

OIL ANALYSIS REPORT

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(GCI283) Machine Id PETERBILT 911052

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

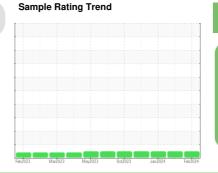
All component wear rates are normal.

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.





NORMAL

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0109044	GFL0109079	GFL0109066
Sample Date		Client Info		22 Feb 2024	31 Jan 2024	05 Jan 2024
Machine Age	hrs	Client Info		8077	7891	7849
Oil Age	hrs	Client Info		8077	7891	7849
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	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	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	26	4	7
Chromium	ppm	ASTM D5185m	>20	3	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	1	3	2
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	2	2	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 13	history1 12	history2 20
	ppm ppm					
Boron		ASTM D5185m	0	13	12	20
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	13 1	12 0	20 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	13 1 57	12 0 62	20 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	13 1 57 <1	12 0 62 <1	20 0 61 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	13 1 57 <1 685	12 0 62 <1 736	20 0 61 0 726
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	13 1 57 <1 685 1018	12 0 62 <1 736 1115	20 0 61 0 726 1121
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	0 0 60 0 1010 1070 1150	13 1 57 <1 685 1018 889	12 0 62 <1 736 1115 956	20 0 61 0 726 1121 912
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	0 0 60 0 1010 1070 1150 1270	13 1 57 <1 685 1018 889 1072	12 0 62 <1 736 1115 956 1121	20 0 61 0 726 1121 912 1107
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 1270 2060	13 1 57 <1 685 1018 889 1072 3074	12 0 62 <1 736 1115 956 1121 2776	20 0 61 0 726 1121 912 1107 2896
Boron 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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	13 1 57 <1 685 1018 889 1072 3074 current	12 0 62 <1 736 1115 956 1121 2776 history1	20 0 61 0 726 1121 912 1107 2896 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	0 0 60 1010 1070 1150 1270 2060	13 1 57 <1 685 1018 889 1072 3074 current 6	12 0 62 <1 736 1115 956 1121 2776 history1 4	20 0 61 0 726 1121 912 1107 2896 history2 3
Boron 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 ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base	13 1 57 <1 685 1018 889 1072 3074 <u>current</u> 6 3	12 0 62 <1 736 1115 956 1121 2776 history1 4 2	20 0 61 0 726 1121 912 1107 2896 history2 3 3 3
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	0 0 60 0 1010 1070 1150 1270 2060 imit/base >25 >20	13 1 57 <1 685 1018 889 1072 3074 current 6 3 2	12 0 62 <1 736 1115 956 1121 2776 history1 4 2 5	20 0 61 0 726 1121 912 1107 2896 history2 3 3 3 3 3
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	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 20	13 1 57 <1 685 1018 889 1072 3074 current 6 3 2 current	12 0 62 <1 736 1115 956 1121 2776 history1 4 2 5 5 history1	20 0 61 0 726 1121 912 1107 2896 history2 3 3 3 3 3
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	13 1 57 <1 685 1018 889 1072 3074 current 6 3 2 current 0.9	12 0 62 <1 736 1115 956 1121 2776 history1 4 2 5 history1 0.3	20 0 61 0 726 1121 912 1107 2896 history2 3 3 3 3 history2 0.4
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	13 1 57 <1 685 1018 889 1072 3074 <i>current</i> 6 3 2 <i>current</i> 0.9 7.2	12 0 62 <1 736 1115 956 1121 2776 history1 4 2 5 history1 0.3 7.2	20 0 61 0 726 1121 912 1107 2896 history2 3 3 3 3 3 history2 0.4 7.5
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 D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 20 imit/base >3 >20 >3	13 1 57 <1 685 1018 889 1072 3074 <i>current</i> 6 3 2 <i>current</i> 0.9 7.2 18.9	12 0 62 <1 736 1115 956 1121 2776 history1 4 2 5 5 history1 0.3 7.2 17.7	20 0 61 0 726 1121 912 1107 2896 history2 3 3 3 3 3 history2 0.4 7.5 17.7
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 TS ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 33 20 330 20 330	13 1 57 <1 685 1018 889 1072 3074 Current 6 3 2 Current 0.9 7.2 18.9 Current	12 0 62 <1 736 1115 956 1121 2776 history1 4 2 5 history1 0.3 7.2 17.7 history1	20 0 61 0 726 1121 912 1107 2896 history2 3 3 3 3 3 3 history2 0.4 7.5 17.7 history2

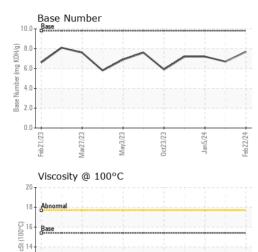


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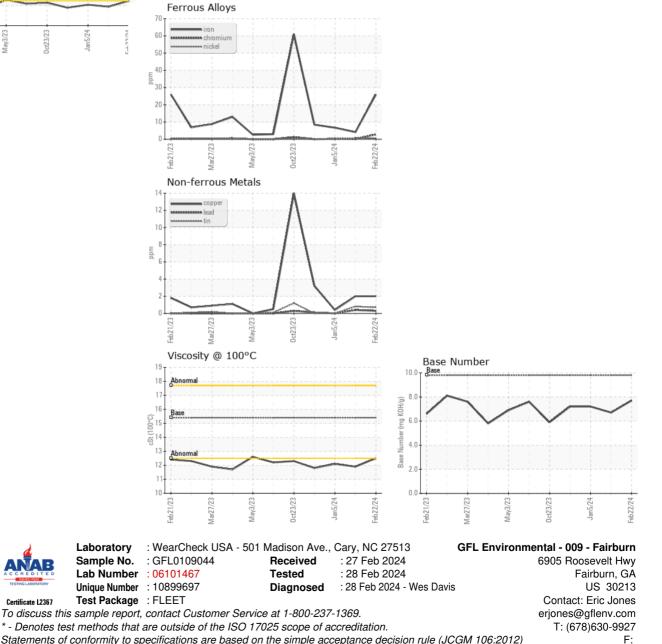
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OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.5	11.9	12.1
GRAPHS						



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