

# **OIL ANALYSIS REPORT**

## (TEMP) Dixon Transport-Tractor [Dixon Transport-Tractor] 325A325504 Component

**Diesel Engine** Eluid

PETRO CANADA DURON SHP 10W30 (11 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 Rating Trend

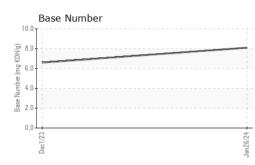


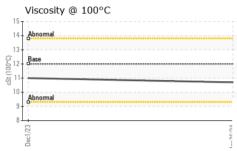
| SAMPLE INFORI  | MATION   | method  | limit/base  | current   | history1  | history2   |
|--|--|---|---|---|---|--|
| Sample Number  |  | Client Info   |   | PCA0114339  | PCA0114320  |  |
| Sample Date  |  | Client Info   |   | 26 Jan 2024   | 01 Dec 2023   |  |
| Machine Age  | mls  | Client Info   |   | 207571  | 189812  |  |
| Oil Age  | mls  | Client Info   |   | 17759   | 35394   |  |
| Oil Changed  | 11113  | Client Info   |   | Not Changd  | Changed   |  |
| Sample Status  |  |   |   | NORMAL  | NORMAL  |  |
| ·  |  |   |   | NORMAL  | -   |  |
| CONTAMINAT   | ION  | method  | limit/base  | current   | history1  | history2   |
| Fuel   |  | WC Method   | >5  | <1.0  | <1.0  |  |
| Water  |  | WC Method   | >0.2  | NEG   | NEG   |  |
| Glycol   |  | WC Method   |   | NEG   | NEG   |  |
| WEAR METAL   | S  | method  | limit/base  | current   | history1  | history2   |
| Iron   | ppm  | ASTM D5185m   | >80   | 13  | 19  |  |
| Chromium   | ppm  | ASTM D5185m   | >5  | 1   | 1   |  |
| Nickel   | ppm  | ASTM D5185m   | >2  | <1  | 0   |  |
| Titanium   | ppm  | ASTM D5185m   |   | <1  | 0   |  |
| Silver   | ppm  | ASTM D5185m   | >3  | 0   | 0   |  |
| Aluminum   | ppm  | ASTM D5185m   | >30   | 4   | 6   |  |
| Lead   | ppm  | ASTM D5185m   | >30   | 0   | <1  |  |
| Copper   | ppm  | ASTM D5185m   | >150  | 7   | 22  |  |
| Tin  | ppm  | ASTM D5185m   | >5  | ۔<br><1   | 0   |  |
| Vanadium   | ppm  | ASTM D5185m   |   | <1  | 0   |  |
| Cadmium  | ppm  | ASTM D5185m   |   | 0   | 0   |  |
| ADDITIVES  | 11   | method  | limit/base  | current   | history1  | history2   |
| Boron  |  | ASTM D5185m   | 2   |   |   |  |
| Богоп  | ppm  | ASTIVI DOTIODITI  | _   | 10  | <1  |  |
| Dorium   | nnm  | ACTM DE10Em   | 0   |   | $\cap$  |  |
| Barium   | ppm  | ASTM D5185m   | 0   | 0   | 0   |  |
| Molybdenum   | ppm  | ASTM D5185m   | 50  | 64  | 59  |  |
| Molybdenum<br>Manganese  | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m  | 50<br>0   | 64<br><1  | 59<br>0   |  |
| Molybdenum<br>Manganese<br>Magnesium   | ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 50<br>0<br>950  | 64<br><1<br>1040  | 59<br>0<br>1076   |  |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium  | ppm<br>ppm<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 50<br>0<br>950<br>1050  | 64<br><1<br>1040<br>1136  | 59<br>0<br>1076<br>1227   |  |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus  | ppm<br>ppm<br>ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 50<br>0<br>950<br>1050<br>995   | 64<br><1<br>1040<br>1136<br>1078  | 59<br>0<br>1076<br>1227<br>1089   |  |
| 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   | 50<br>0<br>950<br>1050<br>995<br>1180   | 64<br><1<br>1040<br>1136<br>1078<br>1296  | 59<br>0<br>1076<br>1227<br>1089<br>1246   | <br><br><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   | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600   | 64<br><1<br>1040<br>1136<br>1078  | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426   |  |
| 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   | 50<br>0<br>950<br>1050<br>995<br>1180   | 64<br><1<br>1040<br>1136<br>1078<br>1296  | 59<br>0<br>1076<br>1227<br>1089<br>1246   | <br><br><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  | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600   | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030  | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426   |  |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN  | 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   | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>limit/base</b>  | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current   | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1   | <br><br><br><br><br>history2   |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>limit/base</b>  | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current<br>3  | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1<br>5  | <br><br><br><br>history2   |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                                    | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>limit/base</b><br>>20   | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current<br>3<br>2   | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1<br>5<br><   | <br><br><br><br>history2<br>   |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS                                    | 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   | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>limit/base</b><br>>20   | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current<br>3<br>2<br>4  | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1<br>5<br><<br><1<br>9  | <br><br><br><br>history2<br><br>   |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<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<br>ASTM D5185m<br>ASTM D5185m  | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>imit/base</b><br>>20  | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current<br>3<br>2<br>4<br>current   | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1<br>5<br><1<br>9<br>history1                                   | <br><br><br><br>history2<br><br><br>history2                                     |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm                      | ASTM D5185m<br>ASTM D5185m   | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>imit/base</b><br>>20<br><b>imit/base</b><br>>3                      | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current<br>3<br>2<br>4<br>current<br>0.4                                  | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1<br>5<br><1<br>9<br>history1<br>0.7                            | <br><br><br><br>history2<br><br><br>history2                                     |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<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   | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>imit/base</b><br>>20<br><b>imit/base</b><br>>20<br><b>imit/base</b> | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current<br>3<br>2<br>4<br>current<br>0.4<br>7.5                           | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1<br>5<br><1<br>9<br>history1<br>0.7<br>9.2                     | <br><br><br><br><br>history2<br><br>history2<br><br>history2                     |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<br>Silicon<br>Sodium<br>Potassium<br>INFRA-RED<br>Soot %<br>Nitration<br>Sulfation<br>FLUID DEGRAD | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>TS<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>ASTM D7844<br>*ASTM D7844<br>*ASTM D7624 | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br>imit/base<br>>20<br>20<br>imit/base<br>>3<br>>20<br>30<br>imit/base    | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current<br>3<br>2<br>4<br><u>current</u><br>0.4<br>7.5<br>18.9<br>current | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1<br>5<br><1<br>9<br>history1<br>0.7<br>9.2<br>21.5<br>history1 | <br><br><br><br><br>history2<br><br>history2<br><br>history2<br><br><br>history2 |
| Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc<br>Sulfur<br>CONTAMINAN<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 D7844                | 50<br>0<br>950<br>1050<br>995<br>1180<br>2600<br><b>imit/base</b><br>>20<br>>20<br><b>imit/base</b><br>>3<br>>20<br>>30 | 64<br><1<br>1040<br>1136<br>1078<br>1296<br>3030<br>current<br>3<br>2<br>4<br>current<br>0.4<br>7.5<br>18.9                   | 59<br>0<br>1076<br>1227<br>1089<br>1246<br>2426<br>history1<br>5<br><1<br>9<br>history1<br>0.7<br>9.2<br>21.5             | <br><br><br><br>history2<br><br><br>history2<br><br>history2                     |



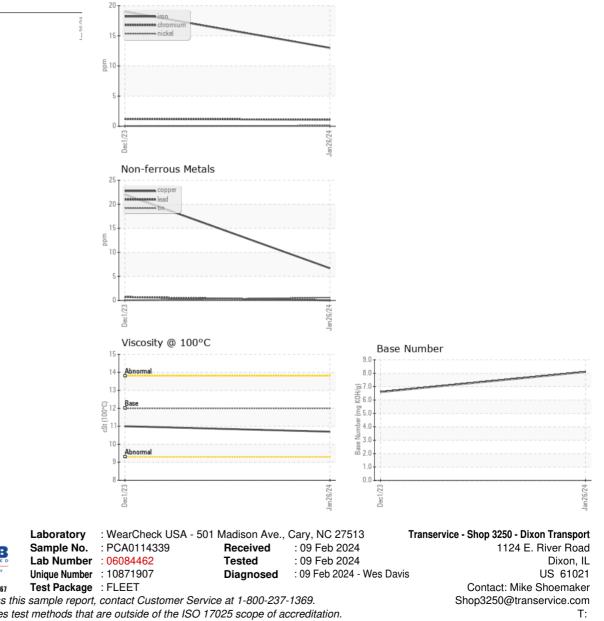
# **OIL ANALYSIS REPORT**

Ferrous Alloys





| VISUAL           |        | method    | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual   | NONE       | NONE    | 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   | >0.2       | NEG     | NEG      |          |
| Free Water       | scalar | *Visual   |            | NEG     | NEG      |          |
| FLUID PROPE      | RTIES  | method    | limit/base | current | history1 | history2 |
| Visc @ 100°C     | cSt    | ASTM D445 | 12.00      | 10.7    | 11.0     |          |
| GRAPHS           |        |           |            |         |          |          |





Certificate L2367 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)

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