

OIL ANALYSIS REPORT

FARIBAULT [FARIBAULT] Unit 03 DB020103E 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: 44 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.



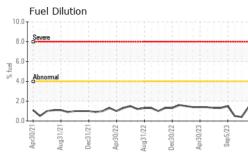
-1021 Au-2021 De-2021 Au-2022 De-2022 Au-2023 Se-2023

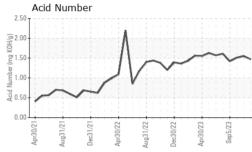
Sample Rating Trend

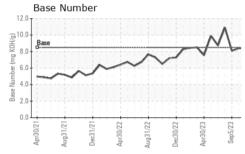
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2			
Sample Number		Client Info		PCA0098885	PCA0098882	PCA0098880			
Sample Date		Client Info		28 Dec 2023	30 Nov 2023	28 Oct 2023			
Machine Age	hrs	Client Info		408	11	0			
Oil Age	hrs	Client Info		408	11	0			
Oil Changed		Client Info		Not Changd	Oil Added	Changed			
Sample Status	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	5	5	0			
Chromium	ppm	ASTM D5185m	>4	0	<1	0			
Nickel	ppm	ASTM D5185m	>2	0	0	0			
Titanium	ppm	ASTM D5185m		0	<1	0			
Silver	ppm	ASTM D5185m	>3	0	0	0			
Aluminum	ppm	ASTM D5185m	>9	<1	<1	0			
Lead	ppm	ASTM D5185m	>30	<1	0	0			
Copper	ppm	ASTM D5185m	>35	3	<1	0			
Tin	ppm	ASTM D5185m	>4	<1	0	<1			
Vanadium	ppm	ASTM D5185m		<1	<1	0			
Cadmium	ppm	ASTM D5185m		0	0	0			
ADDITIVES		method	limit/base	current	history1	history2			
Boron	ppm	ASTM D5185m		2	2	3			
Barium	ppm	ASTM D5185m		0	0	0			
Molybdenum	ppm	ASTM D5185m		3	3	1			
Manganese	ppm	ASTM D5185m		<1	<1	<1			
Magnesium	ppm	ASTM D5185m		902	924	920			
Calcium									
Dharashaa	ppm	ASTM D5185m		1024	992	1000			
Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m		1024 1011	992 1029	1000 1111			
Phosphorus Zinc				-					
	ppm	ASTM D5185m		1011	1029	1111			
Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base	1011 1268	1029 1305	1111 1290			
Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	1011 1268 2991	1029 1305 3355	1111 1290 3045			
Zinc Sulfur CONTAMINAN	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m method		1011 1268 2991 current	1029 1305 3355 history1	1111 1290 3045 history2			
Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m		1011 1268 2991 current 6	1029 1305 3355 history1 6	1111 1290 3045 history2 8			
Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	>+100	1011 1268 2991 current 6 1	1029 1305 3355 history1 6 2	1111 1290 3045 history2 8 0			
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	>+100 >20	1011 1268 2991 current 6 1 0	1029 1305 3355 history1 6 2 0	1111 1290 3045 history2 8 0 0			
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524	>+100 >20 >4.0	1011 1268 2991 current 6 1 0 1.4	1029 1305 3355 history1 6 2 0 0 0.4	1111 1290 3045 history2 8 0 0 0 0.5			
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 Method	>+100 >20 >4.0 limit/base	1011 1268 2991 current 6 1 0 1.4 current	1029 1305 3355 history1 6 2 0 0 0.4 history1	1111 1290 3045 history2 8 0 0 0 0.5 history2			
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524	>+100 >20 >4.0 limit/base	1011 1268 2991 current 6 1 0 1.4 current 0	1029 1305 3355 history1 6 2 0 0 0.4 history1 0	1111 1290 3045 history2 8 0 0 0 0.5 history2 0			
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7624	>+100 >20 >4.0 limit/base	1011 1268 2991 current 6 1 0 1.4 current 0 3.4	1029 1305 3355 history1 6 2 0 0 0.4 0.4 history1 0 2.9	1111 1290 3045 history2 8 0 0 0.5 history2 0 3.0			
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7624	>+100 >20 >4.0 limit/base >20 >30	1011 1268 2991 current 6 1 0 1.4 current 0 3.4 12.5	1029 1305 3355 history1 6 2 0 0 0.4 history1 0 2.9 12.0	1111 1290 3045 history2 8 0 0 0.5 history2 0 3.0 12.2			
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm TS ppm ppm ppm % % Abs/cm Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7844 *ASTM D7624	>+100 >20 >4.0 limit/base >20 >30 limit/base	1011 1268 2991 current 6 1 0 1.4 current 0 3.4 12.5 current	1029 1305 3355 history1 6 2 0 0 0.4 history1 0 2.9 12.0 history1	1111 1290 3045 history2 8 0 0 0.5 history2 0 3.0 12.2 history2			

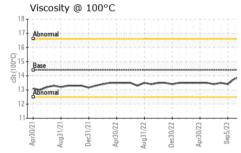


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						Yellow N			scalar	*Visual		NONE		NC	ONE			DNE		NO	
						Precipita			scalar	*Visual		NONE			ONE			DNE		NO	
						Silt			scalar	*Visual		NONE			ONE			DNE		NO	
						Debris			scalar	*Visual		NONE			ONE			DNE		NO	
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* - 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)

F:

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