

OIL ANALYSIS REPORT

Sample Rating Trend





101 [] Component Diesel Engine PETRO CANADA DURON SHP 15W40 (--- GAL)

Recommendation

Resample at the next service interval to monitor.

Machine Id

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 INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0003875	SBP0003838	SBP0000098
Sample Date		Client Info		13 May 2024	17 Aug 2023	18 Mar 2022
Machine Age	hrs	Client Info		14524	14394	14181
Oil Age	hrs	Client Info		130	213	263
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	0.0
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	15	22	15
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>40	<1	2	3
Copper	ppm	ASTM D5185m		<1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
				-	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base		-	-
				current	history1	history2
Boron	ppm	ASTM D5185m	0	current 0	history1 15	history2 27
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	current 0 0	history1 15 0	history2 27 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 0 0 59	history1 15 0 42	history2 27 0 16
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	ourrent 0 0 59 <1	history1 15 0 42 <1	history2 27 0 16 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 0 0 59 <1 948	history1 15 0 42 <1 915	history2 27 0 16 <1 793
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 0 59 <1 948 1113	history1 15 0 42 <1 915 1283	history2 27 0 16 <1 793 1388
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	0 0 60 0 1010 1070 1150	Current 0 59 <1 948 1113 1085	history1 15 0 42 <1 915 1283 937	history2 27 0 16 <1 793 1388 762
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 0 59 <1 948 1113 1085 1282	history1 15 0 42 <1 915 1283 937 1157	history2 27 0 16 <1 793 1388 762 930
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	0 0 60 0 1010 1070 1150 1270 2060	Current 0 59 <1 948 1113 1085 1282 3689	history1 15 0 42 <1 915 1283 937 1157 3549	history2 27 0 16 <1 793 1388 762 930 2564
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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 1010 1070 1150 1270 2060	Current 0 59 <1 948 1113 1085 1282 3689 Current	history1 15 0 42 <1 915 1283 937 1157 3549 history1	history2 27 0 16 <1 793 1388 762 930 2564 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS 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 method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 0 0 59 <1 948 1113 1085 1282 3689 current 8	history1 15 0 42 <1 915 1283 937 1157 3549 history1 8	history2 27 0 16 <1 793 1388 762 930 2564 history2 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS 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 method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 0 0 59 <1 948 1113 1085 1282 3689 current 8 23	history1 15 0 42 <1 915 1283 937 1157 3549 history1 8 57	history2 27 0 16 <1 793 1388 762 930 2564 history2 8 52
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 0 0 59 <1 948 1113 1085 1282 3689 current 8 23 21	history1 15 0 42 <1 915 1283 937 1157 3549 history1 8 57 70	history2 27 0 16 <1 793 1388 762 930 2564 history2 8 52 62
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current 0 59 <1 948 1113 1085 1282 3689 current 8 23 21 current	history1 15 0 42 <1 915 1283 937 1157 3549 history1 8 57 70 history1	history2 27 0 16 <1 793 1388 762 930 2564 history2 8 52 62 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current 0 0 59 <1 948 1113 1085 1282 3689 current 8 23 21 current 0.3	history1 15 0 42 <1 915 1283 937 1157 3549 history1 8 57 70 history1 0.5	history2 27 0 16 <1 793 1388 762 930 2564 history2 8 52 62 history2 0.5
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Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 3 20 3 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	current 0 59 <1 948 1113 1085 1282 3689 current 8 23 21 current 0.3 7.3 19.0	history1 15 0 42 <1 915 1283 937 1157 3549 history1 8 57 70 history1 0.5 10.7 21.0	history2 27 0 16 <1 793 1388 762 930 2564 history2 8 52 62 history2 0.5 12.2 25.4



OIL ANALYSIS REPORT

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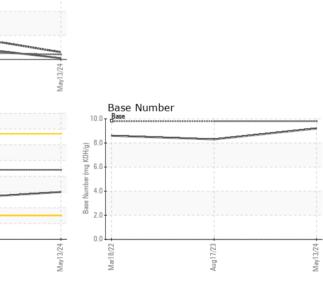
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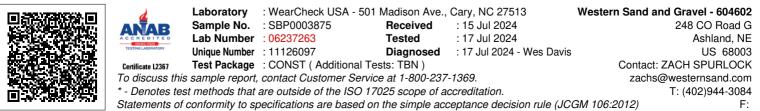
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Submitted By: ZACH SPURLOCK

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