

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

123 Component Diesel Engine Fluid PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

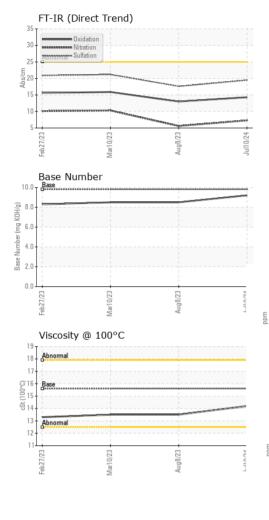
Fluid Condition

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	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0905957	WC0727255	WC0792777
Sample Date		Client Info		10 Jul 2024	08 Aug 2023	10 Mar 2023
Machine Age	mls	Client Info		124658	109045	104903
Oil Age	mls	Client Info		0	5000	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	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 METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	19	12	31
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	5	3	7
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	0	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
				0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base		-	-
	ppm ppm	method	limit/base	current	history1	history2
Boron		method ASTM D5185m	limit/base	current 0 0 62	history1 18 1 60	history2 10 0 62
Boron Barium	ppm	method ASTM D5185m ASTM D5185m	limit/base	current 0 0 62 <1	history1 18 1	history2 10 0 62 1
Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 0 0 62 <1 980	history1 18 1 60 <1 810	history2 10 0 62 1 755
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 0 62 <1 980 1163	history1 18 1 60 <1 810 1073	history2 10 0 62 1 755 1293
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 62 <1 980 1163 1190	history1 18 1 60 <1 810 1073 955	history2 10 0 62 1 755 1293 937
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 0 0 62 <1 980 1163 1190 1374	history1 18 1 60 <1 810 1073 955 11111	history2 10 0 62 1 755 1293 937 1191
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	Current 0 62 <1 980 1163 1190	history1 18 1 60 <1 810 1073 955	history2 10 0 62 1 755 1293 937
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 0 0 62 <1 980 1163 1190 1374	history1 18 1 60 <1 810 1073 955 11111	history2 10 0 62 1 755 1293 937 1191 3234 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	method ASTM D5185m		current 0 0 62 <1 980 1163 1190 1374 3970 current 5	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4	history2 10 0 62 1 755 1293 937 1191 3234 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	Current 0 62 <1 980 1163 1190 1374 3970 Current	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4 0	history2 10 0 62 1 755 1293 937 1191 3234 history2 6 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm	method ASTM D5185m	limit/base	current 0 0 62 <1 980 1163 1190 1374 3970 current 5	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4	history2 10 0 62 1 755 1293 937 1191 3234 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base	Current 0 62 <1 980 1163 1190 1374 3970 current 5 1 2 current	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4 0 2 history1	history2 10 0 62 1 755 1293 937 1191 3234 history2 6 2 5 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	method ASTM D5185m	limit/base >25 >20 limit/base >3	current 0 0 62 <1 980 1163 1190 1374 3970 current 5 1 2 current 0.8	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4 0 2 history1 0.4	history2 10 0 62 1 755 1293 937 1191 3234 history2 6 2 5 history2 1.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3 >20	current 0 0 62 <1 980 1163 1190 1374 3970 current 5 1 2 current 0.8 7.3	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4 0 2 history1 0.4 5.6	history2 10 0 62 1 755 1293 937 1191 3234 history2 6 2 5 history2 1.4 10.3
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	method ASTM D5185m	limit/base >25 >20 limit/base >3	current 0 0 62 <1 980 1163 1190 1374 3970 current 5 1 2 current 0.8	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4 0 2 history1 0.4	history2 10 0 62 1 755 1293 937 1191 3234 history2 6 2 5 history2 1.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base >25 >20 limit/base >3 >20	current 0 0 62 <1 980 1163 1190 1374 3970 current 5 1 2 current 0.8 7.3	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4 0 2 history1 0.4 5.6	history2 10 0 62 1 755 1293 937 1191 3234 history2 6 2 5 history2 1.4 10.3
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	method ASTM D5185m ASTM D5185m	Iimit/base >25 >20 Iimit/base >3 >20 >30	Current 0 62 <1 980 1163 1190 1374 3970 current 5 1 2 current 0.8 7.3 19.5	history1 18 1 60 <1 810 1073 955 1111 3076 history1 4 0 2 history1 0.4 5.6 17.6	history2 10 0 62 1 755 1293 937 1191 3234 history2 6 2 5 history2 1.4 10.3 21.2



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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 PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	14.2	13.5	13.5
GRAPHS						
Iron (ppm)			100	Lead (ppm)		
200 Severe			80	Severe		
150			60			
		 	40	Abnormal		
50 -			20	1		
0			0			
Feb27/23 Mar10/23		Aug8/23 .	Jul10/24	Feb27/23	Mar1 0/23	
Feb2		Aug	llul	Feb2	Mar	
Aluminum (ppm)			50	Chromium (p	opm)	
40 Severe		1	50	Severe		
Abnormal			20	Abnormal		
			10	Ī		
10						
		Aug8/23 -	Jul10/24		Mar1 0/23 -	24
Feb 27/23 Mar1 0/23		Aug	Jult	Feb27/23	Marl	2
Copper (ppm)			20	Silicon (ppm))	
400 Severe			80	Severe		
300 -			60	1		
톱 200 -			톱 40	Abnormal		
100-			20	Abnormal		
0			0			
Feb27/23		Aug8/23	Jul10/24	Feb27/23	Mar10/23	
	_	Au	Γη			
	<u> </u>			Base Numbe	r	
Viscosity @ 100°				T Base		
, -			(B) 10.0 (B) 10.0 (B) 10.0			
20 18 Abnormal			0.0 (10.0 8.0 8.0 6.0 (10.0 (10.0) (1			
20 18 Base 30 16 8 14			(D) HO 3 8.0 (D) H			
20 18 Abnormal			(B)HO3 (B			
20 18 A hnormal Base 30 16 Base Atomina		Aug8/23	(D/HO) 8.0 6.0 Jumper (Jumper 4.0	Page 	Mart 0.23	

To discuss this sample report, con * - 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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Certificate L2367

Contact/Location: BRANDON BRIGGS - WAYGOL

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