

# **OIL ANALYSIS REPORT**

Sample Rating Trend

# SEDIMENT

Machine Id

## 920097-260370

Transmission (Auto)

Fluid PETRO CANADA DuraDrive HD Synthetic 668 (--- GAL)

### DIAGNOSIS

### Recommendation

The filter change at the time of sampling has been noted.

### Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of visible silt present in the sample.

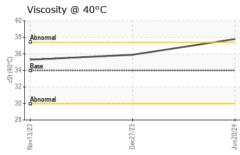
### Fluid Condition

The condition of the fluid is acceptable for the time in service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0122911	GFL0102502	GFL0098616
Sample Date		Client Info		20 Jun 2024	27 Dec 2023	13 Nov 2023
Machine Age	hrs	Client Info		10380	9447	9164
Oil Age	hrs	Client Info		9447	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>160	48	56	76
Chromium	ppm	ASTM D5185m	>5	0	<1	0
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>50	16	18	27
Lead	ppm	ASTM D5185m	>50	18	25	30
Copper	ppm	ASTM D5185m	>225	17	24	30
Tin	ppm	ASTM D5185m	>10	2	3	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		28	43	56
Barium	ppm	ACTM DE10Em		-		0
Bunum	ppin	ASTM D5185m		0	1	0
	ppm	ASTM D5185m ASTM D5185m		0	1	0
Molybdenum				-		
Molybdenum Manganese	ppm	ASTM D5185m		0	1	0
Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m		0 <1	1 <1	0 0
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 0	1 <1 6	0 0 2
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 0 119	1 <1 6 122	0 0 2 117
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 0 119 309	1 <1 6 122 277	0 0 2 117 269
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 <1 0 119 309 257 1590	1 <1 6 122 277 147	0 0 2 117 269 153
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		0 <1 0 119 309 257 1590	1 <1 6 122 277 147 1380	0 0 2 117 269 153 1210
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		0 <1 0 119 309 257 1590 current	1 <1 6 122 277 147 1380 history1	0 2 117 269 153 1210 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	>20	0 <1 0 119 309 257 1590 current 9	1 <1 6 122 277 147 1380 history1 6	0 0 2 117 269 153 1210 history2 7
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20	0 <1 0 119 309 257 1590 current 9 3 2	1 <1 6 122 277 147 1380 history1 6 2	0 0 2 117 269 153 1210 history2 7 5
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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	>20 >20	0 <1 0 119 309 257 1590 current 9 3 2	1 <1 6 122 277 147 1380 history1 6 2 2 2	0 0 2 117 269 153 1210 history2 7 5 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >20 limit/base	0 <1 0 119 309 257 1590 current 9 3 2 2 current	1 <1 6 122 277 147 1380 history1 6 2 2 2 history1	0 0 2 117 269 153 1210 history2 7 5 0 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	>20 >20 limit/base NONE	0 <1 0 119 309 257 1590 current 9 3 2 2 current NONE	1 <1 6 122 277 147 1380 history1 6 2 2 2 <i>history1</i> NONE	0 0 2 117 269 153 1210 history2 7 5 0 history2 NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Yisual	>20 >20 limit/base NONE NONE	0 <1 0 119 309 257 1590 current 9 3 2 2 current NONE NONE	1 <1 6 122 277 147 1380 history1 6 2 2 2 <i>history1</i> NONE NONE	0 0 2 117 269 153 1210 history2 7 5 0 history2 NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm 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 *Visual *Visual	>20 >20 limit/base NONE NONE NONE	0 <1 0 119 309 257 1590 current 9 3 2 2 current NONE NONE NONE	1 <1 6 122 277 147 1380 history1 6 2 2 2 history1 NONE NONE NONE NONE	0 0 2 117 269 153 1210 history2 7 5 0 history2 NONE NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE	0 <1 0 119 309 257 1590 current 9 3 2 2 current NONE NONE NONE NONE	1 <1 6 122 277 147 1380 history1 6 2 2 2 history1 NONE NONE NONE NONE NONE	0 0 2 117 269 153 1210 history2 7 5 0 history2 NONE NONE NONE NONE LIGHT
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE	0 <1 0 119 309 257 1590 current 9 3 2 2 current NONE NONE NONE NONE NONE NONE NONE	1 <1 6 122 277 147 1380 history1 6 2 2 2 history1 NONE NONE NONE NONE NONE NONE NONE	0 0 2 117 269 153 1210 history2 7 5 0 history2 NONE NONE NONE NONE LIGHT NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm 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 *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE	0 <1 0 119 309 257 1590 current 9 3 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	1 <1 6 122 277 147 1380 history1 6 2 2 2 history1 NONE NONE NONE NONE NONE NONE NONE NON	0 0 2 117 269 153 1210 history2 7 5 0 history2 NONE NONE NONE LIGHT NONE LIGHT NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NONE	0 <1 0 119 309 257 1590 current 9 3 2 current 9 3 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>6</li> <li>122</li> <li>277</li> <li>147</li> <li>1380</li> <li>history1</li> <li>6</li> <li>2</li> <li>2</li> <li>history1</li> <li>NONE</li> <li>NORML</li> </ul>	0 0 2 117 269 153 1210 history2 7 5 0 history2 NONE NONE NONE LIGHT NONE LIGHT NONE NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm 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 *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	>20 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NONE NONE	0 <1 0 119 309 257 1590 current 9 3 2 2 current NONE NONE NONE NONE NONE NONE NONE NON	1 <ul> <li>&lt;1</li> <li>&lt;1</li> <li>6</li> <li>122</li> <li>277</li> <li>147</li> <li>1380</li> <li>history1</li> <li>6</li> <li>2</li> <li>2</li> <li>history1</li> <li>NONE</li> <li>NORE</li> <li>NORML</li> <li>NORML</li> </ul>	0 0 2 117 269 153 1210 history2 7 5 0 history2 NONE NONE NONE LIGHT NONE LIGHT NONE NONE NONE NONE



# **OIL ANALYSIS REPORT**



0.2 0	ERTIES	method	limit/base	current	history1	history
Visc @ 40°C	cSt	ASTM D445	34	37.8	35.9	35.3
SAMPLE IMA	GES	method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image
GRAPHS						۵. 
Ferrous Alloys						
70 - iron						
60 - nickel						
50-						
§ 40 -						
30						
10						
0						
Nov13/23	Dec27/23		Jun20/24			
≊ Non-ferrous Meta			٦٢			
30 Cooper. 1						
25 - Lead	States of the Owner of the Owne	44m				
20 -		COMPOSITION CONTRACTOR	TRANSPORT OF THE OWNER			
톱 15 -						
10						
5						
Vov13/23	Dec27/23 -		Jun20/24 -			
-			Junž			
Viscosity @ 40°C						
38 Abnormal			_			
37- 36-						
35 Base Base						
34 - Base 333						
32 - 31-						
30 - Abnormal						
29						
29 28 EZ/E1/00N	Dec27/23		Jun20/24 -			

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

\* - 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)

Certificate L2367

spatrick@gflenv.com

T:

F: