

OIL ANALYSIS REPORT

Sample Rating Trend





(AS404G) Supermarket - Tractor **MACK 107A3677** Component

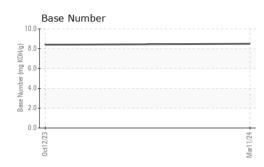
Diesel Engine Fluid

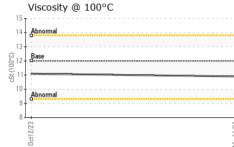
PETRO CANADA DURON SHP 10W30 (11 GAL)

DIAGNOSIS	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Recommendation	Sample Number		Client Info		PCA0116964	PCA0104069	
Resample at the next service interval to monitor.	Sample Date		Client Info		11 Mar 2024	12 Oct 2023	
Wear	Machine Age	hrs	Client Info		298497	292296	
All component wear rates are normal.	Oil Age	hrs	Client Info		6201	4140	
Contamination	Oil Changed		Client Info		Changed	Changed	
There is no indication of any contamination in the	Sample Status				NORMAL	NORMAL	
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.	CONTAMINAT	ION	method	limit/base	current	history1	history2
	Fuel		WC Method	>3.0	<1.0	<1.0	
	Water		WC Method		NEG	NEG	
	Glycol		WC Method		NEG	NEG	
	WEAR METAL	S	method	limit/base	current	history1	history2
	Iron	ppm	ASTM D5185m	>120	22	12	
	Chromium	ppm	ASTM D5185m		<1	0	
	Nickel	ppm	ASTM D5185m		5	3	
	Titanium	ppm	ASTM D5185m		0	<1	
	Silver	ppm	ASTM D5185m		0	0	
	Aluminum	ppm	ASTM D5185m		6	3	
	Lead	ppm	ASTM D5185m		۰ <1	0	
	Copper	ppm	ASTM D5185m		6	5	
	Tin	ppm	ASTM D5185m		۰ <1	<1	
	Vanadium	ppm	ASTM D5185m	210	0	0	
	Cadmium	ppm	ASTM D5185m		0	0	
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m	2	8	10	
	Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m		8 0	10 0	
	Barium	ppm		0			
			ASTM D5185m	0 50	0	0	
	Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 50	0 66	0 60	
	Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950	0 66 <1	0 60 <1	
	Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950	0 66 <1 944	0 60 <1 855	
	Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050	0 66 <1 944 1121	0 60 <1 855 1014	
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180	0 66 <1 944 1121 1080	0 60 <1 855 1014 932	
	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	0 50 0 950 1050 995 1180	0 66 <1 944 1121 1080 1244	0 60 <1 855 1014 932 1129	
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 950 1050 995 1180 2600 limit/base	0 66 <1 944 1121 1080 1244 3408	0 60 <1 855 1014 932 1129 2750	
	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	0 50 950 1050 995 1180 2600 limit/base	0 66 <1 944 1121 1080 1244 3408 current	0 60 <1 855 1014 932 1129 2750 history1	 history2
	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	0 50 0 950 1050 995 1180 2600 limit/base >25	0 66 <1 944 1121 1080 1244 3408 current 4	0 60 <1 855 1014 932 1129 2750 history1 3	 history2
	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	0 50 0 950 1050 995 1180 2600 limit/base >25	0 66 <1 944 1121 1080 1244 3408 <u>current</u> 4 2 3	0 60 <1 855 1014 932 1129 2750 history1 3 2	 history2
	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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 950 1050 995 1180 2600 imit/base >25 >20 imit/base	0 66 <1 944 1121 1080 1244 3408 <u>current</u> 4 2 3	0 60 <1 855 1014 932 1129 2750 history1 3 2 2 2 history1 0.2	 history2
	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	0 50 950 1050 995 1180 2600 limit/base >25 >20 limit/base	0 66 <1 944 1121 1080 1244 3408 <u>current</u> 4 2 3 3	0 60 <1 855 1014 932 1129 2750 history1 3 2 2 2 history1	 history2 history2
	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	ASTM D5185m ASTM D5185m	0 50 950 1050 995 1180 2600 imit/base >25 >20 imit/base >4 >20	0 66 <1 944 1121 1080 1244 3408 <u>current</u> 4 2 3 3 <u>current</u> 0.3	0 60 <1 855 1014 932 1129 2750 history1 3 2 2 2 history1 0.2	 history2 history2
	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	0 50 950 1050 995 1180 2600 imit/base >25 >20 imit/base >4 >20	0 66 <1 944 1121 1080 1244 3408 <u>current</u> 4 2 3 3 <u>current</u> 0.3 7.0	0 60 <1 855 1014 932 1129 2750 history1 3 2 2 2 2 history1 0.2 5.6	 history2 history2
	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	0 50 950 1050 995 1180 2600 limit/base >25 limit/base >20 limit/base >4 >20 >30	0 66 <1 944 1121 1080 1244 3408 <u>current</u> 4 2 3 <u>current</u> 0.3 7.0 18.1	0 60 <1 855 1014 932 1129 2750 history1 3 2 2 history1 0.2 5.6 17.1	 history2 history2 history2
	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 D7844 *ASTM D7624 *ASTM D7624	0 50 950 1050 995 1180 2600 limit/base >25 limit/base >20 limit/base >4 >20 >30	0 66 <1 944 1121 1080 1244 3408 <u>current</u> 4 2 3 <u>current</u> 0.3 7.0 18.1 <u>current</u>	0 60 <1 855 1014 932 1129 2750 history1 3 2 2 history1 0.2 5.6 17.1 history1	 history2 history2 history2 history2

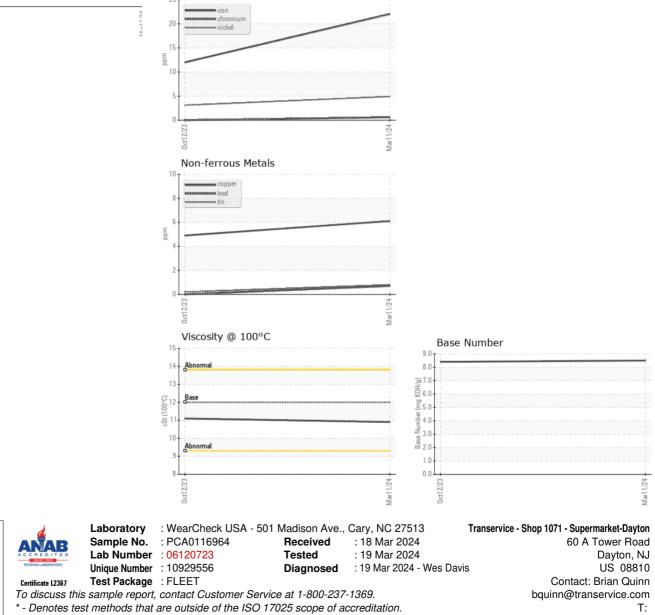


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	10.9	11.1	
GRAPHS						
Ferrous Alloys						



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

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