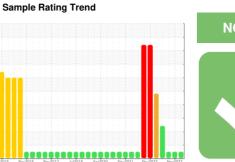


OIL ANALYSIS REPORT

OODT









GLOPES CONSTRUCTION INC./Off-Road D622 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

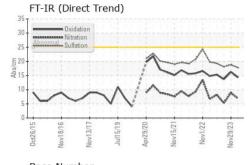
Fluid Condition

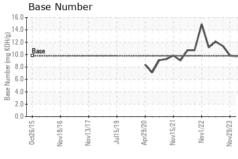
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

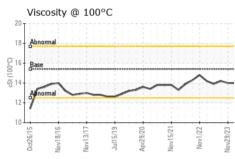
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|---|------------------------------|---|---|--|---|---|
| Sample Number | | Client Info | | PCA0122948 | PCA0098419 | PCA0098515 |
| Sample Date | | | | 12 Jun 2024 | 29 Nov 2023 | 07 Jun 2023 |
| Machine Age | hrs | Client Info | | 12495 | 12171 | 11682 |
| Oil Age | hrs | Client Info | | 9347 | 9512 | 9127 |
| Oil Changed | 0 | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATION | ON | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| WEAR METALS | 5 | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 19 | 32 | 4 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | 1 | 1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 5 | 3 | <1 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 2 | 5 | 1 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 0 | 6 | 0 | 5 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | 63 | 64 | 63 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 977 | 927 | 1022 |
| Calcium | ppm | ASTM D5185m | 1070 | 1109 | 1002 | 1138 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1027 | 1051 | 1086 |
| Zinc | | | | | | |
| | ppm | ASTM D5185m | 1270 | 1288 | 1267 | 1295 |
| Sulfur | ppm | ASTM D5185m ASTM D5185m | 1270 2060 | 1288 3119 | 1267 3101 | 1295 3893 |
| Sulfur CONTAMINANT | ppm | | | | | |
| Sulfur CONTAMINANT Silicon | ppm | ASTM D5185m method | 2060 | 3119 | 3101 | 3893 |
| CONTAMINANT | ppm TS | ASTM D5185m method | 2060 limit/base | 3119 current | 3101 history1 | 3893 history2 |
| CONTAMINANT Silicon Sodium | ppm TS ppm | ASTM D5185m method ASTM D5185m | 2060 limit/base | 3119 current 7 | 3101 history1 4 | 3893 history2 |
| CONTAMINANT Silicon Sodium | ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m | 2060 limit/base >25 | 3119 current 7 23 | 3101 history1 4 68 | 3893 history2 2 31 |
| CONTAMINANT Silicon Sodium Potassium INFRA-RED | ppm ppm ppm | Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2060 limit/base >25 >20 | 3119 current 7 23 10 | 3101 history1 4 68 31 | 3893 history2 2 31 12 |
| CONTAMINANT Silicon Sodium Potassium | ppm FS ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method | 2060 limit/base >25 >20 limit/base | 3119 | 3101 history1 4 68 31 history1 | 3893 history2 2 31 12 history2 |
| CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % | ppm FS ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 | 2060 limit/base >25 >20 limit/base >3 | 3119 | 3101 history1 4 68 31 history1 0.3 | 3893 history2 2 31 12 history2 0.1 |
| CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm Abs/.1mm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 | 2060 limit/base >25 >20 limit/base >3 >20 | 3119 current 7 23 10 current 0.2 6.9 | 3101 history1 4 68 31 history1 0.3 8.9 | 3893 history2 2 31 12 history2 0.1 5.3 |
| CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm Abs/.1mm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415 | 2060 limit/base >25 >20 limit/base >3 >20 >30 | 3119 | 3101 history1 4 68 31 history1 0.3 8.9 18.8 | 3893 history2 2 31 12 history2 0.1 5.3 18.1 |



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 |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| | | | | | | |

| FLUID PROF | 'ERTIE | S me | ethod | limit/ | base ' | current | | his | tory1 | | histo | ory2 |
|----------------------------------|----------------|----------|-----------|----------|----------|------------|----------|--------------|----------|----------|---------|----------|
| /isc @ 100°C | cSt | AST | M D445 | 15.4 | 14 | 4.0 | | 14.0 | | 14.2 | | |
| GRAPHS | | | | | | | | | | | | |
| Iron (ppm) | | | | | Lea | ad (ppm | 1) | | | | | |
| Severe | | | | | 80 - Sev | ere | | | | | | |
| | | | | | 60 - Abn | | | | | | | |
| Abnormal | | | | | 40 7 | ormal | | | | | | |
| | | ~ | -^ | ^ | 20 | | | | | | | |
| Oct26/15- Nov18/16 | Jul15/19 | Nov15/21 | Nov1/22 | Nov29/23 | 0ct26/15 | Nov18/16 | Nov13/17 | Jul15/19 | Apr29/20 | Nov15/21 | Nov1/22 | Nov29/23 |
| | | No | ž | Nov | | | | | Apı | No | ž | Nov |
| Aluminum (ppm | I) 37537537 | | 3-53-5 | | 50 T 7 | romium | (ppn | ון ארניין | | | 3-63-6 | |
| Severe | | | | | 40 - Sev | ere | | | | | | |
| Abnormal | | | | | 8 20 Abn | ormal | | | | | | |
| | | | | | 10 | | | | -1-1- | | | |
| 9 | 6 | 12. | | <u></u> | 0 | 9 | 71 | 6 | 0.5 | 21 | -2- | 23 |
| Oct26/15 Nov18/16 Nov13/17 | Jul15/19 | Nov15/21 | Nov1/22 | Nov29/23 | Oct26/15 | Nov18/16 | Nov13/1 | Jul15/19 | Apr29/20 | Nov15/21 | Nov1/22 | Nov29/23 |
| Copper (ppm) | | | | 2 | | con (pp | | | | | | _ |
| Sexermal | | | 1-1-1-1-1 | | 80 T Sev | ere | | | | | | |
| \ | | | | | 60 | | | | | | | |
| M | | | | | E 40 | ormal | | 1-1-1-1 | | | | |
| | | | _ | 1 1 1 | 20 | 1 1 1 | | | | | 1 | |
| Oct26/15 | Jul15/19 | Nov15/21 | Nov1/22 - | Nov29/23 | 0ct26/15 | Nov18/16 - | 3/17 | - 61/51lnC | Apr29/20 | 12/51 | Nov1/22 | Nov29/23 |
| Oct26/15 Nov18/16 Nov13/17 | Jull | Nov1 | Nov | Nov2 | | _ | Nov13/17 | Jul | Apr2 | Nov15/21 | Nov | Nov2 |
| | | | | | | | 20000000 | | | | | |
| Viscosity @ 100 | °C | | | | 45.0 | se Num | ber | | | | | |
| | °C | | | | Ba: | | ber | | | | 1 | \ |





Certificate 12367

Sample No.

Lab Number : 06210360 Unique Number : 11083224

Test Package : MOB 2

: PCA0122948

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 14 Jun 2024

Tested : 17 Jun 2024 Diagnosed : 17 Jun 2024 - Wes Davis **G LOPES CONSTRUCTION**

565 WINTHROP ST TAUNTON, MA US 02780

Contact: BUTCH MCGRATH bmcgrath@glopes.com

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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