

**OIL ANALYSIS REPORT** 

Machine Id **10699** 

Component

**Transmission (Auto)** 

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

# Sample Rating Trend



# DIAGNOSIS

# Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

## Contamination

There is no indication of any contamination in the

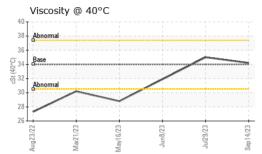
# **Fluid Condition**

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

Sample Number     Client Info     GFL0094329     GFL0088783     GFL00       Sample Date     Client Info     14 Sep 2023     29 Jul 2023     08 Jur       Machine Age     hrs     Client Info     1948     1935     1926       Oil Age     hrs     Client Info     921     908     902       Oil Changed     Client Info     Not Changd	
Sample Date     Client Info     14 Sep 2023     29 Jul 2023     08 Jur       Machine Age     hrs     Client Info     1948     1935     1926       Oil Age     hrs     Client Info     921     908     902       Oil Changed     Client Info     Not Changd     Not Changd     Not Changd     Not Changd       Sample Status     Normal     Normal     Normal     Normal     Normal       WEAR METALS     method     limit/base     current     history1     hi       Iron     ppm     ASTM D5185m     >160     37     36     • 548       Chromium     ppm     ASTM D5185m     >5     0     <1     2       Nickel     ppm     ASTM D5185m     >5     0     <1     1       Silver     ppm     ASTM D5185m     >5     0     0     0       Lead     ppm     ASTM D5185m     >50     8     9     152       Lead     ppm     ASTM D5185m     >20     0     0     0	story2
Machine Age     hrs     Client Info     1948     1935     1926       Oil Age     hrs     Client Info     921     908     902       Oil Changed     Client Info     Not Changd     Not Changd     Not Changd     Not Client Info       WEAR METALS     method     limit/base     current     history1     history1     history1       Iron     ppm     ASTM D5185m     >160     37     36     548       Chromium     ppm     ASTM D5185m     >5     0     <1	08323
Oil Age     hrs     Client Info     921     908     902       Oil Changed     Client Info     Not Changd     Not Changd     Not Changd     Not Changd       Sample Status     NORMAL     NORMAL     NORMAL     SEVE       WEAR METALS     method     limit/base     current     history1     hi       Irron     ppm     ASTM D5185m     >160     37     36     548       Chromium     ppm     ASTM D5185m     >5     0     <1	n 2023
Oil Changed Sample Status     Client Info     Not Changd NORMAL     164     164     24     164     24     1     164     24     164     24     1     164	
Oil Changed Sample Status     Client Info     Not Changd NORMAL     164     164     24     164     24     1     164     24     164     24     1     164	
Sample Status     NORMAL     NORMAL     SEVE       WEAR METALS     method     limit/base     current     history1     hi       Iron     ppm     ASTM D5185m     >160     37     36     548       Chromium     ppm     ASTM D5185m     >5     0     <1	nangd
Iron	RE
Chromium     ppm     ASTM D5185m     >5     0     <1     2       Nickel     ppm     ASTM D5185m     >5     0     <1     1       Titanium     ppm     ASTM D5185m     >5     0     <1     1       Silver     ppm     ASTM D5185m     >5     0     0     0       Aluminum     ppm     ASTM D5185m     >50     8     9     152       Lead     ppm     ASTM D5185m     >50     0     0     0       Copper     ppm     ASTM D5185m     >50     0     0     0       Tin     ppm     ASTM D5185m     >10     0     0     1       Vanadium     ppm     ASTM D5185m     >10     0     0     1       Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     50     86     55       Barium     ppm     ASTM D5185m     0     0     0       Moly	story2
Nickel     ppm     ASTM D5185m     >5     0     <1     1       Titanium     ppm     ASTM D5185m     <1	3
Titanium     ppm     ASTM D5185m     <1     0     <1       Silver     ppm     ASTM D5185m     >5     0     0     0       Aluminum     ppm     ASTM D5185m     >50     8     9     152       Lead     ppm     ASTM D5185m     >50     0     0     0     0       Copper     ppm     ASTM D5185m     >22.5     33     31     150       Tin     ppm     ASTM D5185m     >10     0     0     1       Vanadium     ppm     ASTM D5185m     >10     0     0     1       Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     hi       Boron     ppm     ASTM D5185m     0     0     0       Barium     ppm     ASTM D5185m     0     0     0       Mangaese	
Silver   ppm   ASTM D5185m   >5   0   0   0     Aluminum   ppm   ASTM D5185m   >50   8   9   ● 152     Lead   ppm   ASTM D5185m   >50   0   0   0     Copper   ppm   ASTM D5185m   >225   33   31   150     Tin   ppm   ASTM D5185m   >10   0   0   1     Vanadium   ppm   ASTM D5185m   <10   0   0   1     Vanadium   ppm   ASTM D5185m   0   0   0   0     Cadmium   ppm   ASTM D5185m   50   86   55     Boron   ppm   ASTM D5185m   0   0   0     Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   1   1   1     Magnesium   ppm   ASTM D5185m   0   1   1   1     Calcium   ppm   ASTM D5185m   246   227   276     Zinc	
Silver   ppm   ASTM D5185m   >5   0   0   0     Aluminum   ppm   ASTM D5185m   >50   8   9   ● 152     Lead   ppm   ASTM D5185m   >50   0   0   0     Copper   ppm   ASTM D5185m   >225   33   31   150     Tin   ppm   ASTM D5185m   >10   0   0   1     Vanadium   ppm   ASTM D5185m   <10   0   0   1     Vanadium   ppm   ASTM D5185m   0   0   0   0     Cadmium   ppm   ASTM D5185m   50   86   55     Boron   ppm   ASTM D5185m   0   0   0     Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   1   1   1     Magnesium   ppm   ASTM D5185m   0   1   1   1     Calcium   ppm   ASTM D5185m   246   227   276     Zinc	
Aluminum     ppm     ASTM D5185m     >50     8     9     ● 152       Lead     ppm     ASTM D5185m     >50     0     0     0       Copper     ppm     ASTM D5185m     >225     33     31     150       Tin     ppm     ASTM D5185m     >10     0     0     1       Vanadium     ppm     ASTM D5185m     >10     0     0     -1       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     hi       Boron     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     -1     -1       Manganese     ppm     ASTM D5185m     0     1     -1       Magnesium     ppm     ASTM D5185m     0     1     1       Calcium     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5	
Lead     ppm     ASTM D5185m     >50     0     0     0       Copper     ppm     ASTM D5185m     >225     33     31     150       Tin     ppm     ASTM D5185m     >10     0     0     1       Vanadium     ppm     ASTM D5185m     <1     0     <1       Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     hi       Boron     ppm     ASTM D5185m     50     86     55       Barium     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1     <1       Magnesium     ppm     ASTM D5185m     0     1     1       Calcium     ppm     ASTM D5185m     0     1     1       Phosphorus     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5185m     0     1     1 </td <td>)</td>	)
Copper     ppm     ASTM D5185m     >225     33     31     150       Tin     ppm     ASTM D5185m     >10     0     0     1       Vanadium     ppm     ASTM D5185m     >10     0     0     1       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     hi       Boron     ppm     ASTM D5185m     50     86     55       Barium     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1	
Tin     ppm     ASTM D5185m     >10     0     0     1       Vanadium     ppm     ASTM D5185m     <1     0     <1       Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     hi       Boron     ppm     ASTM D5185m     50     86     55       Barium     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1     <1     <1       Manganese     ppm     ASTM D5185m     0     1     1        Magnesium     ppm     ASTM D5185m     0     1     1     1       Calcium     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     20     8     9     94       CONTAMINANTS method     limit/base <t< td=""><td>)</td></t<>	)
Vanadium     ppm     ASTM D5185m     <1     0     <1       Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     hi       Boron     ppm     ASTM D5185m     50     86     55       Barium     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1     <1     <1       Manganese     ppm     ASTM D5185m     0     1     1         Magnesium     ppm     ASTM D5185m     0     1     1     1       Calcium     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     20     8     9     94       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m </td <td></td>	
Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     hi       Boron     ppm     ASTM D5185m     50     86     55       Barium     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1	
Boron     ppm     ASTM D5185m     50     86     55       Barium     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1     <1     <1       Manganese     ppm     ASTM D5185m     <1     <1     <1     5       Magnesium     ppm     ASTM D5185m     0     1     1     1       Calcium     ppm     ASTM D5185m     136     125     121       Phosphorus     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     94       Sodium     ppm     ASTM D5185m     >20     3     2     4	
Barium     ppm     ASTM D5185m     0     0     0       Molybdenum     ppm     ASTM D5185m     0     <1	story2
Molybdenum     ppm     ASTM D5185m     0     <1     <1       Manganese     ppm     ASTM D5185m     <1     <1     5       Magnesium     ppm     ASTM D5185m     0     1     1     1       Calcium     ppm     ASTM D5185m     136     125     121     125     121       Phosphorus     ppm     ASTM D5185m     246     227     276     276       Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     94       Sodium     ppm     ASTM D5185m     >20     3     2     4       Potassium     ppm     ASTM D5185m     >20     3     2     4	
Manganese     ppm     ASTM D5185m     <1     <1     5       Magnesium     ppm     ASTM D5185m     0     1     1       Calcium     ppm     ASTM D5185m     136     125     121       Phosphorus     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     94       Sodium     ppm     ASTM D5185m     20     3     2     4	
Magnesium     ppm     ASTM D5185m     0     1     1       Calcium     ppm     ASTM D5185m     136     125     121       Phosphorus     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     ● 94       Sodium     ppm     ASTM D5185m     >20     3     2     4	
Calcium     ppm     ASTM D5185m     136     125     121       Phosphorus     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     ● 94       Sodium     ppm     ASTM D5185m     4     1     6       Potassium     ppm     ASTM D5185m     >20     3     2     4	
Phosphorus     ppm     ASTM D5185m     246     227     276       Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     ● 94       Sodium     ppm     ASTM D5185m     4     1     6       Potassium     ppm     ASTM D5185m     >20     3     2     4	
Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     ● 94       Sodium     ppm     ASTM D5185m     4     1     6       Potassium     ppm     ASTM D5185m     >20     3     2     4	
Zinc     ppm     ASTM D5185m     0     11     98       Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     ● 94       Sodium     ppm     ASTM D5185m     4     1     6       Potassium     ppm     ASTM D5185m     >20     3     2     4	ò
Sulfur     ppm     ASTM D5185m     1342     1268     102       CONTAMINANTS     method     limit/base     current     history1     hi       Silicon     ppm     ASTM D5185m     >20     8     9     ● 94       Sodium     ppm     ASTM D5185m     4     1     6       Potassium     ppm     ASTM D5185m     >20     3     2     4	
Silicon     ppm     ASTM D5185m     >20     8     9     94       Sodium     ppm     ASTM D5185m     4     1     6       Potassium     ppm     ASTM D5185m     >20     3     2     4	27
Sodium     ppm     ASTM D5185m     4     1     6       Potassium     ppm     ASTM D5185m     >20     3     2     4	story2
Potassium     ppm     ASTM D5185m     >20     3     2     4	
\/ C  A	
VISUAL method limit/base current history1 hi	story2
White Metal scalar *Visual NONE NONE △ MO	DER
Yellow Metal     scalar     *Visual     NONE     NONE     NONE     NONE	NE
Precipitate scalar *Visual NONE NONE NONE NO	NE
Silt scalar *Visual NONE NONE NONE NO	NE
Debris scalar *Visual NONE NONE NONE NO	NE
Sand/Dirt scalar *Visual NONE NONE NONE NO	NE
Appearance scalar *Visual NORML NORML NORML NO	RML
Odor scalar *Visual NORML NORML NORML NO	RML
Emulsified Water scalar *Visual >0.1 NEG NEG NEG	G
Free Water scalar *Visual NEG NEG NEG	G
FLUID PROPERTIES method limit/base current history1 hi	story2
Visc @ 40°C	

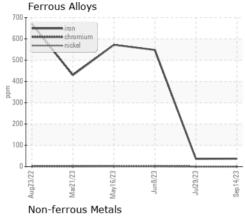


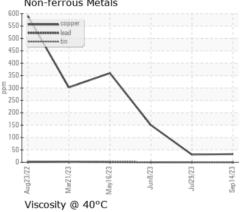
# **OIL ANALYSIS REPORT**

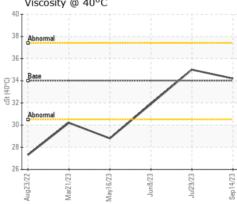


SAMPLE IMAGES	S method	limit/base	current	history1	history2
Color			no image	no image	no image
Bottom			no image	no image	no image

# **GRAPHS**









Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10655670 Test Package : FLEET

: GFL0094329 : 05954457

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 18 Sep 2023 Diagnosed : 20 Sep 2023 Diagnostician : Jonathan Hester

GFL Environmental - 010 - Stockbridge 1280 Rum Creek Parkway

Stockbridge, GA US 30281

Contact: JOSHUA TINKER joshuatinker@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)