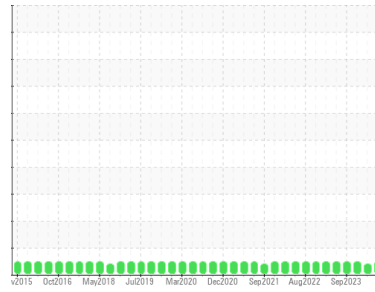




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

LCT-4

Component

Rear Diesel Engine

Fluid

PHILLIPS 66 Fleet Supreme EC 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 INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0926842 | WC0908048 | WC0865371 |
| Sample Date | Client Info | | 10 May 2024 | 04 Mar 2024 | 23 Oct 2023 |
| Machine Age | hrs | Client Info | 2927 | 2902 | 2811 |
| Oil Age | hrs | Client Info | 25 | 100 | 13 |
| Oil Changed | Client Info | | Not Chngd | Not Chngd | N/A |
| Sample Status | | | NORMAL | MARGINAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >5 | <1.0 | 0.5 | <1.0 |
| Water | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | WC Method | | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >100 | 0 | 3 | <1 |
| Chromium | ppm | ASTM D5185m >20 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 1 | 10 | 8 |
| Silver | ppm | ASTM D5185m >3 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | 2 | 2 | 1 |
| Lead | ppm | ASTM D5185m >40 | 0 | <1 | <1 |
| Copper | ppm | ASTM D5185m >330 | 0 | <1 | 0 |
| Tin | ppm | ASTM D5185m >15 | <1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | 0 | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | <1 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 88 | 101 | 96 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 86 | 92 | 80 |
| Manganese | ppm | ASTM D5185m | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 23 | 85 | 79 |
| Calcium | ppm | ASTM D5185m | 2226 | 2262 | 2080 |
| Phosphorus | ppm | ASTM D5185m 1116 | 1106 | 1086 | 1036 |
| Zinc | ppm | ASTM D5185m 1250 | 1216 | 1216 | 1203 |
| Sulfur | ppm | ASTM D5185m | 4374 | 4008 | 3832 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185m >25 | 4 | 4 | 5 |
| Sodium | ppm | ASTM D5185m | 2 | 1 | 2 |
| Potassium | ppm | ASTM D5185m >20 | 0 | 2 | <1 |

INFRA-RED

| | method | limit/base | current | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 >3 | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 >20 | 7.1 | 7.6 | 6.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 16.2 | 16.9 | 16.6 |

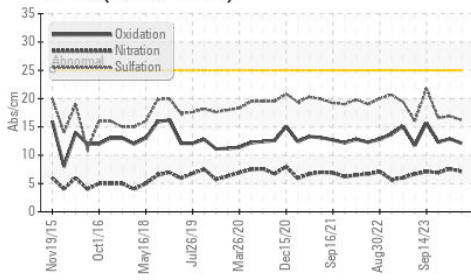
FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 12.1 | 12.9 | 12.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 9.7 | 6.9 | 6.7 | 7.4 |

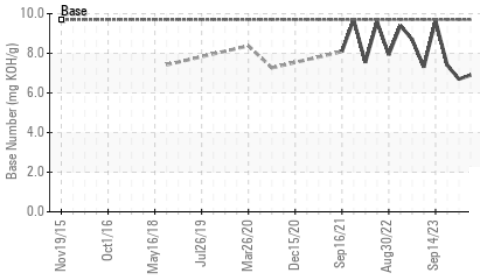


OIL ANALYSIS REPORT

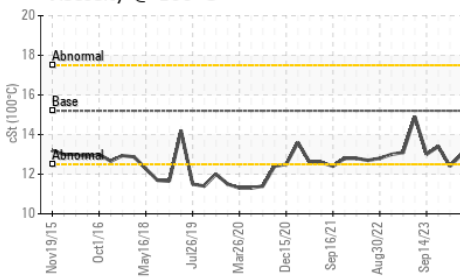
FT-IR (Direct Trend)



Base Number



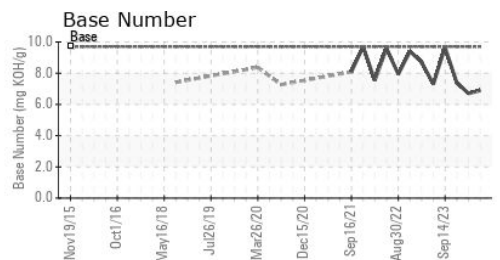
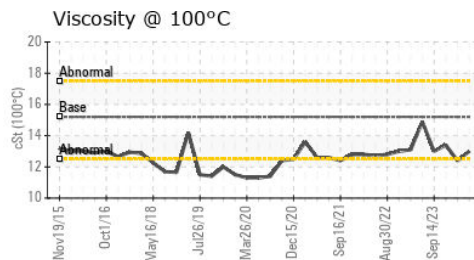
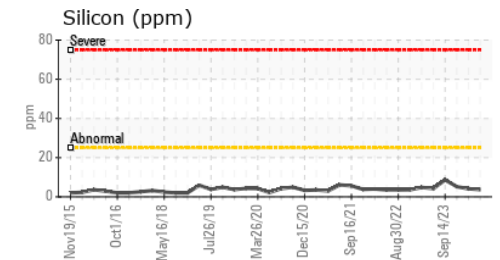
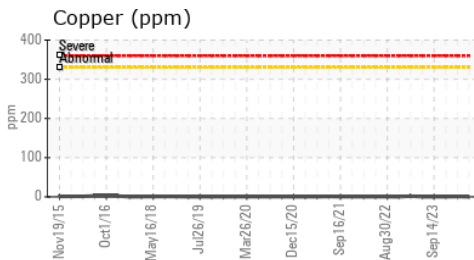
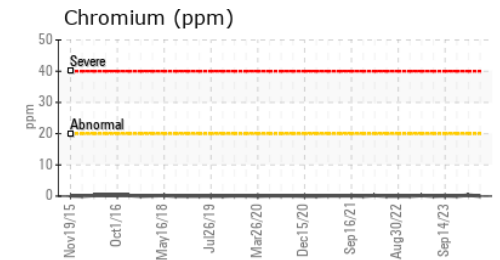
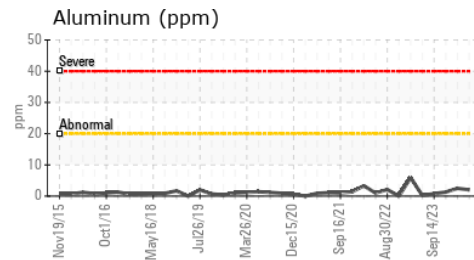
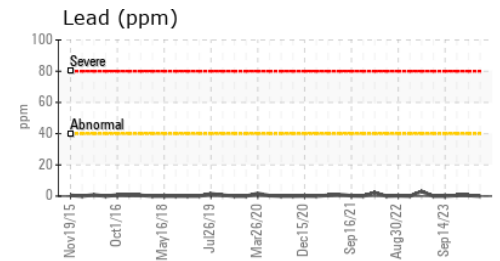
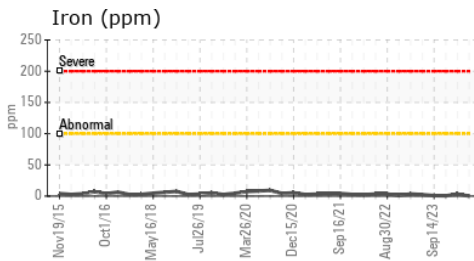
Viscosity @ 100°C



| 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 | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 15.2 | 13.0 | ▲ 12.4 |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0926842
Lab Number : 06196434
Unique Number : 11058557
Test Package : MOB 1 (Additional Tests: TBN)

Received : 31 May 2024
Tested : 03 Jun 2024

Diagnosed : 03 Jun 2024 - Don Baldrige

AES USA - NORTH CHARLESTON
 5400 INTERNATIONAL BLVD, BLDG 88-20
 NORTH CHARLESTON, SC
 US 29418

Contact: Maxime Banctel
 maxime.banctel@aes-gse.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)

T:
 F: x