

OIL ANALYSIS REPORT

BARTO 7066 [BARTO]

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

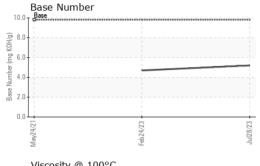
Fluid Condition

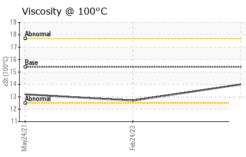
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Ma		Feb2023 Jul203		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0004376	SBP0002241	SBP47480035
Sample Date		Client Info		28 Jul 2023	24 Feb 2023	24 May 2021
Machine Age	mls	Client Info		319639	280443	136698
Oil Age	mls	Client Info		39197	40000	33958
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	0.0
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	25	42	24
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	-	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	12	5
Lead		ASTM D5185m	>40	0	2	2
Copper	ppm		>330	2	4	17
	ppm		>330	_		
Tin	ppm	ASTM D5185m	>15	<1	1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	6	history2 13
	ppm		0			
Boron		ASTM D5185m	0	<1	6	13
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	6 0	13 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 59	6 0 45	13 0 3
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 59 <1	6 0 45	13 0 3 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 59 <1 967	6 0 45 1 554	13 0 3 0 704
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 0 59 <1 967 1229	6 0 45 1 554 2146	13 0 3 0 704 1294
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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	<1 0 59 <1 967 1229 1039	6 0 45 1 554 2146 1025	13 0 3 0 704 1294 719
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 ASTM D5185m	0 0 60 0 1010 1070 1150	<1 0 59 <1 967 1229 1039 1302	6 0 45 1 554 2146 1025 1281	13 0 3 0 704 1294 719 809
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 59 <1 967 1229 1039 1302 3255	6 0 45 1 554 2146 1025 1281 3723	13 0 3 0 704 1294 719 809
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 59 <1 967 1229 1039 1302 3255 current	6 0 45 1 554 2146 1025 1281 3723 history1	13 0 3 0 704 1294 719 809
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 59 <1 967 1229 1039 1302 3255 current	6 0 45 1 554 2146 1025 1281 3723 history1	13 0 3 0 704 1294 719 809
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	<1 0 59 <1 967 1229 1039 1302 3255 current 4 6	6 0 45 1 554 2146 1025 1281 3723 history1	13 0 3 0 704 1294 719 809 history2 6 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	<1 0 59 <1 967 1229 1039 1302 3255 current 4 6 4	6 0 45 1 554 2146 1025 1281 3723 history1 10 9 7	13 0 3 0 704 1294 719 809 history2 6 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 59 <1 967 1229 1039 1302 3255 current 4 6 4	6 0 45 1 554 2146 1025 1281 3723 history1 10 9 7	13 0 3 0 704 1294 719 809 history2 6 8 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20	<1 0 59 <1 967 1229 1039 1302 3255 current 4 6 4 current 0.6	6 0 45 1 554 2146 1025 1281 3723 history1 10 9 7 history1 0.8	13 0 3 0 704 1294 719 809 history2 6 8 8 0 history2 0.76
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20	<1 0 59 <1 967 1229 1039 1302 3255 current 4 6 4 current	6 0 45 1 554 2146 1025 1281 3723 history1 10 9 7 history1	13 0 3 0 704 1294 719 809 history2 6 8 8 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	<1 0 59 <1 967 1229 1039 1302 3255 current 4 6 4 current 0.6 11.2	6 0 45 1 554 2146 1025 1281 3723 history1 10 9 7 history1 0.8 14.3	13 0 3 0 704 1294 719 809 history2 6 8 8 0 history2 0.76
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D78185m method *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 limit/base	<1 0 59 <1 967 1229 1039 1302 3255 current 4 6 4 current 0.6 11.2 24.0 current	6 0 45 1 554 2146 1025 1281 3723 history1 10 9 7 history1 0.8 14.3 30.6 history1	13 0 3 0 704 1294 719 809 history2 6 8 8 0 history2 0.76 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Chlorine INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 limit/base	<1 0 59 <1 967 1229 1039 1302 3255 current 4 6 4 current 0.6 11.2 24.0	6 0 45 1 554 2146 1025 1281 3723 history1 10 9 7 history1 0.8 14.3 30.6	13 0 3 0 704 1294 719 809 history2 6 8 8 0 history2 0.76



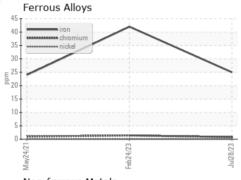
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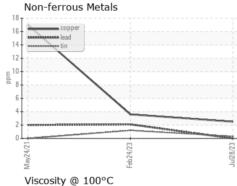


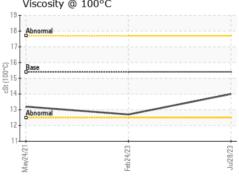


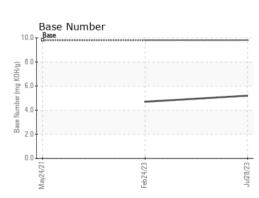
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	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 PROPER	IIIES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	12.7	13.2













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10660209 Test Package : FLEET

: SBP0004376 : 05958996

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 22 Sep 2023 Diagnosed : 25 Sep 2023

Diagnostician : Wes Davis

SCHMIDT TRANSPORTATION - BARTO

108 E Bay Road Plattsmouth, NE US 68048

Contact: Service Manager

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

* - 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)

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