

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id 7807M

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (--- 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.

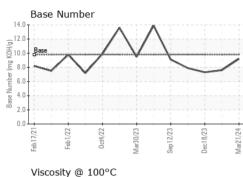
Fluid Condition

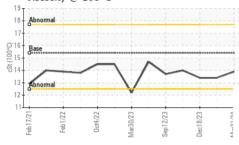
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0116918	GFL0107075	GFL0107085
Sample Date		Client Info		21 Mar 2024	20 Dec 2023	18 Dec 2023
Machine Age	hrs	Client Info		14875	14871	15320
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
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	3	9	57
Chromium	ppm	ASTM D5185m	>20	0	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	2	2 3
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	<1	15
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	0000	AOTH DELOF		-		0
Gaumum	ppm	ASTM D5185m		0	0	0
ADDITIVES	ррш	method	limit/base	0 current	0 history1	0 history2
	ppm		limit/base		-	-
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 1	history1 0	history2 11
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 1 0	history1 0 0	history2 11 <1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 1 0 58	history1 0 0 59	history2 11 <1 68
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 1 0 58 <1	history1 0 0 59 0	history2 11 <1 68 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 1 0 58 <1 993	history1 0 0 59 0 902	history2 11 <1 68 2 877
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	Current 1 0 58 <1 993 1102	history1 0 0 59 0 902 1061	history2 11 <1 68 2 877 1044
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	0 0 60 0 1010 1070 1150	current 1 0 58 <1 993 1102 1047	history1 0 0 59 0 902 1061 957	history2 11 <1 68 2 877 1044 957
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 1 0 58 <1 993 1102 1047 1234	history1 0 59 0 902 1061 957 1198	history2 11 <1 68 2 877 1044 957 1216
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	0 0 60 1010 1070 1150 1270 2060	Current 1 0 58 <1 993 1102 1047 1234 3771	history1 0 0 59 0 902 1061 957 1198 3143	history2 11 <1 68 2 877 1044 957 1216 2301
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	0 0 60 1010 1070 1150 1270 2060	current 1 0 58 <1 993 1102 1047 1234 3771 current	history1 0 59 0 902 1061 957 1198 3143 history1	history2 11 <1 68 2 877 1044 957 1216 2301 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 imit/base	current 1 0 58 <1 993 1102 1047 1234 3771 current 4	history1 0 0 59 0 902 1061 957 1198 3143 history1 2	history2 11 <1 68 2 877 1044 957 1216 2301 history2 12
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 imit/base	current 1 0 58 <1 993 1102 1047 1234 3771 current 4 2	history1 0 0 59 0 902 1061 957 1198 3143 history1 2 2 2	history2 11 <1 68 2 877 1044 957 1216 2301 history2 12 ▲ 283
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	0 0 0 1010 1070 1150 1270 2060 limit/base >25	current 1 0 58 <1 993 1102 1047 1234 3771 current 4 2 0	history1 0 0 59 0 902 1061 957 1198 3143 history1 2 2 2 2 2 2 2 2 2	history2 11 <1 68 2 877 1044 957 1216 2301 history2 12 283 7
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 ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >25	current 1 0 58 <1 993 1102 1047 1234 3771 current 4 2 0 current	history1 0 0 59 0 902 1061 957 1198 3143 history1 2 2 2 2 2 2 2 2 2 3143	history2 11 <11 <1 68 2 877 1044 957 1216 2301 1216 2301 12 283 7 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	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current 1 0 58 <1 993 1102 1047 1234 3771 current 4 2 0 current 0 current 0.2	history1 0 0 59 0 902 1061 957 1198 3143 history1 2 2 2 2 2 0.3	history2 11 <1 68 2 877 1044 957 1216 2301 history2 12 283 7 history2 1.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	current 1 0 58 <1 993 1102 1047 1234 3771 current 4 2 0 current 0 current 0.2 5.4	history1 0 0 59 0 902 1061 957 1198 3143 history1 2 2 2 2 2 2 0.3 8.5	history2 11 <1 68 2 877 1044 957 1216 2301 history2 12 283 7 history2 1.6 10.9
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 ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20 >3	current 1 0 58 <1 993 1102 1047 1234 3771 current 4 2 0 current 0.2 5.4 17.9	history1 0 0 59 0 902 1061 957 1198 3143 history1 2 2 2 history1 0.3 8.5 18.5	history2 11 <1 68 2 877 1044 957 1216 2301 history2 12 283 7 history2 1.6 10.9 23.2

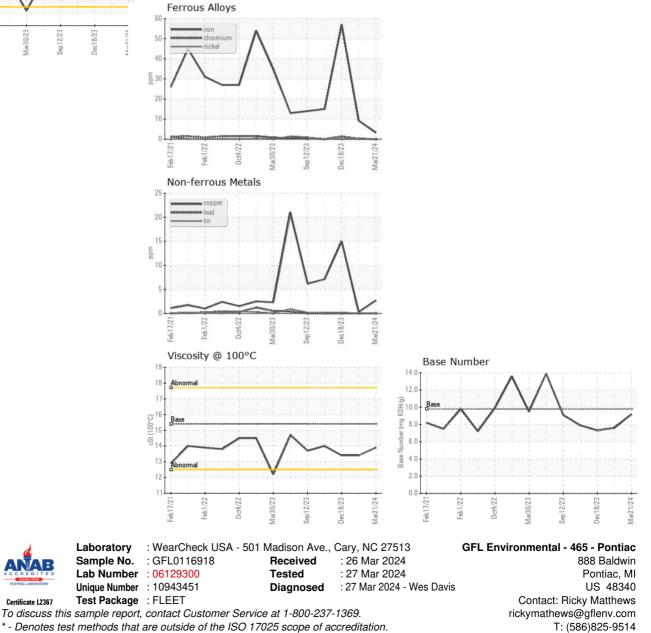


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	13.9	13.4	13.4
GRAPHS						





* - 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)

Certificate L2367

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