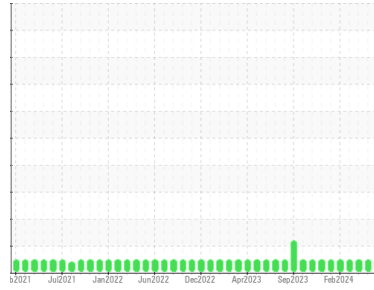




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Detroit

Machine Id

[Detroit] Oil - Port Reduction Gear

Component

Port Reduction Gear

Fluid

SAE 30W (35 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Completed by Jeff Baldwin)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0804742 | WC0804789 | WC0804770 |
| Sample Date | Client Info | | 20 May 2024 | 22 Apr 2024 | 25 Mar 2024 |
| Machine Age | hrs | Client Info | 31133 | 30531 | 28968 |
| Oil Age | hrs | Client Info | 4999 | 4398 | 3779 |
| Oil Changed | | Client Info | Not Changed | N/A | Not Changed |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >150 | 12 | 12 | 10 |
| Chromium | ppm | ASTM D5185m >10 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m >10 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >25 | <1 | <1 | 1 |
| Lead | ppm | ASTM D5185m >100 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185m >50 | 6 | 6 | 10 |
| Tin | ppm | ASTM D5185m >10 | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 31 | 30 | 28 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 15 | 15 | 15 |
| Manganese | ppm | ASTM D5185m | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 229 | 221 | 226 |
| Calcium | ppm | ASTM D5185m | 2959 | 3032 | 3064 |
| Phosphorus | ppm | ASTM D5185m | 949 | 954 | 980 |
| Zinc | ppm | ASTM D5185m | 1015 | 1043 | 1075 |
| Sulfur | ppm | ASTM D5185m | 7536 | 7756 | 7886 |

CONTAMINANTS

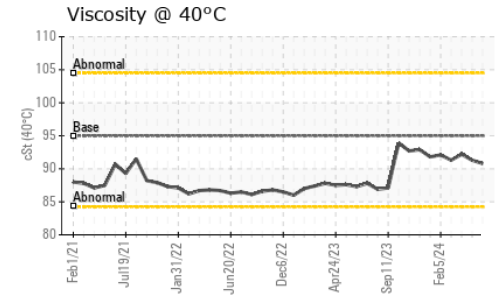
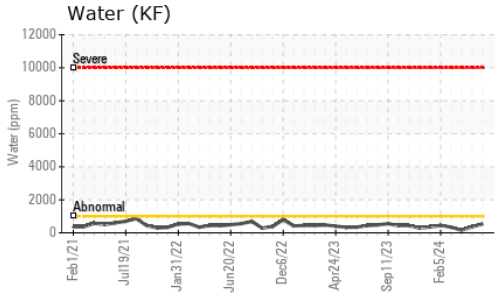
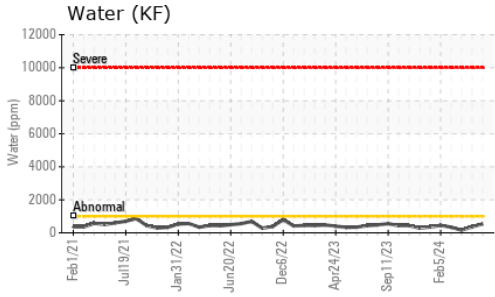
| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >50 | 4 | 4 | 2 |
| Sodium | ppm | ASTM D5185m | 2 | 2 | 2 |
| Potassium | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Water | % | ASTM D6304 >0.1 | 0.054 | 0.036 | 0.016 |
| ppm Water | ppm | ASTM D6304 >1000 | 541 | 365 | 162 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.779 | 0.925 | 0.892 |



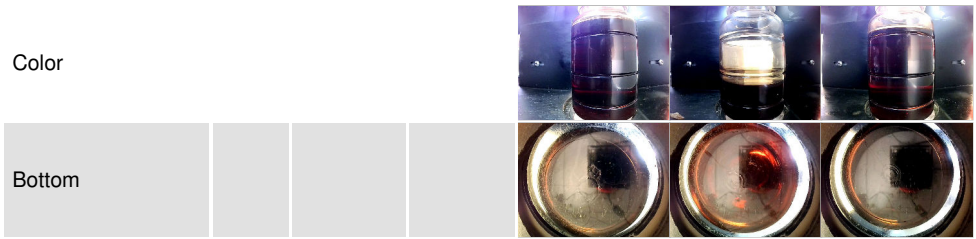
OIL ANALYSIS REPORT



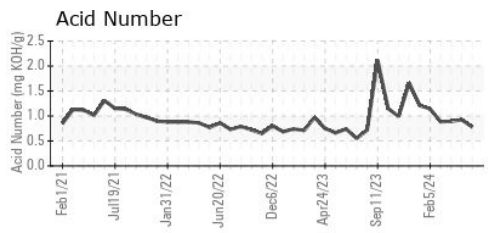
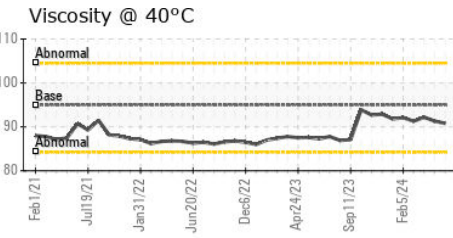
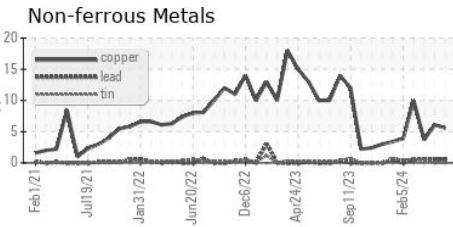
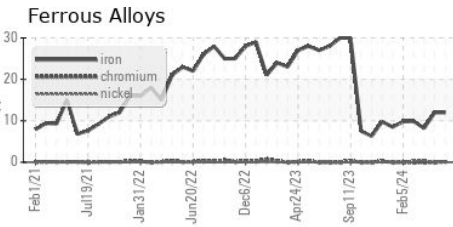
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | LIGHT |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|-------------|----------|------|
| Visc @ 40°C | cSt | ASTM D445 | 95.0 | 90.8 | 91.3 | 92.2 |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0804742
Lab Number : 06202861
Unique Number : 11070322
Test Package : IND 2 (Additional Tests: KF)
Received : 07 Jun 2024
Tested : 10 Jun 2024
Diagnosed : 10 Jun 2024 - Don Baldrige

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 stmccleskey@marathonpetroleum.com
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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)