

OIL ANALYSIS REPORT







Machine Id **212** Component **Diesel Engine** Fluid

PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a components first oil change.

Contamination

Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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 INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0105211		
Sample Date		Client Info		14 Nov 2023		
Machine Age	mls	Client Info		19376		
Oil Age	mls	Client Info		19376		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
				-		
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	49		
Chromium	ppm	ASTM D5185m	>20	3		
Nickel	ppm	ASTM D5185m	>4	1		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	<1		
Aluminum	ppm	ASTM D5185m	>20	19		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	33		
Tin	ppm	ASTM D5185m	>15	2		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	nom	ASTM D5185m		0		
o dan indiri	pp			•		
ADDITIVES	pp	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 2 0	current 21 0	history1 	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50	current 21 0 12	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0	current 21 0 12 2	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950	current 21 0 12 2 775	history1 	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050	current 21 0 12 2 775 1251	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050 995	current 21 0 12 2 775 1251 828	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180	current 21 0 12 2 775 1251 828 917	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600	current 21 0 12 2 775 1251 828 917 2871	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600	current 21 0 12 2 775 1251 828 917 2871 current	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25	current 21 0 12 2 775 1251 828 917 2871 current 18	history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 2600 255	current 21 0 12 2 775 1251 828 917 2871 current 18 8	history1 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	current 21 0 12 2 775 1251 828 917 2871 current 18 8 62	history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >20 limit/base	current 21 0 12 2 775 1251 828 917 2871 current 18 8 62 current	history1 history1 history1 history1	history2 history2 history2 history2
ADDITIVES 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 ppm	method ASTM D5185m ASTM D5185m	<pre>imit/base 2 0 5 0 5 0 9 5 0 9 5 0 9 9 5 1 1 8 0 2 6 0 1 1 8 2 5 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</pre>	current 21 0 12 2 775 1251 828 917 2871 current 18 8 62 current 0.3	history1 history1 history1	history2 history2 history2 history2 history2
ADDITIVES 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	method ASTM D5185m	imit/base 2 0 5 0 5 0 9 5 0 9 5 0 9 5 1 1 8 0 2 6 0 0 1 1 8 0 0 1 1 8 0 0 0 0 0 0 0 0 0 0	current 21 0 12 2 775 1251 828 917 2871 current 18 8 62 current 0.3 10.4	history1 history1 history1 history1 history1 history1	history2 history2 history2
ADDITIVES 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 TS ppm ppm ppm	method ASTM D5185m ASTM D78444 *ASTM D78244	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >20 limit/base >3 >20 >30	current 21 0 12 2 775 1251 828 917 2871 current 18 8 62 current 0.3 10.4 22.7	history1 history1 history1 history1 history1	history2 history2 history2
ADDITIVES 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 ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	imit/base 2 0 50 0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 imit/base >30 limit/base	current 21 0 12 2 775 1251 828 917 2871 current 18 8 62 current 0.3 10.4 22.7 current	history1 history1 history1 history1 history1	history2 history2 history2 history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7415 method *ASTM D7414	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >20 limit/base >20 33 >20 >30 limit/base	current 21 0 12 2 775 1251 828 917 2871 current 18 8 62 current 0.3 10.4 22.7 current 18 5	history1 history1 history1 history1 history1 history1 history1	history2 history2 history2 history2 history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation Base Number (BN)	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7415 method *ASTM D7414	limit/base 2 0 50 950 1050 995 1180 2600 limit/base >20 limit/base >3 >20 limit/base >30 limit/base >25	current 21 0 12 2 775 1251 828 917 2871 current 18 8 62 current 0.3 10.4 22.7 current 18.5	history1 history1 history1 history1 history1 history1	history2 history2 history2 history2 history2



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VISUAL









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

Certificate L2367

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