

OIL ANALYSIS REPORT

Sample Rating Trend

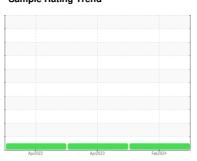
NORMAL



CATERPILLAR PONTIAC GEN 01 - G6B17204

Component **Diesel Engine**

NAPA Motor Oil 15W40 (15 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

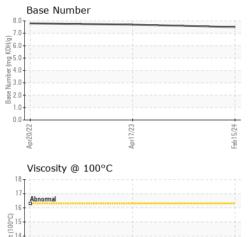
Fluid Condition

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

| | | АР | r2022 | Apr2023 Feb20 | 029 | |
|------------------|-------------------|-------------|------------|---------------|-------------|-------------|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | WC0894356 | WC0771483 | WC0663160 |
| Sample Date | | Client Info | | 15 Feb 2024 | 17 Apr 2023 | 20 Apr 2022 |
| Machine Age | hrs | Client Info | | 558 | 523 | 490 |
| Oil Age | hrs | Client Info | | 14 | 22 | 44 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATION | | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <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 | 1 | 2 | 3 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | <1 | 0 | 1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | | 1 | 2 | 4 |
| Tin | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | 710 | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| ADDITIVES | 1-1- | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | | 21 | 165 | 348 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 10 | 60 | 86 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | 24 | 45 | 302 |
| Calcium | ppm | ASTM D5185m | | 2217 | 1977 | 1663 |
| Phosphorus | ppm | ASTM D5185m | | 923 | 940 | 1017 |
| Zinc | ppm | ASTM D5185m | | 1048 | 1098 | 1240 |
| Sulfur | ppm | ASTM D5185m | | 3699 | 3711 | 3047 |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | | >25 | 5 | 5 | 5 |
| Sodium | ppm | ASTM D5185m | 720 | <1 | <1 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 4 | <1 |
| INFRA-RED | ррпп | method | limit/base | current | history1 | history2 |
| | 0/ | | | | | |
| Soot % | % A b a /a rea | *ASTM D7844 | >3 | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | | 5.3 | 6.2 | 5.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 15.5 | 17.6 | 18.4 |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 9.4 | 13.5 | 12.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 7.5 | 7.7 | 7.8 |
| | | | | | | |



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| 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 DDODEDT | 150 | | 1: 2: 0 | | 111 | 1: |
| FLUID PROPERT | IES | method | limit/base | current | history1 | history2 |

| FLUID PROPER | RTIES | method | limit/base | current | history1 | history2 |
|-----------------|---|-----------|------------|---------------|------------|----------|
| Visc @ 100°C | cSt | ASTM D445 | | 13.8 | 13.0 | 13.3 |
| GRAPHS | | | | | | |
| Iron (ppm) | | | 100- | Lead (ppm) | | |
| Severe | | | 80 | Severe | | |
| Abnormal | | | 60· | | | |
| 100 7 | *************************************** | | 40- | Abnormal | | - |
| 50 | | | 20 | | | |
| Apr20/22 - | Apr17/23 - | | Feb15/24 | Apr20/22 - | Apr17/23 - | Feb15/24 |
| | | | 星 | | | 92 |
| Aluminum (ppm |) ; | | 50- | | om) | |
| 40 Severe | | | 40 | Severe | | - |
| Abnormal | | | 量 30· | Abnormal | | |
| 10 | | | 10 | 1 | | |
| 0 | 27 | | | | 22 | 4 |
| Apr20/22 | Apr17/23 | | Feb15/24 | Apr20/22. | Apr17/23 | Feb15/24 |
| Copper (ppm) | | | | Silicon (ppm) | | |
| 400 T | *************************************** | | 80- | Severe | | |
| 300 | | | 60- | | | |
| Ē 200 | | | Ē.40∙ | Abnormal | | |
| 100 | | | 20. | | | |
| 0/22 | 1/23 | | | 0/22 | 7/23 | 5/24 |
| Apr20/22 | Apr17/23 | | Feb15/24 | Apr20/22 | Apr17/23 | Feb15/24 |
| Viscosity @ 100 | °C | | 8.0 | Base Number | | |
| Abnormal | *************************************** | | 0.0 KOH/g) | | | |
| (5) 00)14 | | |) B (0.00 | 1 | | |
| = | | | 9 7.0 | i | | |





Laboratory Sample No.

Lab Number : 06101337 Unique Number: 10899567

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0894356 Received

Tested Diagnosed Test Package: MOB 1 (Additional Tests: TBN)

: 28 Feb 2024 : 28 Feb 2024 - Don Baldridge

: 27 Feb 2024

US 27616 Contact: BRANDON RICE brandon.rice@natpow.com

NATIONAL POWER CORP

4541 PRESLYN DR

RALEIGH, NC

F: (919)790-9714

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)

Report Id: NATRAL [WUSCAR] 06101337 (Generated: 04/02/2024 00:33:12) Rev: 1

Contact/Location: BRANDON RICE - NATRAL

Apr17/23