



| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |



Area
[VALLEY DRILLING]
Machine Id
CATERPILLAR RIG 002 (S/N 6NZ22146)
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number | | Client Info | | JR0195287 | --- | --- |
| Sample Date | | Client Info | | 17 Jan 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 25612 | --- | --- |
| Oil Age | hrs | Client Info | | 0 | --- | --- |
| Filter Age | hrs | Client Info | | 0 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185m | >100 | 12 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 0 | --- | --- |
| Nickel | ppm | ASTM D5185m | >2 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185m | >2 | 0 | --- | --- |
| Silver | ppm | ASTM D5185m | >2 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >25 | 3 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | 1 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 3 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |

CONTAMINATION

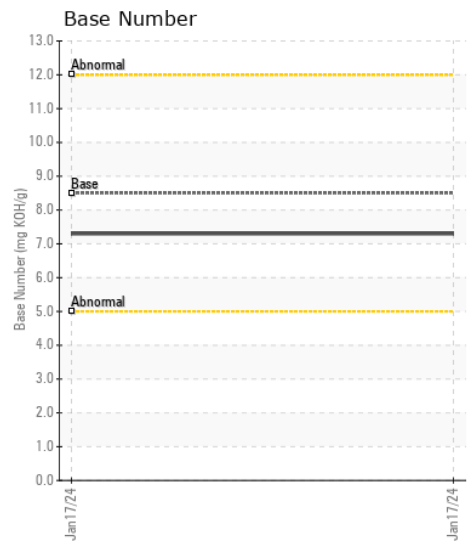
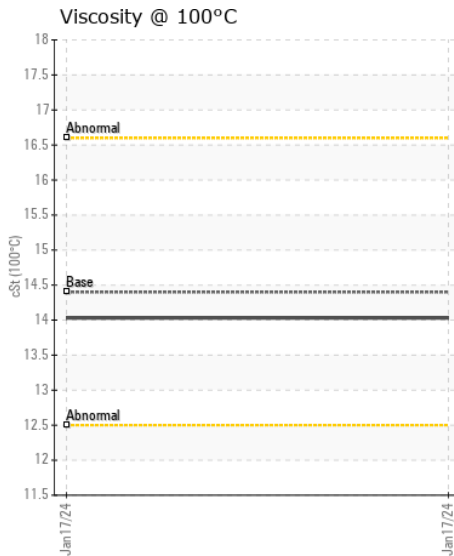
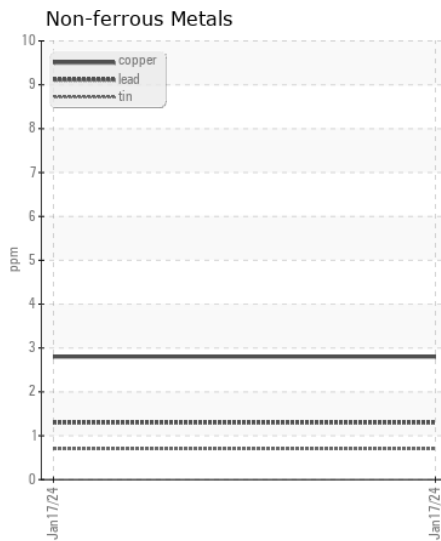
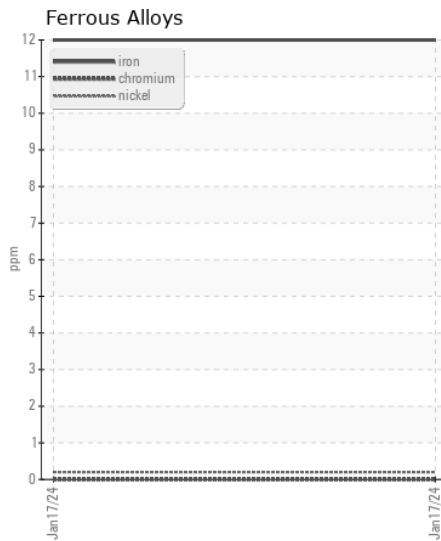
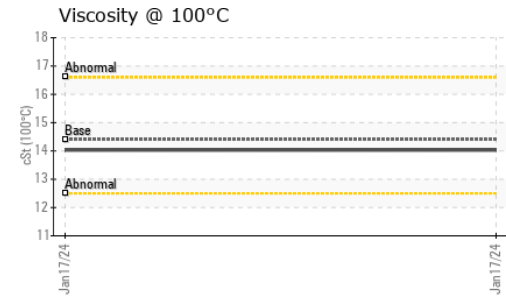
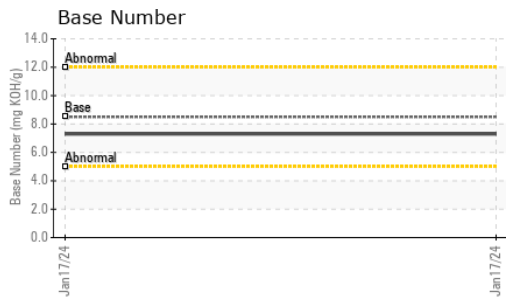
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-----|-----|
| Silicon | ppm | ASTM D5185m | >25 | 5 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | --- | --- |
| Fuel | | WC Method | >5 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.1 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.3 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.1 | --- | --- |
| Silt | scalar | *Visual | NONE | NONE | --- | --- |
| Debris | scalar | *Visual | NONE | NONE | --- | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- | --- |
| Odor | scalar | *Visual | NORML | NORML | --- | --- |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | --- | --- |

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.

| | | | | | | |
|------------------|----------|-------------|------|--------------|-----|-----|
| Sodium | ppm | ASTM D5185m | >216 | 5 | --- | --- |
| Boron | ppm | ASTM D5185m | 250 | 99 | --- | --- |
| Barium | ppm | ASTM D5185m | 10 | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 100 | 87 | --- | --- |
| Manganese | ppm | ASTM D5185m | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185m | 450 | 135 | --- | --- |
| Calcium | ppm | ASTM D5185m | 3000 | 1942 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1048 | --- | --- |
| Zinc | ppm | ASTM D5185m | 1350 | 1172 | --- | --- |
| Sulfur | ppm | ASTM D5185m | 4250 | 4149 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.7 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 7.3 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 14.03 | --- | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0195287 **Received** : 18 Jan 2024
Lab Number : 06064684 **Diagnosed** : 19 Jan 2024
Unique Number : 10836066 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: TBN)

JRE - STEPHENSON
 245 YARDMASTER COURT
 STEPHENSON, VA
 US 22656-1761
 Contact: PHIL DAUGHERTY
 pdaugherty@jamesriverequipment.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: x:
 F: (540)693-2588