



# OIL ANALYSIS REPORT

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

Machine Id  
**INGERSOLL RAND SD70D 000765 (S/N 146291)**

Component  
**Hydraulic System**

Fluid  
**CASTROL DUAL RANGE HV HYD OIL ISO 46 (32 GAL)**

## RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. The oil change at the time of sampling has been noted. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

## WEAR

All component wear rates are normal.

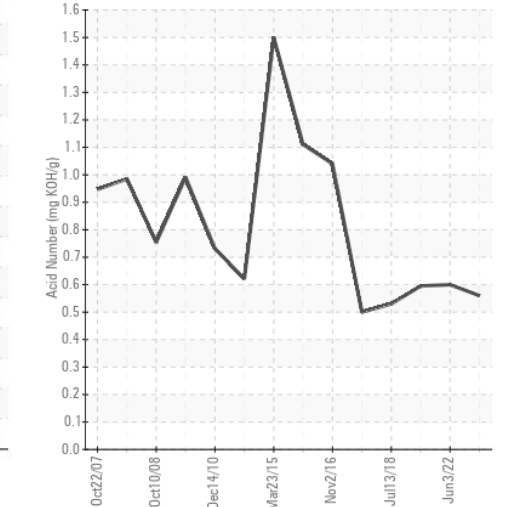
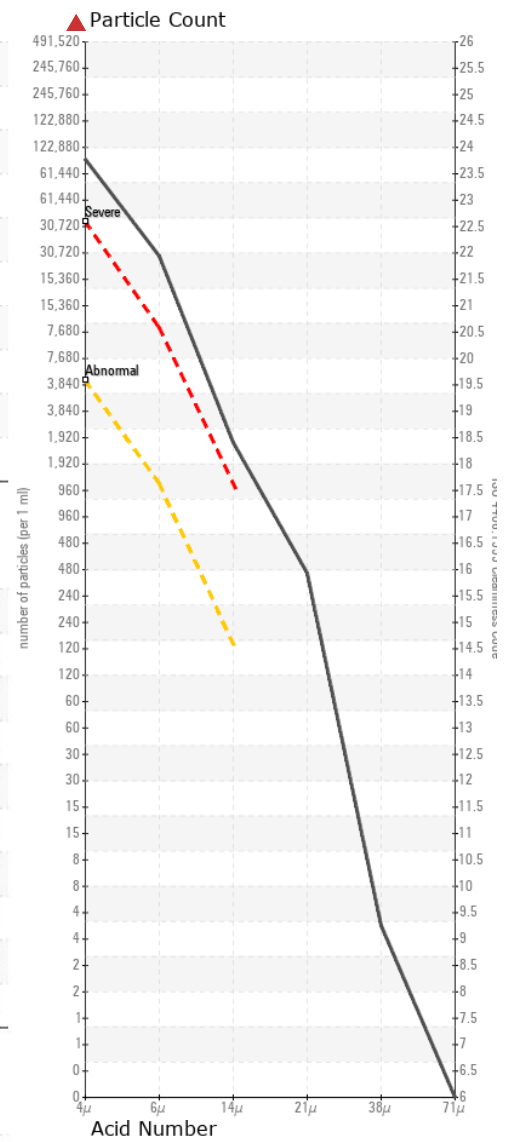
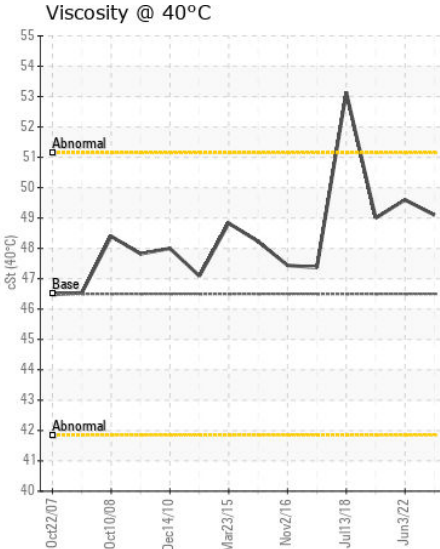
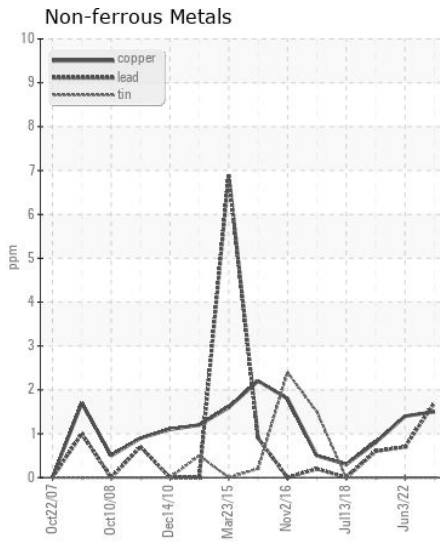
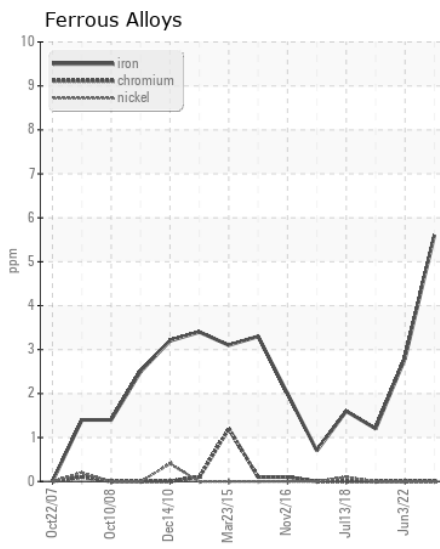
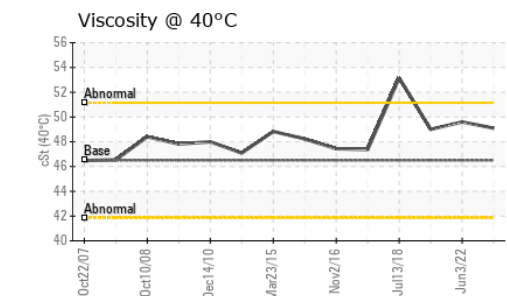
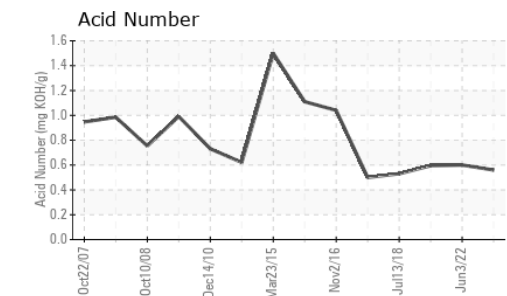
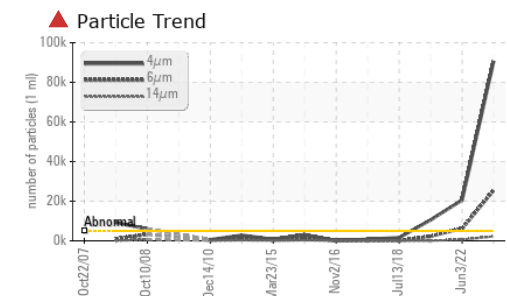
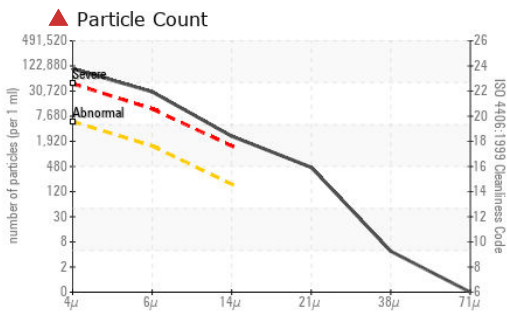
## CONTAMINATION

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

## FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| Test             | UOM      | Method       | Limit/Abn | Current            | History1    | History2    |
|------------------|----------|--------------|-----------|--------------------|-------------|-------------|
| Sample Number    |          | Client Info  |           | <b>WC0800392</b>   | WC0664797   | WC0401613   |
| Sample Date      |          | Client Info  |           | <b>09 Feb 2024</b> | 03 Jun 2022 | 29 Apr 2020 |
| Machine Age      | hrs      | Client Info  |           | <b>10959</b>       | 10562       | 10190       |
| Oil Age          | hrs      | Client Info  |           | <b>397</b>         | 372         | 500         |
| Filter Age       | hrs      | Client Info  |           | <b>397</b>         | 372         | 500         |
| Oil Changed      |          | Client Info  |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed   |          | Client Info  |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status    |          |              |           | <b>SEVERE</b>      | ABNORMAL    | ABNORMAL    |
| Iron             | ppm      | ASTM D5185m  | >20       | <b>6</b>           | 3           | 1           |
| Chromium         | ppm      | ASTM D5185m  | >10       | <b>0</b>           | 0           | 0           |
| Nickel           | ppm      | ASTM D5185m  | >10       | <b>0</b>           | 0           | 0           |
| Titanium         | ppm      | ASTM D5185m  |           | <b>0</b>           | 0           | 0           |
| Silver           | ppm      | ASTM D5185m  |           | <b>0</b>           | 0           | <1          |
| Aluminum         | ppm      | ASTM D5185m  | >10       | <b>&lt;1</b>       | <1          | <1          |
| Lead             | ppm      | ASTM D5185m  | >10       | <b>2</b>           | <1          | <1          |
| Copper           | ppm      | ASTM D5185m  | >75       | <b>2</b>           | 1           | <1          |
| Tin              | ppm      | ASTM D5185m  | >10       | <b>0</b>           | 0           | 0           |
| Vanadium         | ppm      | ASTM D5185m  |           | <b>0</b>           | 0           | 0           |
| White Metal      | scalar   | *Visual      | NONE      | <b>NONE</b>        | NONE        | LIGHT       |
| Yellow Metal     | scalar   | *Visual      | NONE      | <b>NONE</b>        | NONE        | NONE        |
| Silicon          | ppm      | ASTM D5185m  | >20       | <b>2</b>           | 1           | 1           |
| Potassium        | ppm      | ASTM D5185m  | >20       | <b>&lt;1</b>       | 0           | 0           |
| Water            |          | WC Method    | >0.1      | <b>NEG</b>         | NEG         | NEG         |
| Particles >4µm   |          | ASTM D7647   | >5000     | <b>▲ 90625</b>     | ▲ 20582     | ▲ 10564     |
| Particles >6µm   |          | ASTM D7647   | >1300     | <b>▲ 25557</b>     | ▲ 6224      | ● 2237      |
| Particles >14µm  |          | ASTM D7647   | >160      | <b>▲ 2228</b>      | ▲ 563       | 35          |
| Particles >21µm  |          | ASTM D7647   | >40       | <b>▲ 403</b>       | ● 66        | 13          |
| Particles >38µm  |          | ASTM D7647   | >10       | <b>4</b>           | 2           | 5           |
| Particles >71µm  |          | ASTM D7647   | >3        | <b>0</b>           | 0           | 0           |
| Oil Cleanliness  |          | ISO 4406 (c) | >19/17/14 | <b>▲ 24/22/18</b>  | ▲ 22/20/16  | ▲ 21/18/12  |
| Silt             | scalar   | *Visual      | NONE      | <b>NONE</b>        | NONE        | NONE        |
| Debris           | scalar   | *Visual      | NONE      | <b>LIGHT</b>       | LIGHT       | NONE        |
| Sand/Dirt        | scalar   | *Visual      | NONE      | <b>NONE</b>        | NONE        | NONE        |
| Appearance       | scalar   | *Visual      | NORML     | <b>NORML</b>       | NORML       | NORML       |
| Odor             | scalar   | *Visual      | NORML     | <b>NORML</b>       | NORML       | NORML       |
| Emulsified Water | scalar   | *Visual      | >0.1      | <b>NEG</b>         | NEG         | NEG         |
| Sodium           | ppm      | ASTM D5185m  |           | <b>2</b>           | <1          | 0           |
| Boron            | ppm      | ASTM D5185m  |           | <b>2</b>           | 5           | 5           |
| Barium           | ppm      | ASTM D5185m  |           | <b>0</b>           | 0           | 0           |
| Molybdenum       | ppm      | ASTM D5185m  |           | <b>&lt;1</b>       | 2           | 2           |
| Manganese        | ppm      | ASTM D5185m  |           | <b>0</b>           | 0           | <1          |
| Magnesium        | ppm      | ASTM D5185m  |           | <b>21</b>          | 22          | 17          |
| Calcium          | ppm      | ASTM D5185m  |           | <b>313</b>         | 365         | 493         |
| Phosphorus       | ppm      | ASTM D5185m  |           | <b>382</b>         | 388         | 455         |
| Zinc             | ppm      | ASTM D5185m  |           | <b>476</b>         | 477         | 576         |
| Sulfur           | ppm      | ASTM D5185m  |           | <b>1355</b>        | 1506        | 1635        |
| Acid Number (AN) | mg KOH/g | ASTM D8045   |           | <b>0.56</b>        | 0.60        | 0.595       |
| Visc @ 40°C      | cSt      | ASTM D445    | 46.5      | <b>49.1</b>        | 49.6        | 49.0        |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0800392  
**Lab Number** : 06102410  
**Unique Number** : 10900640  
**Test Package** : CONST  
**Received** : 27 Feb 2024  
**Tested** : 28 Feb 2024  
**Diagnosed** : 28 Feb 2024 - Wes Davis

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Certificate L2367  
 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)