



# OIL ANALYSIS REPORT

|                 |                 |
|-----------------|-----------------|
| WEAR            | <b>ABNORMAL</b> |
| CONTAMINATION   | <b>ABNORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b>   |

Machine Id  
**HC2229**  
Component  
**1 Winch**  
Fluid  
**GEAR OIL ISO 220 (--- GAL)**

## RECOMMENDATION

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

## WEAR

Gear wear is indicated. All other component wear rates are normal.

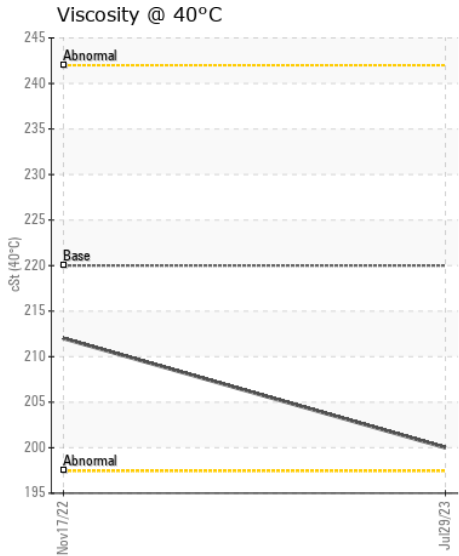
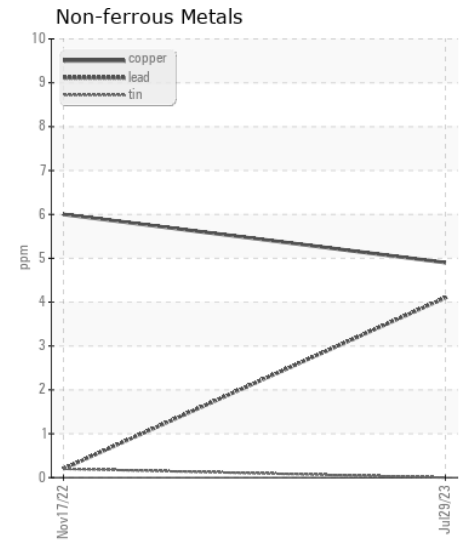
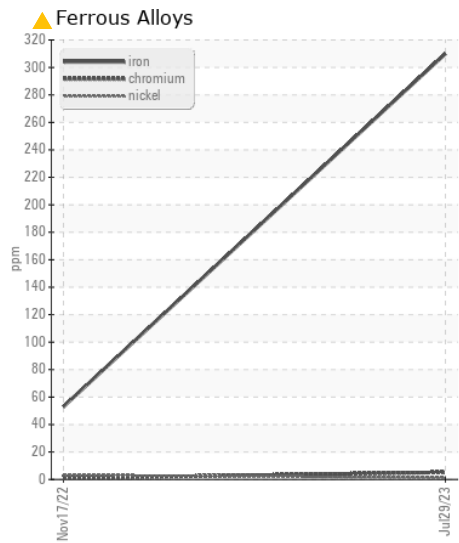
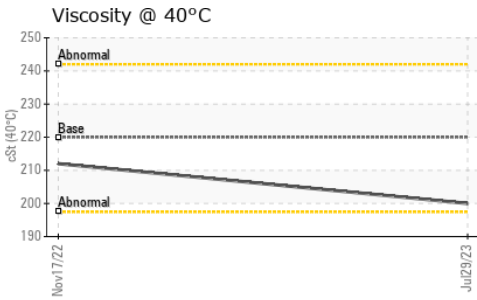
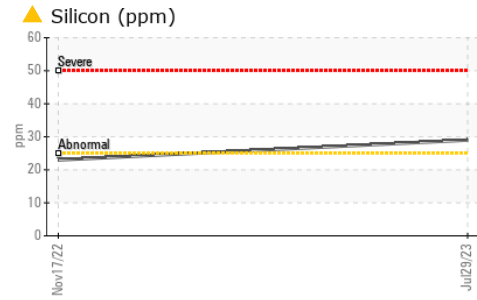
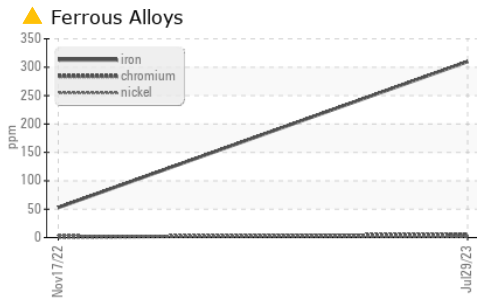
## CONTAMINATION

Elemental level of silicon (Si) above normal. The water content is negligible.

## FLUID CONDITION

The condition of the oil is acceptable for the time in service.

| Test             | UOM    | Method      | Limit/Abn | Current            | History1      | History2 |
|------------------|--------|-------------|-----------|--------------------|---------------|----------|
| Sample Number    |        | Client Info |           | <b>WC0810423</b>   | WC0720447     | ---      |
| Sample Date      |        | Client Info |           | <b>29 Jul 2023</b> | 17 Nov 2022   | ---      |
| Machine Age      | hrs    | Client Info |           | <b>6455</b>        | 5125          | ---      |
| Oil Age          | hrs    | Client Info |           | <b>0</b>           | 717           | ---      |
| Filter Age       | hrs    | Client Info |           | <b>0</b>           | 717           | ---      |
| Oil Changed      |        | Client Info |           | <b>Changed</b>     | Changed       | ---      |
| Filter Changed   |        | Client Info |           | <b>Changed</b>     | Changed       | ---      |
| Sample Status    |        |             |           | <b>ABNORMAL</b>    | ABNORMAL      | ---      |
| Iron             | ppm    | ASTM D5185m | >150      | <b>▲ 310</b>       | 53            | ---      |
| Chromium         | ppm    | ASTM D5185m | >10       | <b>5</b>           | <1            | ---      |
| Nickel           | ppm    | ASTM D5185m | >10       | <b>1</b>           | 3             | ---      |
| Titanium         | ppm    | ASTM D5185m |           | <b>&lt;1</b>       | 0             | ---      |
| Silver           | ppm    | ASTM D5185m |           | <b>0</b>           | 1             | ---      |
| Aluminum         | ppm    | ASTM D5185m | >5        | <b>1</b>           | 1             | ---      |
| Lead             | ppm    | ASTM D5185m | >15       | <b>4</b>           | <1            | ---      |
| Copper           | ppm    | ASTM D5185m | >80       | <b>5</b>           | 6             | ---      |
| Tin              | ppm    | ASTM D5185m |           | <b>0</b>           | <1            | ---      |
| Vanadium         | ppm    | ASTM D5185m |           | <b>&lt;1</b>       | <1            | ---      |
| White Metal      | scalar | *Visual     | NONE      | <b>NONE</b>        | NONE          | ---      |
| Yellow Metal     | scalar | *Visual     | NONE      | <b>NONE</b>        | NONE          | ---      |
| Silicon          | ppm    | ASTM D5185m | >25       | <b>▲ 29</b>        | 23            | ---      |
| Potassium        | ppm    | ASTM D5185m | >20       | <b>4</b>           | 1             | ---      |
| Water            |        | WC Method   | >0.2      | <b>NEG</b>         | NEG           | ---      |
| Silt             | scalar | *Visual     | NONE      | <b>NONE</b>        | NONE          | ---      |
| Debris           | scalar | *Visual     | NONE      | <b>NONE</b>        | NONE          | ---      |
| Sand/Dirt        | scalar | *Visual     | NONE      | <b>NONE</b>        | NONE          | ---      |
| Appearance       | scalar | *Visual     | NORML     | <b>NORML</b>       | NORML         | ---      |
| Odor             | scalar | *Visual     | NORML     | <b>NORML</b>       | NORML         | ---      |
| Emulsified Water | scalar | *Visual     | >0.2      | <b>NEG</b>         | <b>▲ 0.2%</b> | ---      |
| Sodium           | ppm    | ASTM D5185m |           | <b>4</b>           | 4             | ---      |
| Boron            | ppm    | ASTM D5185m | 50        | <b>0</b>           | 6             | ---      |
| Barium           | ppm    | ASTM D5185m | 15        | <b>0</b>           | 0             | ---      |
| Molybdenum       | ppm    | ASTM D5185m | 15        | <b>&lt;1</b>       | <1            | ---      |
| Manganese        | ppm    | ASTM D5185m |           | <b>5</b>           | <1            | ---      |
| Magnesium        | ppm    | ASTM D5185m | 50        | <b>2</b>           | 2             | ---      |
| Calcium          | ppm    | ASTM D5185m | 50        | <b>10</b>          | 43            | ---      |
| Phosphorus       | ppm    | ASTM D5185m | 350       | <b>234</b>         | 473           | ---      |
| Zinc             | ppm    | ASTM D5185m | 100       | <b>53</b>          | 43            | ---      |
| Sulfur           | ppm    | ASTM D5185m | 12500     | <b>1348</b>        | 1727          | ---      |
| Visc @ 40°C      | cSt    | ASTM D445   | 220       | <b>200</b>         | 212           | ---      |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0810423  
**Lab Number** : 05925595  
**Unique Number** : 10605542  
**Test Package** : CONST

**Received** : 15 Aug 2023  
**Tested** : 16 Aug 2023  
**Diagnosed** : 17 Aug 2023 - Don Baldrige

**BUCKNER HEAVY LIFT**  
 4732 NC 54 EAST  
 GRAHAM, NC  
 US 27253-9215

Contact: MICHAEL LAWSON  
 michael@bucknercompanies.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)

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