



# OIL ANALYSIS REPORT

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



Area  
**OKLAHOMA/102/TR - BACKHOE LOADER**  
Machine Id  
**53.204L [OKLAHOMA^102^TR - BACKHOE LOADER]**  
Component  
**Diesel Engine**  
Fluid  
**MOBIL DELVAC SUPER 1400 15W40 (--- GAL)**

## RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current     | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number  |     | Client Info |           | WC0886948   | ---      | ---      |
| Sample Date    |     | Client Info |           | 09 Jan 2024 | ---      | ---      |
| Machine Age    | hrs | Client Info |           | 917         | ---      | ---      |
| Oil Age        | hrs | Client Info |           | 250         | ---      | ---      |
| Filter Age     | hrs | Client Info |           | 250         | ---      | ---      |
| Oil Changed    |     | Client Info |           | Changed     | ---      | ---      |
| Filter Changed |     | Client Info |           | Changed     | ---      | ---      |
| Sample Status  |     |             |           | ATTENTION   | ---      | ---      |

## WEAR

All component wear rates are normal.

|              |        |             |      |      |     |     |
|--------------|--------|-------------|------|------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >100 | 42   | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >20  | 1    | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >2   | <1   | --- | --- |
| Titanium     | ppm    | ASTM D5185m | >2   | <1   | --- | --- |
| Silver       | ppm    | ASTM D5185m | >2   | 0    | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >25  | 5    | --- | --- |
| Lead         | ppm    | ASTM D5185m | >40  | <1   | --- | --- |
| Copper       | ppm    | ASTM D5185m | >330 | 7    | --- | --- |
| Tin          | ppm    | ASTM D5185m | >15  | <1   | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | 0    | --- | --- |
| White Metal  | scalar | *Visual     | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | NONE | --- | --- |

## CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

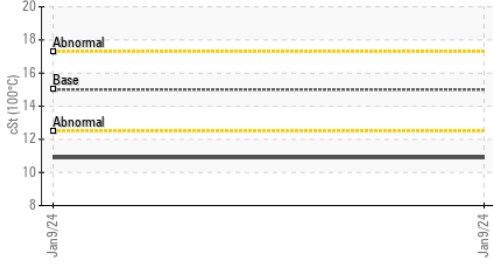
|                  |          |             |       |       |     |     |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon          | ppm      | ASTM D5185m | >25   | 15    | --- | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | 1     | --- | --- |
| Fuel             | %        | ASTM D3524  | >5    | 1.6   | --- | --- |
| Water            |          | WC Method   | >0.2  | NEG   | --- | --- |
| Glycol           |          | WC Method   |       | NEG   | --- | --- |
| Soot %           | %        | *ASTM D7844 | >3    | 0.3   | --- | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | 7.0   | --- | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | 21.1  | --- | --- |
| 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

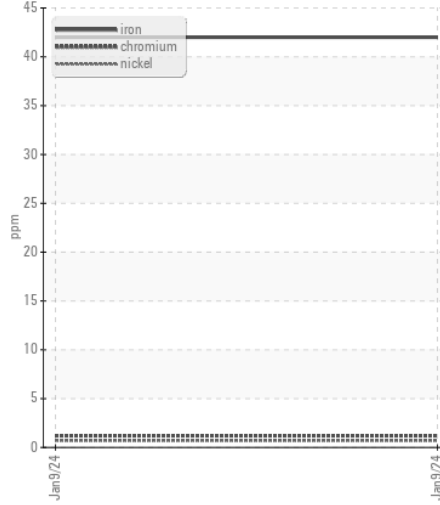
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

|                  |          |             |      |        |     |     |
|------------------|----------|-------------|------|--------|-----|-----|
| Sodium           | ppm      | ASTM D5185m |      | 2      | --- | --- |
| Boron            | ppm      | ASTM D5185m |      | 33     | --- | --- |
| Barium           | ppm      | ASTM D5185m |      | 0      | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m |      | 34     | --- | --- |
| Manganese        | ppm      | ASTM D5185m |      | 9      | --- | --- |
| Magnesium        | ppm      | ASTM D5185m |      | 435    | --- | --- |
| Calcium          | ppm      | ASTM D5185m |      | 1520   | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m |      | 863    | --- | --- |
| Zinc             | ppm      | ASTM D5185m |      | 1029   | --- | --- |
| Sulfur           | ppm      | ASTM D5185m |      | 2618   | --- | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | 18.7   | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 11.5 | 8.2    | --- | --- |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.0 | ▲ 10.9 | --- | --- |

▲ Viscosity @ 100°C



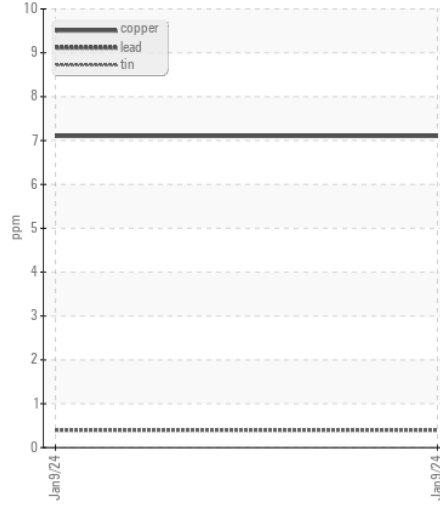
Ferrous Alloys



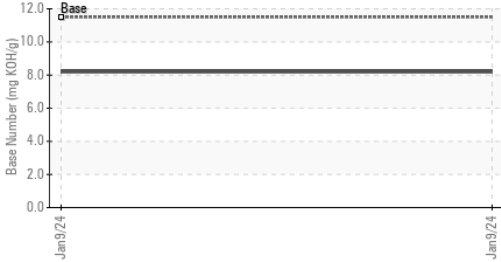
Fuel Dilution



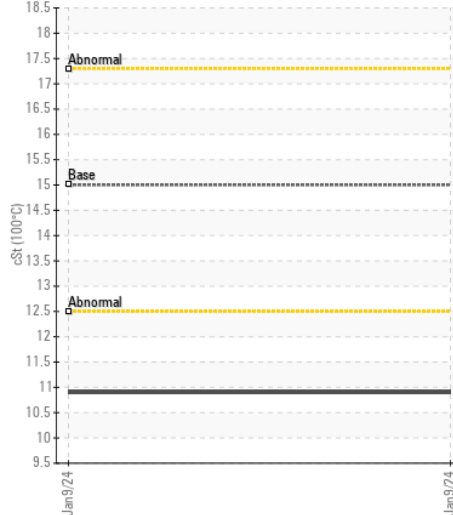
Non-ferrous Metals



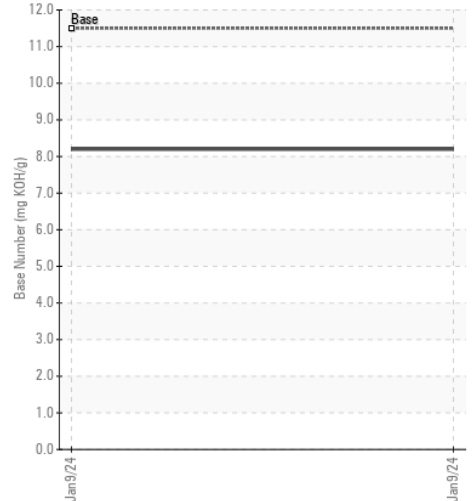
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0886948 **Recieved** : 16 Jan 2024  
**Lab Number** : 06060883 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10832265 **Diagnostician** : Don Baldrige  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**SHERWOOD CONSTRUCTION CO INC**  
 3219 WEST MAY ST  
 WICHITA, KS  
 US 67213  
 Contact: SHAWN SOUTH  
 shawn.south@sherwood.net

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: x: