1.9 1.9 <u>current</u> 0.1	2 <1 924 1018 1015 1304 2938 history1 4 <1 0 1.9 history1 0	<1 937 990 1075 1327 3308 history2 6 2 0 1.8 history2 0.1
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 D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D7844 *ASTM D7624	>+100 >20 >4.0 limit/base	1 0 1314 1352 1504 1831 4424 <u>current</u> 6 0 1 1.9 1.9 <u>current</u> 0.1 4.0	2 <1 924 1018 1015 1304 2938 history1 4 <1 0 1.9 history1 0 3.9	<1 937 990 1075 1327 3308 history2 6 2 0 1.8 history2 0.1 3.8
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D7844 *ASTM D7624	>+100 >20 >4.0 limit/base >20 >30	1 0 1314 1352 1504 1831 4424 <u>current</u> 6 0 1 1 1.9 <u>current</u> 0.1 4.0 13.2	2 <1 924 1018 1015 1304 2938 history1 4 <1 0 1.9 history1 0 3.9 13.0	<1 937 990 1075 1327 3308 history2 6 2 0 1.8 history2 0.1 3.8 12.8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm 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 D3524 ASTM D3524 ASTM D7844 *ASTM D7624 *ASTM D7624 *ASTM D7415	>+100 >20 >4.0 limit/base >20 >30 limit/base	1 0 1314 1352 1504 1831 4424 <i>current</i> 6 0 1 1.9 <i>current</i> 0.1 4.0 13.2 <i>current</i>	2 <1 924 1018 1015 1304 2938 history1 4 <1 0 1.9 history1 0 3.9 13.0 history1	<1 937 990 1075 1327 3308 history2 6 2 0 1.8 history2 0.1 3.8 12.8 history2

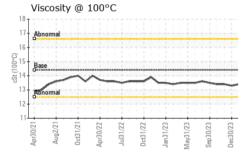


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