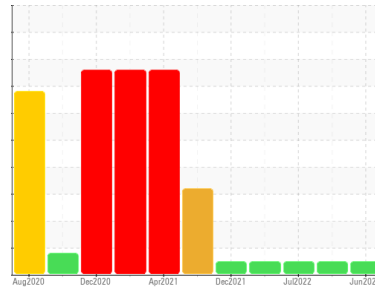




COOLANT REPORT

Sample Rating Trend



NORMAL



Area
Nashville
 Machine Id
[Nashville] Coolant - Port Main Engine
 Component
Coolant
 Fluid
CATERPILLAR ELC (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. The fluid is suitable for further service.

Corrosion

All metal levels are normal indicating no corrosion in the cooling system.

Contaminants

There is no indication of any contamination in the coolant.

Coolant Condition

Carboxylate test failed. Glycol and nitrite levels are acceptable. The pH level of this fluid is within the acceptable limits.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | WC0683263 | WC0731852 | RP0016011 |
| Sample Date | Client Info | | | 13 Jun 2023 | 27 Nov 2022 | 11 Jul 2022 |
| Machine Age | hrs | Client Info | | 0 | 50831 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | Client Info | | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

| PHYSICAL TEST RESULTS | | method | limit/base | current | history1 | history2 |
|------------------------|------------|-------------|------------|--------------|----------|----------|
| Specific Gravity | | *ASTM D1298 | | 1.057 | 1.057 | 1.057 |
| pH | Scale 0-14 | ASTM D1287 | | 8.56 | 8.67 | 8.61 |
| Nitrites | ppm | AP-053:2009 | | 412 | 412 | 524 |
| Reserve Alkalinity | Scale 0-20 | *ASTM D1121 | | --- | --- | --- |
| Percentage Glycol | % | ASTM D3321 | | 42.4 | 42.5 | 42.3 |
| Freezing Point | °F | ASTM D3321 | | -17 | -17 | -17 |
| Total Dissolved Solids | | | | 303.5 | 296.5 | 301.5 |
| Carboxylate | | | | fail | pass | pass |

| CORROSION INHIBITORS | | method | limit/base | current | history1 | history2 |
|----------------------|-----|------------|------------|------------|----------|----------|
| Silicon | ppm | ASTM D6130 | 0 | 10 | 30 | 21 |
| Phosphorus | ppm | ASTM D6130 | 0 | 0 | 0 | 0 |
| Boron | ppm | ASTM D6130 | 0 | 17 | 47 | 19 |
| Molybdenum | ppm | ASTM D6130 | 950 | 828 | 885 | 889 |

| CORROSION | | method | limit/base | current | history1 | history2 |
|-----------|-----|------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D6130 | >15 | 0 | 2 | 0 |
| Aluminum | ppm | ASTM D6130 | >10 | 0 | <1 | 0 |
| Copper | ppm | ASTM D6130 | >10 | <1 | 2 | <1 |
| Lead | ppm | ASTM D6130 | >10 | 0 | 1 | 0 |
| Tin | ppm | ASTM D6130 | >10 | 0 | 1 | 0 |
| Zinc | ppm | ASTM D6130 | | 0 | 1 | 0 |

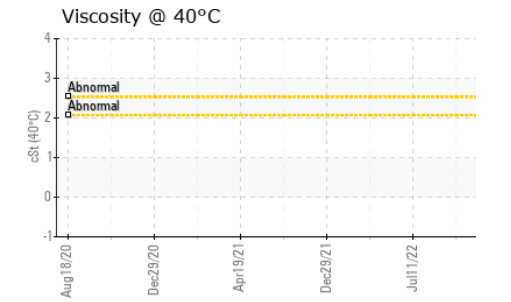
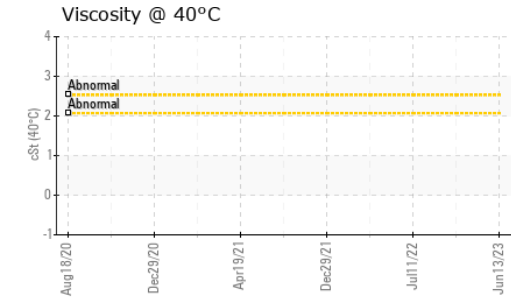
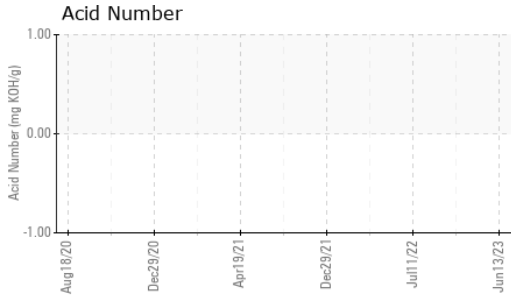
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|------------|------------|----------|----------|----------|
| Chlorine | ppm | ASTM D6130 | | 0 | 36 | 15 |

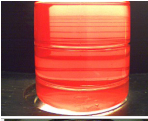


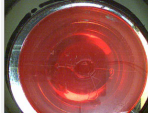


| CARRIER SALTS | | method | limit/base | current | history1 | history2 |
|---------------|-----|------------|------------|-------------|----------|----------|
| Sodium | ppm | ASTM D6130 | | 5372 | 5729 | 2354 |
| Potassium | ppm | ASTM D6130 | | 26 | 29 | 19 |

| SCALE POTENTIAL | | method | limit/base | current | history1 | history2 |
|-----------------|-----|------------|------------|-----------|----------|----------|
| Calcium | ppm | ASTM D6130 | | 17 | 24 | 25 |
| Magnesium | ppm | ASTM D6130 | | 8 | 8 | 5 |

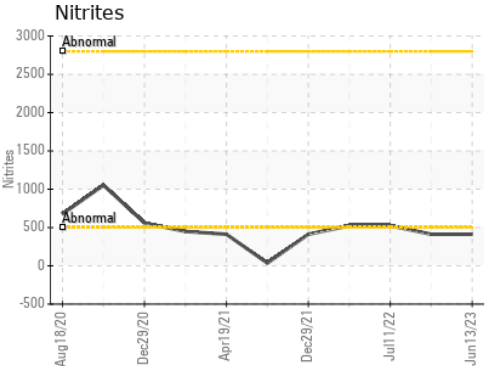
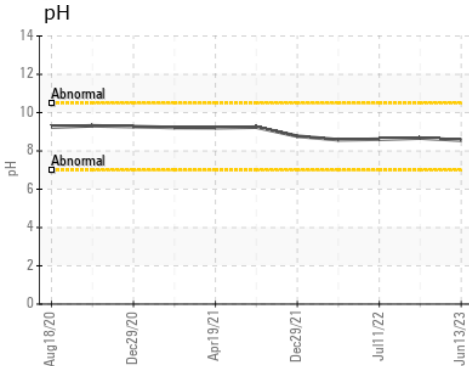
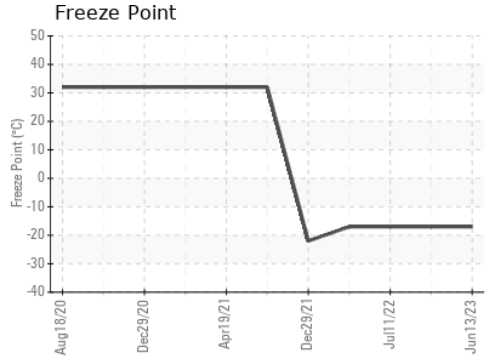
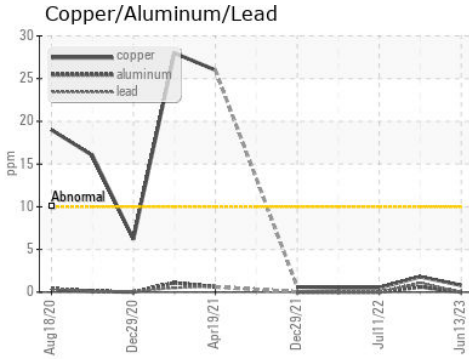
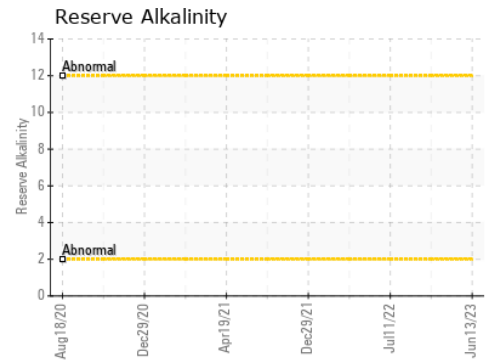
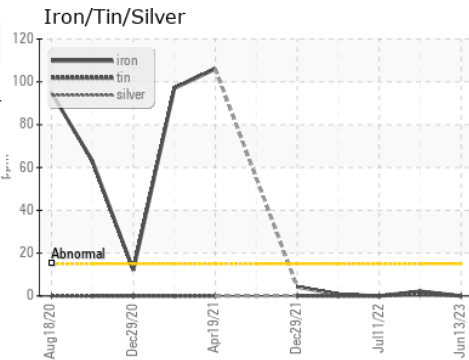


COOLANT REPORT



| VISUAL | | method | limit/base | current | history1 | history2 |
|--------------------|---------|--------|------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Coolant Color | *Visual | | | Red | Red | Orange |
| Coolant Appearance | *Visual | Clear | | normal | normal | normal |
| Color | | | |  |  |  |
| Bottom | | | |  |  |  |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0683263 **Received** : 19 Jun 2023
Lab Number : 05877408 **Diagnosed** : 27 Jun 2023
Unique Number : 10522511 **Diagnostician** : Doug Bogart
Test Package : COOL- (Additional Tests: COOL, ICP, KV40, SCREEN, TAN Man)

MARATHON PETROLEUM CO.
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 CATLETTSBURG, KY
 US 41169
 Contact: CORY GUMBERT
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 F: x:

Certificate L2367
 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)