

OIL ANALYSIS REPORT







Machine Id **106** Component **Diesel Engine** Fluid

PETRO CANADA DURON SHP 10W30 (--- 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

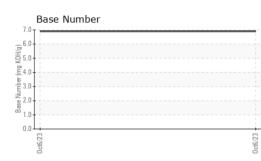
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	VIATION	method	limit/base	current	history1	history'2
Sample Number		Client Info		PCA0105199		
Sample Date		Client Info		06 Oct 2023		
Machine Age	mls	Client Info		258763		
Oil Age	mls	Client Info		18107		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT		mathad	limit/booo	ourropt	biotorut	biotory ()
	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	14		
Chromium	ppm	ASTM D5185m	>20	0		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	۲ ۲		
Aluminum	ppm	ASTM D5185m	>20	3		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	۰ <1		
Tin	ppm	ASTM D5185m	>15	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
	P. P. V.			-		
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ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	ASTM D5185m	2	current 5	history1	history2
Boron Barium	ppm ppm			5 0		
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	5 0 57		
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	5 0 57 <1		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	5 0 57 <1 939		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	5 0 57 <1 939 1195		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995	5 0 57 <1 939 1195 1005		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	5 0 57 <1 939 1195 1005 1338	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995	5 0 57 <1 939 1195 1005	 	
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 50 950 1050 995 1180	5 0 57 <1 939 1195 1005 1338	 	
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	5 0 57 <1 939 1195 1005 1338 3081		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	2 0 50 950 1050 995 1180 2600	5 0 57 <1 939 1195 1005 1338 3081 current	 history1	 history2
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	2 0 50 950 1050 995 1180 2600 limit/base >25	5 0 57 <1 939 1195 1005 1338 3081 current 8	 history1	 history2
Boron 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	2 0 50 950 1050 995 1180 2600 imit/base >25 >20	5 0 57 <1 939 1195 1005 1338 3081 <u>current</u> 8 1 4	 history1 	 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 limit/base >25 >20 limit/base	5 0 57 <1 939 1195 1005 1338 3081 current 8 1 4 current	 history1	 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 TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	5 0 57 <1 939 1195 1005 1338 3081 current 8 1 4 current 0.4	 history1 	 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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i>	5 0 57 <1 939 1195 1005 1338 3081 current 8 1 4 4 current 0.4 9.4	 history1 history1	 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 TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	5 0 57 <1 939 1195 1005 1338 3081 current 8 1 4 current 0.4	 history1 history1	 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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i>	5 0 57 <1 939 1195 1005 1338 3081 current 8 1 4 4 current 0.4 9.4	 history1 history1 	 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 D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20 >30	5 0 57 <1 939 1195 1005 1338 3081 current 8 1 4 current 0.4 9.4 20.7 current	 history1 history1 history1	 history2 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 TS 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	5 0 57 <1 939 1195 1005 1338 3081 current 8 1 4 current 0.4 9.4 20.7	 history1 history1 history1 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT

VISUAI



Viscosity @ 100°C



Metal Metal itate Dirt rance	scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE	NONE NONE NONE NONE		
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itate Dirt	scalar scalar scalar scalar	*Visual *Visual *Visual	NONE NONE	NONE		
Dirt	scalar scalar	*Visual	NONE	NONE		
Dirt	scalar		NONE			
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	scalar	*Visual	NORML	NORML		
	scalar	*Visual	NORML	NORML		
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Vater	scalar	*Visual		NEG		
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chromium						
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tin						
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	ID PROPE 100°C APHS ous Alloys iron ichronium ferrous Metal copper lead sity @ 100°C	ID PROPERTIES	ID PROPERTIES method D 100°C cSt ASTM D445 APHS Dus Alloys ferron mum mickel ferrous Metals copper lead sity @ 100°C	ID PROPERTIES method limit/base a 100°C cSt ASTM D445 12.00 APHS ous Alloys iron iron ferrous Metals copper ferrous Metals copper	ID PROPERTIES method limit/base current 0 100°C cSt ASTM D445 12.00 11.7 APHS Data Alloys Imit/base Imit/base Imit/base iron iron Imit/base Imit/base Imit/base iron Imit/base Imit/base Imit/base Imit/base ferrous Metals Imit/base Imit/base Imit/base Imit/base iron Imit/base Imit/base Imit/base Imit/base Imit/base iron Imit/base Imit/base Imit/base Imit/base Imit/base ferrous Metals Imit/base Imit/base Imit/base Imit/base Imit/base iron	ID PROPERTIES method limit/base current history1 0:100°C cSt ASTM D445 12.00 11.7 APHS bus Alloys ion



 Unique Number
 : 10697620
 Diagnostician
 : Wes Davis

 Certificate L2367
 Test Package
 : FLEET

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 jgree

 * - 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)

Diagnosed

: 17 Oct 2023

1015 E. WESTINGHOUSE BLVD. CHARLOTTE, NC US 28273 Contact: Jody Greer jgreer@bluemaxtrucking.com T: (980)225-9968 :2012) F: (704)588-2901

Laboratory Sample No.

Lab Number

: 05980325