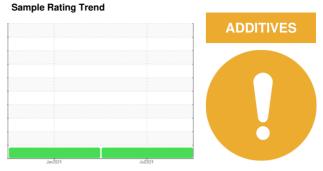


# **OIL ANALYSIS REPORT**

Machine Id Or1982

Transmission (Manual)

PETRO CANADA DURATRAN (100 LTR)



### DIAGNOSIS

#### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. 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 fluid.

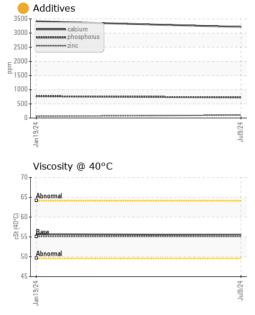
#### Fluid Condition

Additive levels indicate the addition of a different brand, or type of fluid. The condition of the fluid is acceptable for the time in service.

Machine Age         hrs         Client Info         10000         9642            Oil Age         hrs         Client Info         10000         500            Oil Changed         Client Info         N/A         Not Changed	•	Í					
Sample Date	SAMPLE INFOR	RMATIO	V method	limit/base	current	history1	history2
Machine Age   hrs	Sample Number		Client Info		GFL0124593	GFL0092286	
Oil Age         hrs         Client Info         10000         500            Oil Changed         Client Info         N/A         Not Changd            Sample Status         ATTENTION         ATTENTION            CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.1         NEG         NEG            WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >200         27         36            Chromium         ppm         ASTM D5185(m)         >5         0         0            Nickel         ppm         ASTM D5185(m)         >5         1         <1            Silver         ppm         ASTM D5185(m)         >5         1         <1            Lead         ppm         ASTM D5185(m)         >25         2         3            Copper         ppm         ASTM D5185(m)         >25         5         4            Tin         ppm	Sample Date		Client Info		09 Jul 2024	19 Jan 2024	
Contamped   Citient Info   N/A   Attention   Attenti	Machine Age	hrs	Client Info		10000	9642	
CONTAMINATION   method   limit/base   current   history1   history2	Oil Age	hrs	Client Info		10000	500	
CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.1         NEG         NEG	Oil Changed		Client Info		N/A	Not Changd	
Water         WC Method         >0.1         NEG         NEG            WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185(m)         >200         27         36            Chromium         ppm         ASTM D5185(m)         >5         0         0            Nickel         ppm         ASTM D5185(m)         >5         <1	Sample Status				ATTENTION	ATTENTION	
WEAR METALS	CONTAMINAT	ΓΙΟΝ	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.1	NEG	NEG	
Chromium         ppm         ASTM D5185(m)         >5         0         0            Nickel         ppm         ASTM D5185(m)         >5         <1	WEAR METAL	_S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)	>200	27	36	
Titanium	Chromium	ppm	ASTM D5185(m)	>5	0	0	
Silver	Nickel	ppm	ASTM D5185(m)	>5	<1	<1	
Aluminum	Titanium	ppm	ASTM D5185(m)		0	0	
Lead         ppm         ASTM D5185(m)         >45         0         <1            Copper         ppm         ASTM D5185(m)         >22.5         5         4            Tin         ppm         ASTM D5185(m)         >10         0         0            Antimony         ppm         ASTM D5185(m)         0         0            Vanadium         ppm         ASTM D5185(m)         0         0            Beryllium         ppm         ASTM D5185(m)         0         0            Cadmium         ppm         ASTM D5185(m)         0         0            Cadmium         ppm         ASTM D5185(m)         0.0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         1.0         120            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         0.0         <-1	Silver	ppm	ASTM D5185(m)	>7	0	0	
Copper         ppm         ASTM D5185(m)         >225         5         4            Tin         ppm         ASTM D5185(m)         >10         0         0            Antimony         ppm         ASTM D5185(m)         0         0            Vanadium         ppm         ASTM D5185(m)         0         0            Beryllium         ppm         ASTM D5185(m)         0         0            Cadmium         ppm         ASTM D5185(m)         0         0            Cadmium         ppm         ASTM D5185(m)         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         1.0         120            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         0.0         <1	Aluminum	ppm	ASTM D5185(m)	>25	2	3	
Tin	Lead	ppm	ASTM D5185(m)	>45	0	<1	
Antimony         ppm         ASTM D5185(m)         0         0            Vanadium         ppm         ASTM D5185(m)         0         0            Beryllium         ppm         ASTM D5185(m)         0         0            Cadmium         ppm         ASTM D5185(m)         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         110         110         120            Barium         ppm         ASTM D5185(m)         0.0         <1	Copper	ppm	ASTM D5185(m)	>225	5	4	
Vanadium         ppm         ASTM D5185(m)         0         0            Beryllium         ppm         ASTM D5185(m)         0         0            Cadmium         ppm         ASTM D5185(m)         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         110         110         120            Barium         ppm         ASTM D5185(m)         0.0         <1         0            Barium         ppm         ASTM D5185(m)         0.0         <1         0            Molybdenum         ppm         ASTM D5185(m)         1         <1         0            Manganese         ppm         ASTM D5185(m)         13         17         13            Magnesium         ppm         ASTM D5185(m)         3610         3217         3414            Phosphorus         ppm         ASTM D5185(m)         1455         100         59            Zinc         ppm         ASTM D5185(m)         2641         2966         2956 <td>Tin</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td>&gt;10</td> <th>0</th> <td>0</td> <td></td>	Tin	ppm	ASTM D5185(m)	>10	0	0	
Beryllium	Antimony	ppm	ASTM D5185(m)		0	0	
Cadmium         ppm         ASTM D5185(m)         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         110         110         120            Barium         ppm         ASTM D5185(m)         0.0         <1	Vanadium	ppm	ASTM D5185(m)		0	0	
ADDITIVES   method   limit/base   current   history1   history2	Beryllium	ppm	ASTM D5185(m)		0	0	
Boron   ppm   ASTM D5185(m)   110   110   120	Cadmium	ppm	ASTM D5185(m)		0	0	
Barium         ppm         ASTM D5185(m)         0.0         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185(m)         0.0         <1         0            Manganese         ppm         ASTM D5185(m)         1         <1         0            Magnesium         ppm         ASTM D5185(m)         13         17         13            Calcium         ppm         ASTM D5185(m)         3610         3217         3414            Phosphorus         ppm         ASTM D5185(m)         1192         726         767            Zinc         ppm         ASTM D5185(m)         1455         100         59            Sulfur         ppm         ASTM D5185(m)         2641         2966         2956            Lithium         ppm         ASTM D5185(m)         <1         <1         <1            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Boron	ppm	ASTM D5185(m)	110	110	120	
Manganese         ppm         ASTM D5185(m)         1         <1         0            Magnesium         ppm         ASTM D5185(m)         13         17         13            Calcium         ppm         ASTM D5185(m)         3610         3217         3414            Phosphorus         ppm         ASTM D5185(m)         1192         726         767            Zinc         ppm         ASTM D5185(m)         1455         100         59            Sulfur         ppm         ASTM D5185(m)         2641         2966         2956            Lithium         ppm         ASTM D5185(m)         <1         <1            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Barium	ppm	ASTM D5185(m)	0.0	<1	0	
Magnesium         ppm         ASTM D5185(m)         13         17         13            Calcium         ppm         ASTM D5185(m)         3610         3217         3414            Phosphorus         ppm         ASTM D5185(m)         1192         726         767            Zinc         ppm         ASTM D5185(m)         1455         100         59            Sulfur         ppm         ASTM D5185(m)         2641         2966         2956            Lithium         ppm         ASTM D5185(m)         < 1         <1            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Molybdenum	ppm	ASTM D5185(m)	0.0	<1	0	
Calcium         ppm         ASTM D5185(m)         3610         3217         3414            Phosphorus         ppm         ASTM D5185(m)         1192         726         767            Zinc         ppm         ASTM D5185(m)         1455         100         59            Sulfur         ppm         ASTM D5185(m)         2641         2966         2956            Lithium         ppm         ASTM D5185(m)         <1	Manganese	ppm	ASTM D5185(m)	1	<1	0	
Phosphorus         ppm         ASTM D5185(m)         1 192         726         767            Zinc         ppm         ASTM D5185(m)         1 455         100         59            Sulfur         ppm         ASTM D5185(m)         2641         2966         2956            Lithium         ppm         ASTM D5185(m)         <1         <1            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Magnesium	ppm	ASTM D5185(m)	13	17	13	
Phosphorus         ppm         ASTM D5185(m)         1 192         726         767            Zinc         ppm         ASTM D5185(m)         1 455         100         59            Sulfur         ppm         ASTM D5185(m)         2641         2966         2956            Lithium         ppm         ASTM D5185(m)         < 1         <1            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Calcium	ppm	ASTM D5185(m)	3610	3217	3414	
Sulfur         ppm         ASTM D5185(m)         2641         2966         2956            Lithium         ppm         ASTM D5185(m)         <1         <1            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Phosphorus		ASTM D5185(m)	1192	726	<b>767</b>	
Lithium         ppm         ASTM D5185(m)         <1         <1            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Zinc	ppm	ASTM D5185(m)	1455	<u> </u>	59	
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Sulfur	ppm	ASTM D5185(m)	2641	2966	2956	
Silicon         ppm         ASTM D5185(m)         >125         7         9            Sodium         ppm         ASTM D5185(m)         3         2	Lithium	ppm	ASTM D5185(m)		<1	<1	
Sodium         ppm         ASTM D5185(m)         3         2	CONTAMINA	NTS	method	limit/base	current	history1	history2
Sodium         ppm         ASTM D5185(m)         3         2	Silicon	ppm	ASTM D5185(m)	>125	7	9	
	Sodium		ASTM D5185(m)		3	2	
	Potassium		ASTM D5185(m)	>20	2	2	



## **OIL ANALYSIS REPORT**



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	LIGHT	NONE	
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
Precipitate	scalar	Visual*	NONE	NONE	NONE	
Silt	scalar	Visual*	NONE	NONE	NONE	
Debris	scalar	Visual*	NONE	NONE	NONE	
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
Appearance	scalar	Visual*	NORML	NORML	NORML	
Odor	scalar	Visual*	NORML	NORML	NORML	
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	
Free Water	scalar	Visual*		NEG	NEG	
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	55.14	55.5	55.7	
SAMPLE IMAG	ES	method	limit/base	current	history1	history2
Color						no image
Bottom					S C C	no image
GRAPHS				l ( )		
Iron (ppm)			100	Lead (ppm)		
Abnormal			튎 50	Abnormal		
7 7			8 30			
- Z			0	- 54		
Jan 19/24			Jul9/24	Jan 19/24		
*				-	>	
Aluminum (ppm)			15	Chromium (p	pm) 	
Severe			E 10	Severe		
Abnormal			ā 5	Abnormal		
5.			9.	4		
Jan 19/24			Jul9/24	Jan 19/24		
⊸ Copper (ppm)				Silicon (ppm)		
Severe			300	Severe		
Abnormal			€ 200 100	Abnormal		
1			100	1		
74 + 7				4		
Jan 19/24			Jul9/24	Jan 19/2		
Viscosity @ 40°C				Additives		
Abnormal			4000	calcium		
† Base			돌 2000	nananananan phosphoru	18.	
Abnormal				AND STREET STREET		
Abnormal			- 0			
Abnormal +5261 uer			Jul9/24 +	Jan 19/24		



CALA ISO 17025:2017 Accredited Laboratory

Laboratory

Sample No. : GFL0124593 Lab Number : 02647418

Unique Number : 5812970 Test Package : MOB 1

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 720 - Lafleche - Landfill Received : 11 Jul 2024

Diagnosed

Tested : 11 Jul 2024

: 12 Jul 2024 - Kevin Marson

CA K0C 1W0 Contact: Charles Bergeron cbergeron@gflenv.com T: (613)538-4853

17125 Lafleche Road,

Moose Creek, ON

Validity of results and interpretation are based on the sample and information as supplied. Report Id: GFL720 [WCAMIS] 02647418 (Generated: 07/12/2024 09:57:27) Rev: 1

Submitted By: Charles Bergeron