

OIL ANALYSIS REPORT

Sample Rating Trend



Area (99295V) Machine Id 223036

Component Diesel Engine

PETRO CANADA SUPREME™ SYNTHETIC BLEND 5W20 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Fluid

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

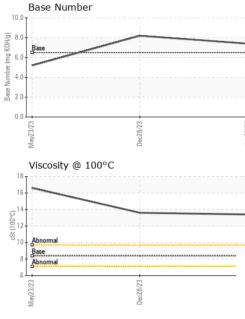
The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0104994	GFL0104998	GFL0081478
Sample Date		Client Info		29 Jan 2024	28 Dec 2023	23 May 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	650
Oil Changed		Client Info		Not Changd	Changed	Changed
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	25	52	46
Chromium	ppm	ASTM D5185m	>20	1	2	3
Nickel	ppm	ASTM D5185m	>2	0	<1	1
Titanium	ppm	ASTM D5185m	>2	<1	<1	2
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>25	12	28	11
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	2	2	3
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 3	history2 4
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	<1	3	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	<1 0	3 0	4
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 58 <1 1017	3 0 60 1 992	4 0 69
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 58 <1 1017 1062	3 0 60 1 992 1063	4 0 69 1 1056 1265
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 0 58 <1 1017 1062 1012	3 0 60 1 992 1063 1071	4 0 69 1 1056 1265 1021
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	770	<1 0 58 <1 1017 1062 1012 1203	3 0 60 1 992 1063 1071 1323	4 0 69 1 1056 1265 1021 1406
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		<1 0 58 <1 1017 1062 1012	3 0 60 1 992 1063 1071	4 0 69 1 1056 1265 1021
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	770	<1 0 58 <1 1017 1062 1012 1203 2728 current	3 0 60 1 992 1063 1071 1323 3008 history1	4 0 69 1 1056 1265 1021 1406
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	770 2690	<1 0 58 <1 1017 1062 1012 1203 2728 current 9	3 0 60 1 992 1063 1071 1323 3008	4 0 69 1 1056 1265 1021 1406 3361 history2 14
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 ASTM D5185m	770 2690 limit/base >25	<1 0 58 <1 1017 1062 1012 1203 2728 current 9 10	3 0 60 1 992 1063 1071 1323 3008 history1 9 5	4 0 69 1 1056 1265 1021 1406 3361 history2 14 18
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	770 2690 limit/base >25	<1 0 58 <1 1017 1062 1012 1203 2728 current 9	3 0 60 1 992 1063 1071 1323 3008 history1 9	4 0 69 1 1056 1265 1021 1406 3361 history2 14
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	770 2690 limit/base >25	<1 0 58 <1 1017 1062 1012 1203 2728 current 9 10	3 0 60 1 992 1063 1071 1323 3008 history1 9 5	4 0 69 1 1056 1265 1021 1406 3361 history2 14 18 5 bistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	770 2690 limit/base >25 >20	<1 0 58 <1 1017 1062 1012 1203 2728 current 9 10 17 17 current 0.8	3 0 60 1 992 1063 1071 1323 3008 history1 9 5 46 history1 1.4	4 0 69 1 1056 1265 1021 1406 3361 history2 14 18 5 5 history2 0.1
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	770 2690 limit/base >25 >20 limit/base >3 >20	<1 0 58 <1 1017 1062 1012 1203 2728 <i>current</i> 9 10 17 <i>current</i> 0.8 9.3	3 0 60 1 992 1063 1071 1323 3008 history1 9 5 46 history1 1.4 9.7	4 0 69 1 1056 1265 1021 1406 3361 history2 14 18 5 history2 0.1 17.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	770 2690 limit/base >25 >20 limit/base >3	<1 0 58 <1 1017 1062 1012 1203 2728 current 9 10 17 17 current 0.8	3 0 60 1 992 1063 1071 1323 3008 history1 9 5 46 history1 1.4	4 0 69 1 1056 1265 1021 1406 3361 history2 14 18 5 history2 0.1
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	770 2690 limit/base >25 >20 limit/base >3 >20	<1 0 58 <1 1017 1062 1012 1203 2728 <i>current</i> 9 10 17 <i>current</i> 0.8 9.3	3 0 60 1 992 1063 1071 1323 3008 history1 9 5 46 history1 1.4 9.7	4 0 69 1 1056 1265 1021 1406 3361 history2 14 18 5 history2 0.1 17.5
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	770 2690 255 >20 imit/base >25 3 >20 >30 >30	<1 0 58 <1 1017 1062 1012 1203 2728 <u>current</u> 9 10 17 7 <u>current</u> 0.8 9.3 20.7	3 0 60 1 992 1063 1071 1323 3008 history1 9 5 46 history1 1.4 9.7 21.3	4 0 69 1 1056 1265 1021 1406 3361 history2 14 18 5 bistory2 0.1 17.5 34.5



OIL ANALYSIS REPORT

VISUAL



		VISUAL		methou	iiiiii/base	current	TIISTOLA	THSTOLYZ
		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
Dec28/23	Jan 29/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Deci	Jan,	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
		Free Water	scalar	*Visual		NEG	NEG	NEG
		FLUID PROF	PERTIES	method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445		13.4	13.6	16.6
		GRAPHS			-	-		
		Ferrous Alloys						
		60 T						
Dec28/23		50 - chromium	-					
Deci		40 -						
		튭 30						
		20						
		10-						
		1/23	3/23 -		3/24			
		May23/23	Dec28/23		Jan 29/24			
		– Non-ferrous Me	tals					
		¹⁰ T						
		8 - copper						
		o T						
		6						
		u d						
		2						
		1/23	/23		124			
		May23/23	Dec28/23		Jan 29/24			
		Viscosity @ 100						
		¹⁸			9.	Base Number		
		16			8.	1	-	
					(B)7.	0 Base		
		14- ©	_		9 6.	0		
		(100°C) 112 525			5.	0		
		73 10 - Abnormal			tuny N			
		Base			(6)1.1 6.1 800 Bull 800 Bull 8	0		
		8 - Abnormal						
		6	en					
		May23/23	Dec28/23		Jan 29/24	May23/23	Dec28/23	
		Ma	De		م م	Ma	De	
	Laboratory	: WearCheck USA	- 501 Madie		rv NC 2751		vironmental - 893	- OK Fast Hauli
	Sample No.	: GFL0104994	- 501 Madis Recieved		Jan 2024			2100 Lilly Stre
CREDITED	Lab Number	: 06075438	Diagnose		-eb 2024		-	Seminole, C
ESTING LABORATORY	Unique Number		Diagnost		n Baldridge			US 7486
	Test Package	: FLEET						t: Roger Barlo
ertificate L2367				00 00 - 10 - 1	•			
o discuss this	s sample report,	contact Customer Se are outside of the ISC						ow@gflenv.cc : (405)204-61

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Contact/Location: Roger Barlow - GFL893