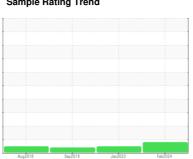


OIL ANALYSIS REPORT

Sample Rating Trend



SEDIMENT



PIERCE ENGINE 6

Component

Hydraulic System

{not provided} (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of visible silt present in the sample.

Fluid Condition

The condition of the oil is acceptable for the time in service.

| | | Aug201 | 8 Sep2019 | Jan2023 F | eb2024 | |
|--|--|--|--|--|--|--|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | WC0890658 | WC0762409 | WC0348920 |
| Sample Date | | Client Info | | 24 Feb 2024 | 20 Jan 2023 | 13 Sep 2019 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | Not Changd | Not Changd |
| Sample Status | | | | ABNORMAL | NORMAL | ABNORMAL |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >20 | 2 | 2 | 2 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | <1 | 1 | <1 |
| Lead | ppm | ASTM D5185m | >10 | 0 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >75 | 4 | 5 | 5 |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185m | | | | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| ADDITIVES | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| | ppm | method ASTM D5185m | limit/base | current 0 | history1 0 | history2 |
| Boron | ppm ppm | | limit/base | | | |
| Boron Barium | • • | ASTM D5185m | limit/base | 0 | 0 | 1 |
| Boron Barium Molybdenum | ppm | ASTM D5185m ASTM D5185m | limit/base | 0 0 | 0 | 1 |
| Boron Barium Molybdenum Manganese | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 0 0 0 | 0 0 <1 | 1 0 <1 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 0 0 0 | 0 0 <1 <1 | 1 0 <1 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 0 0 0 0 <1 | 0 0 <1 <1 2 | 1 0 <1 <1 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 0 0 0 0 <1 100 | 0 0 <1 <1 2 97 | 1 0 <1 <1 <1 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 0 0 0 0 <1 100 510 | 0 0 <1 <1 2 97 511 | 1 0 <1 <1 <1 <1 110 606 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 0 0 0 0 <1 100 510 | 0 0 <1 <1 2 97 511 655 | 1 0 <1 <1 <1 110 606 791 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | | 0 0 0 0 <1 100 510 660 | 0 0 <1 <1 2 97 511 655 1604 | 1 0 <1 <1 <1 110 606 791 1341 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base | 0 0 0 0 <1 100 510 660 1560 | 0 0 <1 <1 2 97 511 655 1604 history1 | 1 0 <1 <1 <1 110 606 791 1341 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | limit/base >20 | 0 0 0 0 <1 100 510 660 1560 current | 0 0 <1 <1 2 97 511 655 1604 history1 | 1 0 <1 <1 <1 110 606 791 1341 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | limit/base >20 | 0 0 0 0 <1 100 510 660 1560 current <1 | 0 0 <1 <1 2 97 511 655 1604 history1 1 | 1 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base >20 >20 limit/base NONE | 0 0 0 0 <1 100 510 660 1560 current <1 <1 0 | 0 0 <1 <1 2 97 511 655 1604 history1 1 2 | 1 0 <1 <1 <1 110 606 791 1341 history2 2 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | limit/base >20 >20 limit/base | 0 0 0 0 <1 100 510 660 1560 current <1 <1 0 | 0 0 <1 <1 2 97 511 655 1604 history1 1 2 0 | 1 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | limit/base >20 >20 limit/base NONE | 0 0 0 0 <1 100 510 660 1560 current <1 <1 0 | 0 0 <1 <1 2 97 511 655 1604 history1 1 2 0 history1 NONE | 1 0 <1 <1 <1 110 606 791 1341 history2 2 0 0 history2 NONE |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m Method ASTM D5185m Method *Visual | limit/base >20 >20 limit/base NONE NONE | 0 0 0 0 1 100 510 660 1560 current <1 <1 0 current NONE NONE | 0 0 <1 <1 2 97 511 655 1604 history1 1 2 0 history1 NONE NONE | 1 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt | ppm | ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual | limit/base >20 >20 limit/base NONE NONE NONE | 0 0 0 0 1 100 510 660 1560 current <1 <1 0 current NONE NONE | 0 0 <1 <1 2 97 511 655 1604 history1 1 2 0 history1 NONE NONE NONE | 1 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm | ASTM D5185m method *Visual *Visual *Visual *Visual | limit/base >20 >20 limit/base NONE NONE NONE NONE | 0 0 0 0 <1 100 510 660 1560 current <1 <1 0 current NONE NONE NONE MODER | 0 0 <1 <1 2 97 511 655 1604 history1 1 2 0 history1 NONE NONE NONE | 1 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris | ppm | ASTM D5185m method *Visual *Visual *Visual *Visual *Visual *Visual | limit/base >20 >20 limit/base NONE NONE NONE NONE NONE NONE | 0 0 0 0 1 100 510 660 1560 current <1 <1 0 current NONE NONE NONE NONE NONE NONE NONE NON | 0 0 <1 <1 2 97 511 655 1604 history1 1 2 0 history1 NONE NONE NONE NONE LIGHT | 1 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt | ppm | ASTM D5185m Method ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual | limit/base >20 >20 limit/base NONE NONE NONE NONE NONE NONE NONE NON | 0 0 0 0 1 100 510 660 1560 current <1 1 0 current NONE NONE NONE NONE NONE NONE NONE NON | 0 0 <1 <1 2 97 511 655 1604 history1 1 2 0 history1 NONE NONE NONE NONE NONE NONE NONE NON | 1 0 |

Emulsified Water

scalar *Visual

scalar *Visual

>0.1

NEG

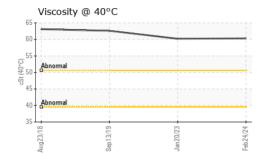
NEG

NEG

Subjected By: RANDEGPRICE

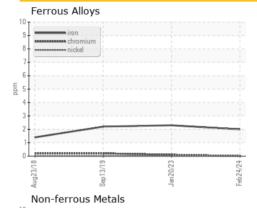


OIL ANALYSIS REPORT



| FLUID PROPER | TIES | method | limit/base | current | history1 | history2 |
|--------------|------|-----------|------------|----------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | | 60.3 | 60.2 | 62.6 |
| SAMPLE IMAGE | S | method | limit/base | current | history1 | history2 |
| Color | | | | no image | no image | no image |
| Bottom | | | | no image | no image | no image |
| ODADUO | | | | | | |

GRAPHS



| Viscosity | @ 40°C | | |
|------------------------|-----------|-------------|----------|
| 65 | | | |
| 55 | | | |
| Abnormal 50 + Abnormal | | | |
| 45 - | | | |
| 40 Abnormal | | | - |
| 35 💆 | 6 | 23 | 24 |
| Aug23/18 - | Sep13/19. | Jan20/23 | Feb24/24 |



Laboratory

Sample No. : WC0890658 Lab Number : 06121264 Unique Number : 10930097 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 18 Mar 2024 Tested : 19 Mar 2024

Diagnosed : 20 Mar 2024 - Don Baldridge **GREENVILLE FIRE DEPARTMENT** PO BOX 7207 GREENVILLE, NC US 27835

Contact: JESSE HARRIS jjharris@greenvillenc.gov T: (252)933-2200

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: RANDY PRICE