

# **OIL ANALYSIS REPORT**



# G.LOPES CONSTRUCTION INC./Off-Road

L00

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- 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**

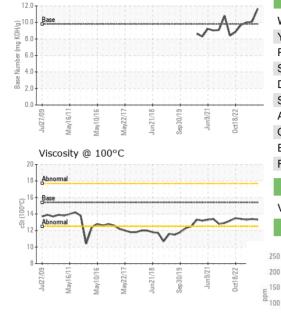
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORI    | MAT <u>ION</u> | method      | limit/base | current     | history1    | history2    |
|------------------|----------------|-------------|------------|-------------|-------------|-------------|
| Sample Number    |                | Client Info |            | PCA0098488  | PCA0083257  | PCA0090640  |
| Sample Date      |                | Client Info |            | 15 Aug 2023 | 24 May 2023 | 22 Mar 2023 |
| Machine Age      | hrs            | Client Info |            | 34603       | 34603       | 34603       |
| Oil Age          | hrs            | Client Info |            | 34603       | 34603       | 34603       |
| Oil Changed      |                | Client Info |            | N/A         | N/A         | N/A         |
| Sample Status    |                |             |            | NORMAL      | NORMAL      | NORMAL      |
| CONTAMINAT       | ION            | method      | limit/base | current     | history1    | history2    |
| Fuel             |                | WC Method   | >5         | <1.0        | <1.0        | <1.0        |
| Glycol           |                | WC Method   |            | NEG         | NEG         | NEG         |
| WEAR METAL       | S              | method      | limit/base | current     | history1    | history2    |
| Iron             | ppm            | ASTM D5185m | >100       | 15          | 13          | 13          |
| Chromium         | ppm            | ASTM D5185m | >20        | <1          | <1          | <1          |
| Nickel           | ppm            | ASTM D5185m | >2         | <1          | 0           | <1          |
| Titanium         | ppm            | ASTM D5185m | >2         | 1           | <1          | <1          |
| Silver           | ppm            | ASTM D5185m | >2         | 0           | 0           | 0           |
| Aluminum         | ppm            | ASTM D5185m | >25        | 2           | 0           | 1           |
| Lead             | ppm            | ASTM D5185m | >40        | 10          | 5           | 5           |
| Copper           | ppm            | ASTM D5185m | >330       | 11          | 5           | 6           |
| Tin              | ppm            | ASTM D5185m | >15        | <1          | <1          | <1          |
| Vanadium         | ppm            | ASTM D5185m |            | 0           | 0           | 0           |
| Cadmium          | ppm            | ASTM D5185m |            | 0           | 0           | 0           |
| ADDITIVES        |                | method      | limit/base | current     | history1    | history2    |
| Boron            | ppm            | ASTM D5185m | 0          | 6           | 4           | 4           |
| Barium           | ppm            | ASTM D5185m | 0          | 0           | 0           | 0           |
| Molybdenum       | ppm            | ASTM D5185m | 60         | 58          | 58          | 56          |
| Manganese        | ppm            | ASTM D5185m | 0          | <1          | <1          | <1          |
| Magnesium        | ppm            | ASTM D5185m | 1010       | 957         | 1000        | 868         |
| Calcium          | ppm            | ASTM D5185m | 1070       | 1068        | 1040        | 1047        |
| Phosphorus       | ppm            | ASTM D5185m | 1150       | 1034        | 1049        | 957         |
| Zinc             | ppm            | ASTM D5185m | 1270       | 1255        | 1285        | 1159        |
| Sulfur           | ppm            | ASTM D5185m | 2060       | 3697        | 3794        | 2731        |
| CONTAMINAN       | TS             | method      | limit/base | current     | history1    | history2    |
| Silicon          | ppm            | ASTM D5185m | >25        | 4           | 4           | 3           |
| Sodium           | ppm            | ASTM D5185m |            | 0           | <1          | 0           |
| Potassium        | ppm            | ASTM D5185m | >20        | 0           | 1           | 1           |
| INFRA-RED        |                | method      | limit/base | current     | history1    | history2    |
| Soot %           | %              | *ASTM D7844 | >3         | 0.5         | 0.5         | 0.5         |
| Nitration        | Abs/cm         | *ASTM D7624 |            | 7.0         | 7.1         | 7.0         |
| Sulfation        | Abs/.1mm       | *ASTM D7415 | >30        | 19.9        | 20.4        | 19.5        |
| FLUID DEGRA      | OATION         | method      | limit/base | current     | history1    | history2    |
| Oxidation        | Abs/.1mm       | *ASTM D7414 | >25        | 15.6        | 15.6        | 14.4        |
| Base Number (BN) | mg KOH/g       | ASTM D2896  |            | 11.66       | 10.08       | 9.97        |
|                  | 99             |             |            |             |             |             |



Base Number

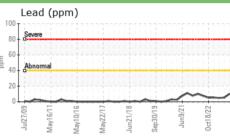
# **OIL ANALYSIS REPORT**

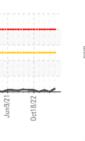


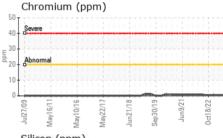
| VISUAL                  |        | method  | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal             | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal            | 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    |
| <b>Emulsified Water</b> | scalar | *Visual | >0.2       | NEG     | NEG      | NEG      |
| Free Water              | scalar | *Visual |            | NEG     | NEG      | NEG      |
|                         | DTIES  | mothod  | limit/bass | ourrent | hiotony1 | hioton/2 |

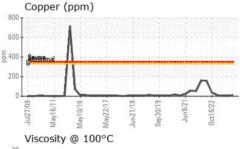
| FLUID FROF   | ENTIES | memou     |      |      | HISTOLAL | HISTOLYZ |
|--------------|--------|-----------|------|------|----------|----------|
| Visc @ 100°C | cSt    | ASTM D445 | 15.4 | 13.3 | 13.4     | 13.3     |

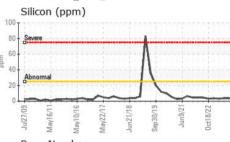
| 10 - 3646 | ere      |          |         |          |          |         |          |
|-----------|----------|----------|---------|----------|----------|---------|----------|
| 00 - Abn  | ormal    |          |         |          |          |         |          |
| 50        |          | ^        |         |          |          |         |          |
| 01        | )<br>    | 91/0     | 71/2    | 118      | 61/0     | Jun9/21 | 122/8    |
| Jul27/09  | May16/11 | May10/16 | May22/1 | Jun21/18 | Sep30/19 | Jun     | Oct18/22 |
| ۸۱۰۰      | minu     | m (pr    | m)      |          |          |         |          |
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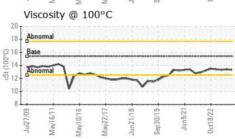


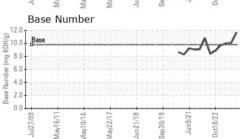














Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : MOB 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 05927435

: PCA0098488 : 10607382

Received : 17 Aug 2023 Diagnosed

: 18 Aug 2023 Diagnostician : Wes Davis

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)

**G LOPES CONSTRUCTION** 

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