

OIL ANALYSIS REPORT



Machine Id BM-104 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (10 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.

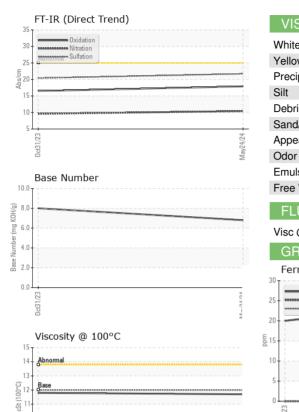
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0122198	PCA0105213	
Sample Date		Client Info		24 May 2024	31 Oct 2023	
Machine Age	mls	Client Info		257361	229682	
Oil Age	mls	Client Info		27679	18898	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron		ASTM D5185m	>100		20	
-	ppm			26		
Chromium Nickel	ppm		>20 >4	0	0	
	ppm	ASTM D5185m	>4	0	0	
Titanium Silver	ppm	ASTM D5185m ASTM D5185m	>3	u <1	0	
Aluminum	ppm	ASTM D5185m		<1 7	4	
	ppm	ASTM D5185m	>20	، <1	4 <1	
Lead	ppm		>330	2	6	
Copper Tin	ppm	ASTM D5185m	>330	2 <1	0	
Vanadium	ppm	ASTM D5185m	>15	0	0	
Cadmium	ppm ppm	ASTM D5185m		0	0	
Caumum	ppiii	ASTIVI DJ TOJITI			0	
		and the set	Paral III.	-	In the transmission	la la tana 20
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	current 2	<1	history2
Boron Barium		ASTM D5185m ASTM D5185m	2 0	current 2 0	<1 0	
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 2 0 59	<1 0 60	
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 2 0 59 <1	<1 0 60 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 2 0 59 <1 944	<1 0 60 <1 932	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current 2 0 59 <1 944 1117	<1 0 60 <1 932 1220	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm 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	current 2 0 59 <1 944 1117 1042	<1 0 60 <1 932 1220 963	
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	current 2 0 59 <1 944 1117 1042 1259	<1 0 60 <1 932 1220 963 1251	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 950 1050 995 1180 2600	current 2 0 59 <1 944 1117 1042	<1 0 60 <1 932 1220 963 1251 2726	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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	current 2 0 59 <1 944 1117 1042 1259	<1 0 60 <1 932 1220 963 1251	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	2 0 50 0 950 1050 995 1180 2600	current 2 0 59 <1 944 1117 1042 1259 3226 current 11	<1 0 60 <1 932 1220 963 1251 2726 history1 11	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	2 0 50 950 1050 995 1180 2600	current 2 0 59 <1 944 1117 1042 1259 3226 current 11 2	<1 0 60 <1 932 1220 963 1251 2726 history1 11 1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	2 0 50 950 1050 995 1180 2600	current 2 0 59 <1 944 1117 1042 1259 3226 current 11	<1 0 60 <1 932 1220 963 1251 2726 history1 11	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	2 0 50 0 950 1050 995 1180 2600 limit/base >25	current 2 0 59 <1 944 1117 1042 1259 3226 current 11 2	<1 0 60 <1 932 1220 963 1251 2726 history1 11 1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25	current 2 0 59 <1 944 1117 1042 1259 3226 current 11 2 10	<1 0 60 <1 932 1220 963 1251 2726 history1 11 1 1 5	 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	current 2 0 59 <1 944 1117 1042 1259 3226 current 11 2 10 current	<1 0 60 <1 932 1220 963 1251 2726 history1 11 1 1 5 <i>history</i> 1	 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 ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current 2 0 59 <1 944 1117 1042 1259 3226 current 11 2 10 current 0.9	<1 0 60 <1 932 1220 963 1251 2726 history1 11 1 5 <u>history1</u> 0.8	 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	current 2 0 59 <1 944 1117 1042 1259 3226 current 11 2 10 current 0.9 10.4	<1 0 60 <1 932 1220 963 1251 2726 history1 11 1 1 5 history1 0.8 9.6	 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 20 imit/base >3 >20 >30	current 2 0 59 <1 944 1117 1042 1259 3226 current 11 2 10 current 0.9 10.4 21.7	<1 0 60 <1 932 1220 963 1251 2726 history1 11 1 1 5 <u>history1</u> 0.8 9.6 20.4	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	current 2 0 59 <1 944 1117 1042 1259 3226 current 11 2 10 current 0.9 10.4 2.1.7 current	<1 0 60 <1 932 1220 963 1251 2726 history1 11 1 1 5 history1 0.8 9.6 20.4 history1	 history2 history2 history2 history2

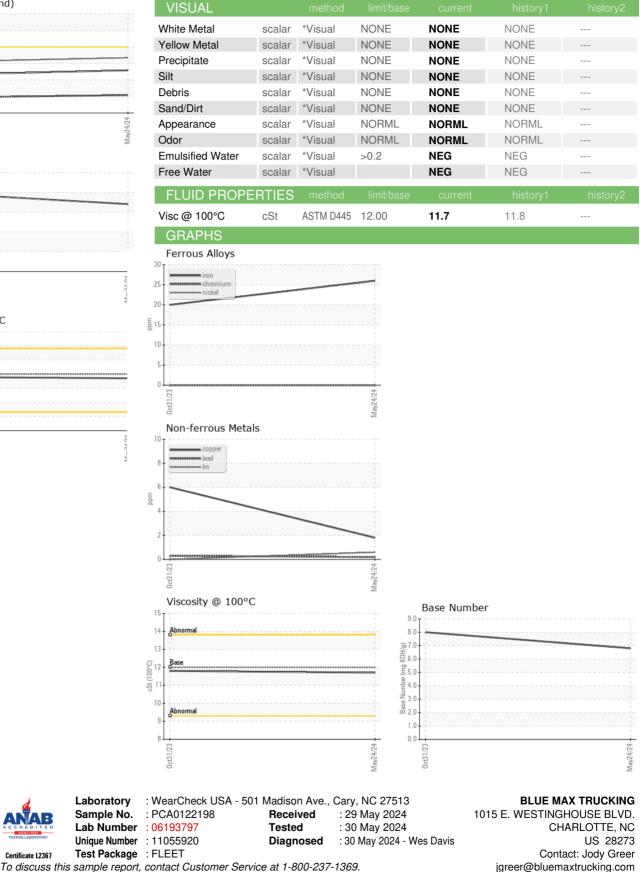


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Report Id: BLUCHA [WUSCAR] 06193797 (Generated: 05/30/2024 15:55:10) Rev: 1

* - 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)

Certificate 12367

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Page 2 of 2