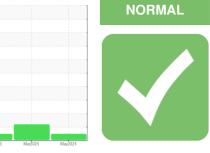


OIL ANALYSIS REPORT

Sample Rating Trend



Area GFL035 Machine Id 934045 Origonal Diesel Engine Fluid PETRO CANA

Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (42 QTS)

SAMPLE INFORMATION method

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.

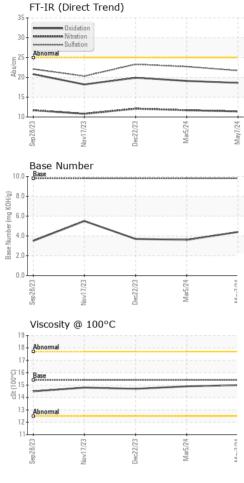
Fluid Condition

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

SAMPLE INFOR		methoa	iimit/base	current	nistory i	nistory∠
Sample Number		Client Info		GFL0116482	GFL0102363	GFL0102309
Sample Date		Client Info		07 May 2024	05 Mar 2024	22 Dec 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
-						
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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		ASTM D5185m	>120	14	17	20
-	ppm			<1		<1
Chromium	ppm	ASTM D5185m	>20		<1	
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	5	5
Lead	ppm	ASTM D5185m	>40	2	<1	1
Copper	ppm	ASTM D5185m	>330	2	3	4
Tin	ppm	ASTM D5185m	>15	1	<1	<1
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 6	history1 8	history2 4
	ppm ppm					
Boron		ASTM D5185m	0	6	8	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	6 2	8 0	4
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	6 2 56	8 0 51	4 0 42
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	6 2 56 <1	8 0 51 1	4 0 42 2
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	6 2 56 <1 532	8 0 51 1 533	4 0 42 2 523
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	6 2 56 <1 532 1621	8 0 51 1 533 1581	4 0 42 2 523 1510
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	6 2 56 <1 532 1621 727	8 0 51 1 533 1581 659	4 0 42 2 523 1510 571
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 1010 1070 1150 1270 2060	6 2 56 <1 532 1621 727 953 2530	8 0 51 1 533 1581 659 924 2307	4 0 42 2 523 1510 571 855 2056
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	6 2 56 <1 532 1621 727 953 2530 current	8 0 51 1 533 1581 659 924 2307 history1	4 0 42 2 523 1510 571 855 2056 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	6 2 56 <1 532 1621 727 953 2530 current 6	8 0 51 1 533 1581 659 924 2307 history1 6	4 0 42 2 523 1510 571 855 2056 history2 8
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 60 1010 1070 1150 1270 2060 Limit/base	6 2 56 <1 532 1621 727 953 2530 current 6 6	8 0 51 1 533 1581 659 924 2307 history1 6 8	4 0 42 2 523 1510 571 855 2056 history2 8 7
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 0 1010 1070 1150 1270 2060 limit/base >25 >20	6 2 56 <1 532 1621 727 953 2530 current 6 6 6	8 0 51 1 533 1581 659 924 2307 history1 6 8 7	4 0 42 2 523 1510 571 855 2056 history2 8 7 5
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 limit/base >25	6 2 56 <1 532 1621 727 953 2530 current 6 6 6 6 6 6	8 0 51 1 533 1581 659 924 2307 history1 6 8 7 7 history1	4 0 42 2 523 1510 571 855 2056 history2 8 7 5 5 history2
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	6 2 56 <1 532 1621 727 953 2530 current 6 6 6 6 6 6 6 0	8 0 51 1 533 1581 659 924 2307 history1 6 8 7 7 history1 0	4 0 42 2 523 1510 571 855 2056 history2 8 7 5 history2 0
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	6 2 56 <1 532 1621 727 953 2530 current 6 6 6 6 6 current 0 11.4	8 0 51 1 533 1581 659 924 2307 history1 6 8 7 history1 0 11.7	4 0 42 2 523 1510 571 855 2056 history2 8 7 5 history2 0 12.1
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	6 2 56 <1 532 1621 727 953 2530 current 6 6 6 6 6 6 6 0	8 0 51 1 533 1581 659 924 2307 history1 6 8 7 7 history1 0	4 0 42 2 523 1510 571 855 2056 history2 8 7 5 history2 0
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 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	6 2 56 <1 532 1621 727 953 2530 current 6 6 6 6 6 current 0 11.4	8 0 51 1 533 1581 659 924 2307 history1 6 8 7 history1 0 11.7	4 0 42 2 523 1510 571 855 2056 history2 8 7 5 history2 0 12.1
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 imit/base >4 >20	6 2 56 <1 532 1621 727 953 2530 current 6 6 6 6 6 6 0 11.4 21.7 current	8 0 51 1 533 1581 659 924 2307 history1 6 8 7 history1 0 11.7 22.7	4 0 42 2 523 1510 571 855 2056 history2 8 7 5 5 history2 0 12.1 23.3
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 220 220 220 230 20 20 20 20 20 20 20 20 20 20 20 20 20	6 2 56 <1 532 1621 727 953 2530 current 6 6 6 6 6 6 6 0 11.4 21.7	8 0 51 1 533 1581 659 924 2307 history1 6 8 7 history1 0 11.7 22.7 history1	4 0 42 2 523 1510 571 855 2056 history2 8 7 5 history2 0 12.1 23.3 history2



OIL ANALYSIS REPORT



d)		VISUAL		method	limit/base	e current	history1	history2
		White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Name of Street, St	**************************************	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
Dec22/23	Mar5/24 May7/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Deci	Mar	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	-	Free Water	scalar	*Visual		NEG	NEG	NEG
		FLUID PROP	ERTIES	method	limit/base	e current	history1	history2
		Visc @ 100°C	cSt	ASTM D445	15.4	15.0	14.9	14.7
		GRAPHS						
1		Ferrous Alloys						
Dec22/23 -	Mar5/24 -	40 - iron chromium						
Dec2	Mar	35 nickel						
				1				
		E 25 20						
1		15						
		10						
		5						
		Sep28/23 -)ec22/23 -	Mar5/24 -	May7/24 -			
		Sep 2 Nov1	Dec2	Ma	May			
		Non-ferrous Meta	als					
Dec22/23	Mar5/24	copper						
ā		12 - tin						
		10						
		ق 8-						
		6						
		4						
		2 - Abdeningenberg			and the second second			
		0	23	44	24 +			
		Sep 28/23	Dec22/2:	Mar5/24	May7/24			
	∞ ≥ Viscosity @ 100°		_	-				
	¹⁹	C		1	Base Number			
	18 - Abnormal							
	17-			(B/HO	8.0	1		
				Mg KC	6.0			
		C) 16 Base 00 15 3 14			nber (
				Base Number (mg KOH/g)	4.0			
	13 Abnormal			as Bas	2.0			
		12				0.0		
		Sep28/23	2/23 -	Mar5/24 -	May7/24		2/23 -	Mar5/24 -
		Sep28/23 Nov17/23	Dec22/23	Mar	May	Sep28/23 Nov17/23	Dec22/23	Mar5/24
4	Laboratory Sample No.	: WearCheck USA - 50 : GFL0116482	01 Madiso Rece					35 - Greensbor
CREDITED	Lab Number			May 2024 1236 Elon Plac May 2024 High Point, N				
STING LABORATORY	Unique Number			iagnosed : 14 May 2024 - Sean Felton				US 2726
rtificate L2367	Test Package	: FLEET	· ·					JORGE COST
To discuss thi	is sample report,	, contact Customer Ser are outside of the ISO					jorge.co	sta@gflenv : (336)668-

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

Submitted By: JORGE COSTA Page 2 of 2

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