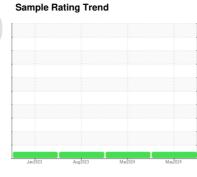


OIL ANALYSIS REPORT

STONEWAY CONCRETE RENTON [STONEWAY CONCRETE RENTON] 10-539

Diesel Engine

SHELL ROTELLA T4 10W30 (--- GAL)





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

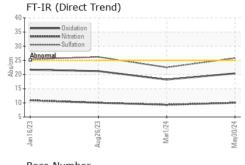
Fluid Condition

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

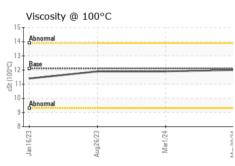
| Sample Date | | | | | | | |
|---|---------------|----------|-------------|------------|-------------|-------------|-------------|
| Sample Date | SAMPLE INFORM | ATION | method | limit/base | current | history1 | history2 |
| Machine Age hrs Client Info 1018 3471 2819 | Sample Number | | Client Info | | PE0003289 | PE0002136 | PE0002276 |
| Oil Age hrs Client Info 1286 652 1213 Oil Changed Client Info Changed Not Changed Changed Changed Not Changed Changed 1 instory2 2 instory2 2 instory2 2 instory2 <td>Sample Date</td> <td></td> <td>Client Info</td> <td></td> <th>30 May 2024</th> <td>01 Mar 2024</td> <td>26 Aug 2023</td> | Sample Date | | Client Info | | 30 May 2024 | 01 Mar 2024 | 26 Aug 2023 |
| Cilient Info Changed Not Changed NoRMAL NORMAL NORMAL NORMAL NORMAL NORMAL | Machine Age | hrs | Client Info | | 4105 | 3471 | 2819 |
| NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2 | Oil Age | hrs | Client Info | | 1286 | 652 | 1213 |
| CONTAMINATION | Oil Changed | | Client Info | | Changed | Not Changd | Changed |
| Fuel | Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Water WC Method >0.2 NEG APK | CONTAMINATION | | method | limit/base | current | history1 | history2 |
| WEAR METALS | Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| WEAR METALS | Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Iron | Glycol | | WC Method | | NEG | NEG | NEG |
| Chromium ppm ASTM D5185m >20 0 0 <1 Nickel ppm ASTM D5185m >4 0 0 0 Titanium ppm ASTM D5185m >3 <1 | WEAR METALS | | method | limit/base | current | history1 | history2 |
| Nickel | Iron | ppm | ASTM D5185m | >100 | 15 | 9 | 29 |
| Description | Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Silver | Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Aluminum ppm ASTM D5185m >20 6 3 4 Lead ppm ASTM D5185m >40 0 0 <1 | Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Lead | Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Copper ppm ASTM D5185m >330 2 2 7 Tin ppm ASTM D5185m >15 <1 | Aluminum | ppm | ASTM D5185m | >20 | 6 | 3 | 4 |
| Tin | Lead | ppm | ASTM D5185m | >40 | 0 | 0 | <1 |
| Tin | Copper | ppm | ASTM D5185m | >330 | 2 | 2 | 7 |
| Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 30 66 38 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 1 2 6 Manganese ppm ASTM D5185m 23 21 95 Calcium ppm ASTM D5185m 2290 2096 2297 Phosphorus ppm ASTM D5185m 972 860 953 Zinc ppm ASTM D5185m 1233 1045 1265 Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 3 2 4 Sodium ppm ASTM D5185m 20 | | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 30 66 38 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 1 2 6 Manganese ppm ASTM D5185m 23 21 95 Calcium ppm ASTM D5185m 2290 2096 2297 Phosphorus ppm ASTM D5185m 972 860 953 Zinc ppm ASTM D5185m 1233 1045 1265 Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 2 2 3 Potassium ppm ASTM D5185m 2 2 3 Potassium ppm ASTM D5185m 2 2 3 </td <td>Vanadium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td><1</td> | Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Boron | Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 1 2 6 Manganese ppm ASTM D5185m <1 | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185m 1 2 6 Manganese ppm ASTM D5185m <1 0 <1 Magnesium ppm ASTM D5185m 23 21 95 Calcium ppm ASTM D5185m 2290 2096 2297 Phosphorus ppm ASTM D5185m 972 860 953 Zinc ppm ASTM D5185m 1233 1045 1265 Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 3 2 4 Sodium ppm ASTM D5185m 20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/:nm | Boron | ppm | ASTM D5185m | | 30 | 66 | 38 |
| Manganese ppm ASTM D5185m <1 0 <1 Magnesium ppm ASTM D5185m 23 21 95 Calcium ppm ASTM D5185m 2290 2096 2297 Phosphorus ppm ASTM D5185m 972 860 953 Zinc ppm ASTM D5185m 1233 1045 1265 Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 2 3 Potassium ppm ASTM D5185m >20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/amm <td>Barium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td>0</td> | Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Magnesium ppm ASTM D5185m 23 21 95 Calcium ppm ASTM D5185m 2290 2096 2297 Phosphorus ppm ASTM D5185m 972 860 953 Zinc ppm ASTM D5185m 1233 1045 1265 Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 3 2 4 Sodium ppm ASTM D5185m 20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/.1mm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 <t< td=""><td>Molybdenum</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>1</th><td>2</td><td>6</td></t<> | Molybdenum | ppm | ASTM D5185m | | 1 | 2 | 6 |
| Calcium ppm ASTM D5185m 2290 2096 2297 Phosphorus ppm ASTM D5185m 972 860 953 Zinc ppm ASTM D5185m 1233 1045 1265 Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 25 3 2 4 Sodium ppm ASTM D5185m 2 2 3 Potassium ppm ASTM D5185m 20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/.1mm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 | Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Phosphorus ppm ASTM D5185m 972 860 953 Zinc ppm ASTM D5185m 1233 1045 1265 Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 2 2 3 Potassium ppm ASTM D5185m >20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current | Magnesium | ppm | ASTM D5185m | | 23 | 21 | 95 |
| Zinc ppm ASTM D5185m 1233 1045 1265 Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 2 2 3 Potassium ppm ASTM D5185m >20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20. | Calcium | ppm | ASTM D5185m | | 2290 | 2096 | 2297 |
| Sulfur ppm ASTM D5185m 3821 3400 3828 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 2 3 Potassium ppm ASTM D5185m >20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | Phosphorus | ppm | ASTM D5185m | | 972 | 860 | 953 |
| CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 2 3 Potassium ppm ASTM D5185m >20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | Zinc | ppm | ASTM D5185m | | 1233 | 1045 | 1265 |
| Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 2 2 3 Potassium ppm ASTM D5185m >20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | Sulfur | ppm | ASTM D5185m | | 3821 | 3400 | 3828 |
| Sodium ppm ASTM D5185m 2 2 3 Potassium ppm ASTM D5185m >20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Potassium ppm ASTM D5185m >20 18 11 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | Silicon | ppm | ASTM D5185m | >25 | 3 | 2 | 4 |
| INFRA-RED | Sodium | ppm | ASTM D5185m | | 2 | 2 | 3 |
| Soot % % *ASTM D7844 >3 0.5 0.3 0.5 Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | Potassium | ppm | ASTM D5185m | >20 | 18 | 11 | 20 |
| Nitration Abs/cm *ASTM D7624 >20 10.0 9.3 10.0 Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | INFRA-RED | | method | limit/base | current | history1 | history2 |
| Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | Soot % | % | *ASTM D7844 | >3 | 0.5 | 0.3 | 0.5 |
| Sulfation Abs/.1mm *ASTM D7415 >30 25.8 22.5 26.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | Nitration | Abs/cm | *ASTM D7624 | >20 | 10.0 | 9.3 | 10.0 |
| Oxidation Abs/.1mm *ASTM D7414 >25 20.4 18.2 21.2 | | | | | | | |
| | FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.4 | 18.2 | 21.2 |
| | | mg KOH/g | ASTM D2896 | 10.1 | 4.7 | 5.6 | 4.5 |



OIL ANALYSIS REPORT



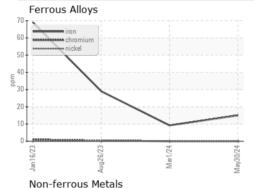
| Base Num | nber | | |
|---|------------|-----------|---------|
| | | | |
| 8.0 Base Number (uid KOHQ) 8.0 Base Number (uid | | | |
| -0.9 ger (m | | | |
| 4.0 - Se N | | | |
| | | | |
| Jan 16/23 T | Aug26/23 - | Mar1/24 - | M.c.no. |

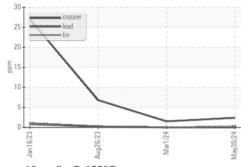


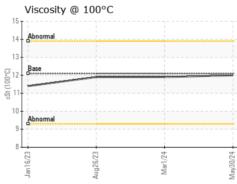
| VISUAL | | method | | | | history2 |
|-------------------------|--------|---------|-------|-------|-------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | 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 |

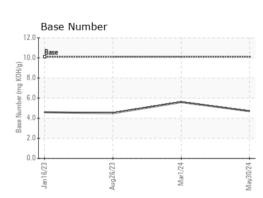
| FLUID PROPER | TILO | memod | | | riistory i | nistoryz |
|--------------|------|-----------|------|------|------------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 12.1 | 12.0 | 11.9 | 11.9 |

GRAPHS













Certificate 12367

Sample No.

: PE0003289 Lab Number : 06220495 Unique Number : 11098692

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested** Diagnosed

: 25 Jun 2024 : 26 Jun 2024

: 27 Jun 2024 - Don Baldridge Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN)

SEATTLE, WA US 98108 Contact: Jesse Patterson oilsamples@gmccinc.com T: 1(866)292-1303

9125 10TH AVE SOUTH

Gary Merlino Construction - Off Road Shop

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)

Submitted By: Stoneway Concrete - Seattle - Jesse Patterson