

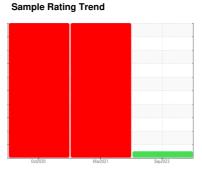
OIL ANALYSIS REPORT



426019-4669

Component Rear Differential

PETRO CANADA TRAXON SYNTHETIC 75W90 (--- LTR)





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

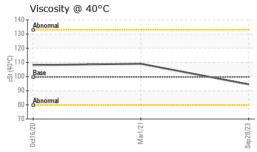
Fluid Condition

Confirm oil type. The condition of the oil is acceptable for the time in service.

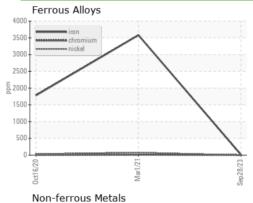
Sample Number Client Info GFL0058072 GFL0017717 GFL001243: Sample Date Client Info 28 Sep 2023 01 Mar 2021 16 Oct 2020 Machine Age mls Client Info 33096 5505632 537800 Oil Age mls Client Info Not Changd N/A N/A Sample Status Not Changd N/A N/A N/A WEAR METALS method limit/base current history2 Iron ppm ASTM D5185m >870 15 3580 1782 Chromium ppm ASTM D5185m >8 0 14 4 9 Nickel ppm ASTM D5185m >25 0 78 4 3 3 1782 Chromium ppm ASTM D5185m >4 <1 7 4 4 1 7 4 3 3 3 3 3 4 7 4 5 1 0 0 0	SYNTHETIC 75W90	(LTR)	00	t2020	Mar2021 Sep 20	123	
Sample Date Client Info 28 Sep 2023 01 Mar 2021 16 Oct 2020 Machine Age mls Client Info 33096 5505632 537800 Oil Age mls Client Info 23 0 0 Oil Changed Client Info Not Changd N/A N/A Sample Status Norman Norman N/A N/A WEAR METALS method Imitibase current history2 Iron ppm ASTM D5185m >870 15 3580 1782 Chromium ppm ASTM D5185m >8 0 14 4 9 Nickel ppm ASTM D5185m >25 0 78 A 33 Titranium ppm ASTM D5185m >4 1 7 4 Lead ppm ASTM D5185m >5 0 <1	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 33096 5505632 537800 Oil Age mls Client Info 23 0 0 Oil Changed Client Info Not Changd N/A N/A Sample Status NORMAL SEVERE SEVERE WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >870 15 3580 1782 Chromium ppm ASTM D5185m >80 14 49 Nickel ppm ASTM D5185m >25 0 78 A3 Silver ppm ASTM D5185m >40 3 A93 A47 Lead ppm ASTM D5185m >20 <1	Sample Number		Client Info		GFL0058072	GFL0017717	GFL0012432
Oil Age mls Client Info 23 0 0 Oil Changed Client Info Not Changd N/A N/A Sample Status NORMAL SEVERE SEVERE WEAR METALS method limit/base current history1 history2 Iron no pp ASTM D5185m >870 15 3580 1782 Chromium ppm ASTM D5185m >870 15 3580 1782 Chromium ppm ASTM D5185m >25 0 78 33 Nickel ppm ASTM D5185m >25 0 78 4 Silver ppm ASTM D5185m >4 <1	Sample Date		Client Info		28 Sep 2023	01 Mar 2021	16 Oct 2020
Not Changed Sample Status	Machine Age	mls	Client Info		33096	5505632	537800
NORMAL SEVERE SEVERE WEAR METALS method limit/base current history1 history2 history3 history2 history3 history2 history3 h	Oil Age	mls	Client Info		23	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >870 15 3580 1782 Chromium ppm ASTM D5185m >8 0 14 A9 Nickel ppm ASTM D5185m >25 0 78 A3 Titanium ppm ASTM D5185m >25 0 78 A3 Silver ppm ASTM D5185m >0 0 0 0 Aluminum ppm ASTM D5185m >0 0 0 0 Lead ppm ASTM D5185m >25 0 <1	Oil Changed		Client Info		Not Changd	N/A	N/A
Pron	Sample Status				NORMAL	SEVERE	SEVERE
Chromium ppm ASTM D5185m >8 0 ▲ 14 ♠ 9 Nickel ppm ASTM D5185m >25 0 ♠ 78 ▲ 33 Titanium ppm ASTM D5185m >4 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >25 0	Iron	ppm	ASTM D5185m	>870	15	3580	1782
Titanium	Chromium	ppm	ASTM D5185m	>8	0	<u> </u>	4 9
Silver	Nickel	ppm	ASTM D5185m	>25	0	1 78	3 3
Aluminum ppm ASTM D5185m >40 3 A 93 A 47 Lead ppm ASTM D5185m >25 0 <1 0 Copper ppm ASTM D5185m >60 9 8 4 Tin ppm ASTM D5185m >5 <1 0 0 Antimony ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >5 0 0 Vanadium ppm ASTM D5185m 0 0 1 0 Cadmium ppm ASTM D5185m 0 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 1 0 89 12 Molybdenum ppm ASTM D5185m 61 0 0 Manganese ppm ASTM D5185m 61 0 0 Manganese ppm ASTM D5185m 1 945 23 7 Calcium ppm ASTM D5185m 1 1098 74 42 Phosphorus ppm ASTM D5185m 1 1020 1197 1073 Zinc ppm ASTM D5185m 1 1261 49 30 Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 3 29 15 Potassium ppm ASTM D5185m NONE NONE NONE Precipitate scalar "Visual NONE NONE NONE NONE Precipitate scalar "Visual NONE NONE NONE NONE Silit scalar "Visual NONE NONE NONE NONE Appearance scalar "Visual NONE NONE NONE NONE Appearance scalar "Visual NORML NORML NORML A MILKY ANDRE Codor scalar "Visual NORML	Titanium	ppm	ASTM D5185m	>4	<1	7	4
Lead ppm ASTM D5185m >25 0 <1 0 Copper ppm ASTM D5185m >60 9 8 4 Tin ppm ASTM D5185m >5 <1	Silver	ppm	ASTM D5185m		0	0	0
Copper	Aluminum	ppm	ASTM D5185m	>40	3	<u></u> 93	4 7
Copper ppm ASTM D5185m >60 9 8 4 Tin ppm ASTM D5185m >5 <1	Lead	ppm	ASTM D5185m	>25	0	<1	0
Trin ppm ASTM D5185m >5	Copper	ppm	ASTM D5185m	>60	9	8	4
Antimony ppm ASTM D5185m >5 0 0 Vanadium ppm ASTM D5185m 0 1 0 Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 328 5 168 149 Barium ppm ASTM D5185m 1 0 89 12 Molybdenum ppm ASTM D5185m 61 0 0 Manganese ppm ASTM D5185m <1 34 18 Magnesium ppm ASTM D5185m 7 1098 74 42 Phosphorus ppm ASTM D5185m 7 1098 74 42 Phosphorus ppm ASTM D5185m 17909 3403 19181 17235 Sulfur ppm ASTM D5185m 285 5 512 233			ASTM D5185m	>5	<1	0	0
Vanadium ppm ASTM D5185m 0 1 0 Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 328 5 168 149 Barium ppm ASTM D5185m 1 0 89 12 Molybdenum ppm ASTM D5185m 1 0 89 12 Molybdenum ppm ASTM D5185m 1 0 89 12 Magnesium ppm ASTM D5185m 1 945 23 7 Calcium ppm ASTM D5185m 7 1098 74 42 Phosphorus ppm ASTM D5185m 7 1098 74 42 Phosphorus ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 <th< td=""><td>Antimony</td><td></td><td>ASTM D5185m</td><td>>5</td><th></th><td>0</td><td>0</td></th<>	Antimony		ASTM D5185m	>5		0	0
Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 328 5 168 149 Barium ppm ASTM D5185m 1 0 89 12 Molybdenum ppm ASTM D5185m 61 0 0 Manganese ppm ASTM D5185m 41 34 18 Magnesium ppm ASTM D5185m 1 945 23 7 Calcium ppm ASTM D5185m 7 1098 74 42 Phosphorus ppm ASTM D5185m 1 1020 1197 1073 Zinc ppm ASTM D5185m 3 1261 49 30 Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2	-				0	1	0
Boron ppm ASTM D5185m 328 5 168 149 Barium ppm ASTM D5185m 1 0 0 89 12 Molybdenum ppm ASTM D5185m 61 0 0 0 Manganese ppm ASTM D5185m 1 945 23 7 Calcium ppm ASTM D5185m 1 945 23 7 Calcium ppm ASTM D5185m 1 145 1020 1197 1073 Zinc ppm ASTM D5185m 1 145 1020 1197 1073 Zinc ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 3 29 15 Potassium ppm ASTM D5185m 20 0 23 16 VISUAL method limit/base current history1 history2 White Metal scalar "Visual NONE NONE NONE NONE NONE Precipitate scalar "Visual NONE NONE NONE NONE NONE Silit scalar "Visual NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar "Visual NONE NONE NONE NONE NONE NONE NONE NON	Cadmium					0	<1
Barium ppm ASTM D5185m 1 0 89 12 Molybdenum ppm ASTM D5185m 61 0 0 Manganese ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 61 0 0 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m	328	5	168	149
Manganese ppm ASTM D5185m <1 34 18 Magnesium ppm ASTM D5185m 1 945 23 7 Calcium ppm ASTM D5185m 7 1098 74 42 Phosphorus ppm ASTM D5185m 1145 1020 1197 1073 Zinc ppm ASTM D5185m 3 1261 49 30 Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silt	Barium	ppm	ASTM D5185m	1	0	89	12
Magnesium ppm ASTM D5185m 1 945 23 7 Calcium ppm ASTM D5185m 7 1098 74 42 Phosphorus ppm ASTM D5185m 1145 1020 1197 1073 Zinc ppm ASTM D5185m 3 1261 49 30 Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >285 5 512 233 Sodium ppm ASTM D5185m >20 0 23 16 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE VPellow Metal scalar *Visual NONE NONE NONE NONE Precipitate scalar *Visual NON	Molybdenum	ppm	ASTM D5185m		61	0	0
Calcium ppm ASTM D5185m 7 1098 74 42 Phosphorus ppm ASTM D5185m 1145 1020 1197 1073 Zinc ppm ASTM D5185m 3 1261 49 30 Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >285 5 512 233 Sodium ppm ASTM D5185m >20 0 23 16 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE <td< td=""><td>Manganese</td><td>ppm</td><td>ASTM D5185m</td><td></td><th><1</th><td>34</td><td>18</td></td<>	Manganese	ppm	ASTM D5185m		<1	34	18
Phosphorus ppm ASTM D5185m 1145 1020 1197 1073 Zinc ppm ASTM D5185m 3 1261 49 30 Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >285 5 512 233 Sodium ppm ASTM D5185m >20 0 23 16 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow M	Magnesium	ppm	ASTM D5185m	1	945	23	7
Phosphorus ppm ASTM D5185m 1145 1020 1197 1073 Zinc ppm ASTM D5185m 3 1261 49 30 Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >285 5 512 △ 233 Sodium ppm ASTM D5185m >20 0 23 16 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE	Calcium	ppm	ASTM D5185m	7	1098	74	42
Zinc ppm ASTM D5185m 3 1261 49 30 Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >285 5 12 233 Sodium ppm ASTM D5185m >20 0 23 16 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow 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	Phosphorus				1020	1197	1073
Sulfur ppm ASTM D5185m 17909 3403 19181 17235 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >285 5 512 △ 233 Sodium ppm ASTM D5185m >20 0 23 16 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE NONE Silt scalar *Visual NONE			ASTM D5185m		1261	49	30
Silicon ppm ASTM D5185m >285 5 ● 512 ▲ 233 Sodium ppm ASTM D5185m 3 29 15 Potassium ppm ASTM D5185m >20 0 23 16 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 NORML	Sulfur			17909	3403	19181	17235
Sodium ppm ASTM D5185m 3 29 15 Potassium ppm ASTM D5185m >20 0 23 16 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 NORM NORML NORML NORML MILKY Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >.2 NEG 0.2% 0.2%	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 23 16 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML A MILKY Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >.2 NEG 0.2% 0.2%	Silicon	ppm	ASTM D5185m	>285	5	5 12	<u>^</u> 233
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White Metal scalar *Visual NONE 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 NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML A MILKY Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >.2 NEG 0.2% 0.2%	Potassium	ppm	ASTM D5185m	>20	0	23	16
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEG0.2%0.2%	VISUAL		method	limit/base	current	history1	history2
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 >.2 NEG 0.2% 0.2%	White Metal	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 NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >.2 NEG 0.2% 0.2%	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEG0.2%0.2%	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLMILKYOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEG0.2%0.2%	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLMILKYOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>.2NEG0.2%0.2%	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >.2 NEG 0.2% 0.2%	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >.2 NEG 0.2% 0.2%	Appearance	scalar	*Visual	NORML	NORML	NORML	▲ MILKY
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>.2	NEG	0.2%	0.2%
	Free Water	scalar			NEG		

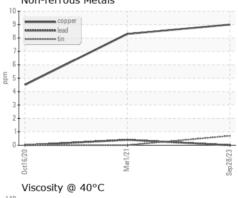


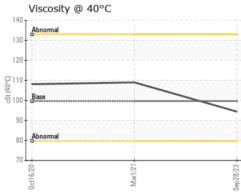
OIL ANALYSIS REPORT



FLUID PROP	ERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	99.6	94.4	109	108.1
SAMPLE IMA	GES	method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image









Certificate L2367

Laboratory Sample No. Lab Number

Unique Number : 10671453 Test Package : FLEET

: GFL0058072 : 05964902

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 29 Sep 2023 Diagnosed : 01 Oct 2023 Diagnostician : Don Baldridge

GFL Environmental - 657 - Charlottesville Hauling 5498 Richmond Road

Troy, VA US 22974 Contact: Brian Ulickas

bulickas@gflenv.com T:

F:

* - 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)