

## **OIL ANALYSIS REPORT**

Sample Rating Trend

### NORMAL

### Area SCHTRUCK 6503 [SCHTRUCK]

**Front Center Diesel Engine** 

Fluid PETRO CANADA DURON SHP 15W40 (10 GAL)

#### 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 suitable for further service.

| SAMPLE INFORM   | 1ATION   | method   | limit/base  | current  | history1  | history2   |
|---|--|--|---|--|---|--|
| Sample Number   |  | Client Info  |   | SBP0007770   | SBP0007018  | SBP0006005   |
| Sample Date   |  | Client Info  |   | 12 Jul 2024  | 29 Mar 2024   | 21 Nov 2023  |
| Machine Age   | hrs  | Client Info  |   | 114063   | 74860   | 36813  |
| Oil Age   | hrs  | Client Info  |   | 39203  | 38047   | 36813  |
| Oil Changed   |  | Client Info  |   | Changed  | Changed   | Changed  |
| Sample Status   |  |  |   | NORMAL   | NORMAL  | ABNORMAL   |
| CONTAMINATION   | ١  | method   | limit/base  | current  | history1  | history2   |
| Fuel  |  | WC Method  | >3.0  | <1.0   | <1.0  | 0.0  |
| Water   |  | WC Method  | >0.2  | NEG  | NEG   | NEG  |
| Glycol  |  | WC Method  | 20.2  | NEG  | NEG   | NEG  |
| WEAR METALS   |  | method   | limit/base  | current  | history1  | history2   |
|   |  |  |   |  |   |  |
| Iron  | ppm  | ASTM D5185m  | >65   | 27<br>2  | 52<br>2   | 108  |
| Chromium  | ppm  | ASTM D5185m  | >5  |  |   | 6  |
| Nickel<br>Titanium  | ppm  | ASTM D5185m  | >3  | <1   | 0   | 2  |
| Silver  | ppm  | ASTM D5185m  |   | 0  | 0   | <1   |
|   | ppm  | ASTM D5185m  | >2  | 0<br>12  | 37  | 76   |
| Aluminum  | ppm  | ASTM D5185m  |   |  |   | <1   |
| Lead  | ppm  | ASTM D5185m  | >10   | 0<br>22  | 0   |  |
| Copper  | ppm  | ASTM D5185m  |   |  | 38<br><1  | ▲ 254<br>4   |
| Tin   | ppm  | ASTM D5185m  | >8  | <1   | < 1   |  |
| Vanadium  | ppm  | ASTM D5185m  |   | 0  |   | <1   |
| Cadmium   | ppm  | ASTM D5185m  |   | 0  | 0   | 0  |
|   |  |  |   |  |   |  |
| ADDITIVES   |  | method   | limit/base  | current  | history1  | history2   |
| ADDITIVES<br>Boron  | ppm  | ASTM D5185m  | 0   | 10   | 2   | 37   |
|   | ppm<br>ppm   |  | 0   | 10<br>0  | 2<br>0  | 37<br>0  |
| Boron<br>Barium<br>Molybdenum   | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 0<br>0<br>60  | 10<br>0<br>54  | 2<br>0<br>55  | 37<br>0<br>45  |
| Boron<br>Barium<br>Molybdenum<br>Manganese  | ppm  | ASTM D5185m<br>ASTM D5185m   | 0<br>0<br>60<br>0   | 10<br>0<br>54<br>0   | 2<br>0<br>55<br><1  | 37<br>0<br>45<br>5   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 0<br>0<br>60<br>0<br>1010   | 10<br>0<br>54<br>0<br>795  | 2<br>0<br>55<br><1<br>926   | 37<br>0<br>45<br>5<br>551  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 0<br>0<br>60<br>0<br>1010<br>1070   | 10<br>0<br>54<br>0<br>795<br>1292  | 2<br>0<br>55<br><1<br>926<br>1242   | 37<br>0<br>45<br>5<br>551<br>1745  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 0<br>0<br>60<br>0<br>1010<br>1070<br>1150   | 10<br>0<br>54<br>0<br>795<br>1292<br>825   | 2<br>0<br>55<br><1<br>926<br>1242<br>905  | 37<br>0<br>45<br>5<br>551<br>1745<br>765   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 0<br>0<br>60<br>0<br>1010<br>1070<br>1150<br>1270   | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097   | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156  | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 0<br>0<br>60<br>0<br>1010<br>1070<br>1150   | 10<br>0<br>54<br>0<br>795<br>1292<br>825   | 2<br>0<br>55<br><1<br>926<br>1242<br>905  | 37<br>0<br>45<br>5<br>551<br>1745<br>765   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 0<br>0<br>60<br>0<br>1010<br>1070<br>1150<br>1270   | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097   | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156  | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 0<br>0<br>60<br>0<br>1010<br>1070<br>1150<br>1270<br>2060   | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958   | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400  | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 0<br>0<br>60<br>1010<br>1070<br>1150<br>1270<br>2060  | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br>current  | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1  | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br>history2  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon   | ppm                            | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 0<br>0<br>60<br>0<br>1010<br>1070<br>1150<br>1270<br>2060<br><b>limit/base</b><br>>15   | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br>current<br>5   | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1<br>5   | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br>history2<br>10  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium   | ppm                            | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 0<br>0<br>60<br>0<br>1010<br>1070<br>1150<br>1270<br>2060<br><b>limit/base</b><br>>15   | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br>current<br>5<br>2  | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1<br>5<br>4  | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br>history2<br>10<br>9   |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium  | ppm                            | ASTM D5185m<br>ASTM D5185m  | 0<br>0<br>60<br>0<br>1010<br>1070<br>1150<br>1270<br>2060<br><b>limit/base</b><br>>15<br>>20  | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br><u>current</u><br>5<br>2<br>2  | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1<br>5<br>4<br>80  | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br>history2<br>10<br>9<br>172  |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED                                     | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m<br>ASTM D5185m   | 0<br>0<br>0<br>1010<br>1070<br>1150<br>1270<br>2060<br>2060<br>215<br>>15<br>>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>2 | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br>current<br>5<br>2<br>2<br>24<br>current                                      | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1<br>5<br>4<br>80<br>history1                                    | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br>history2<br>10<br>9<br>172<br>history2                                      |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %                           | ppm                            | ASTM D5185m<br>ASTM D5185m                              | 0<br>0<br>0<br>1010<br>1070<br>1150<br>1270<br>2060<br>2060<br>215<br>>15<br>>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>20<br>2 | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br>current<br>5<br>2<br>2<br>24<br>24<br>current                                | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1<br>5<br>4<br>80<br>history1<br>0.7                             | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br>history2<br>10<br>9<br>172<br>history2<br>0.6                               |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration              | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m                              | 0<br>0<br>0<br>1010<br>1070<br>1150<br>1270<br>2060<br>2060<br>2060<br>215<br>220<br>200<br>200<br>200<br>200<br>200<br>200<br>200<br>200<br>20               | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br>current<br>5<br>2<br>24<br>24<br>current<br>0.5<br>9.4                       | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1<br>5<br>4<br>80<br>history1<br>0.7<br>10.1                     | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br>history2<br>10<br>9<br>172<br>history2<br>0.6<br>11.5                       |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration<br>Sulfation | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D5185m               | 0<br>0<br>0<br>1010<br>1070<br>1150<br>1270<br>2060<br><b>Imit/base</b><br>>20<br><b>Imit/base</b><br>>3<br>>20<br>>30  | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br><b>current</b><br>5<br>2<br>24<br>24<br><b>current</b><br>0.5<br>9.4<br>22.1 | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1<br>5<br>4<br>80<br>history1<br>0.7<br>10.1<br>21.9             | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br><b>history2</b><br>10<br>9<br>172<br><b>history2</b><br>0.6<br>11.5<br>23.9 |
| Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINANTS<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration<br>Sulfation | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D7844<br>*ASTM D7624 | 0<br>0<br>0<br>1010<br>1070<br>1150<br>1270<br>2060<br>2060<br>2060<br>2060<br>2060<br>2060<br>2060<br>2  | 10<br>0<br>54<br>0<br>795<br>1292<br>825<br>1097<br>1958<br>current<br>5<br>2<br>24<br>24<br>current<br>0.5<br>9.4<br>22.1<br>current    | 2<br>0<br>55<br><1<br>926<br>1242<br>905<br>1156<br>2400<br>history1<br>5<br>4<br>80<br>history1<br>0.7<br>10.1<br>21.9<br>history1 | 37<br>0<br>45<br>5<br>551<br>1745<br>765<br>930<br>1878<br>history2<br>10<br>9<br>172<br>history2<br>0.6<br>11.5<br>23.9<br>history2   |



6. umber 4. Base

20

18

В Abnorm

(100-00) 14 12

10

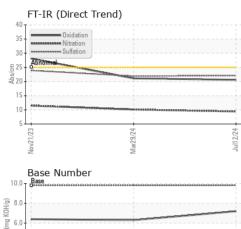
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Nov21/23

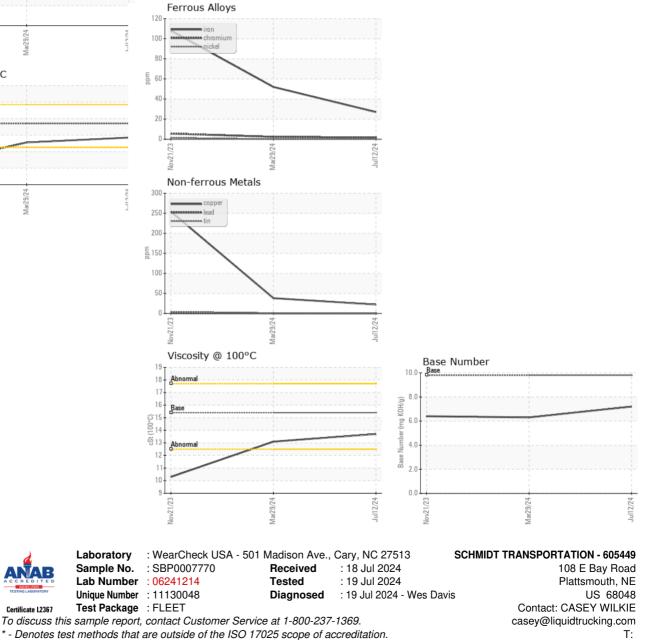
Viscosity @ 100°C

# **OIL ANALYSIS REPORT**



Mar29/24

| VISUAL           |        | method    | limit/base | current | nistory i | nistory2 |
|------------------|--------|-----------|------------|---------|-----------|----------|
| 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   | NONE       | NONE    | NONE      | NONE     |
| Appearance       | scalar | *Visual   | NORML      | NORML   | NORML     | NORML    |
| Odor             | scalar | *Visual   | NORML      | NORML   | NORML     | NORML    |
| Emulsified Water | scalar | *Visual   | >0.2       | NEG     | NEG       | NEG      |
| Free Water       | scalar | *Visual   |            | NEG     | NEG       | NEG      |
| FLUID PROPERT    | IES    | method    | limit/base | current | history1  | history2 |
| Visc @ 100°C     | cSt    | ASTM D445 | 15.4       | 13.7    | 13.1      | 0.3      |
|                  |        |           |            |         |           |          |



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

Certificate 12367

F: