

#### Machine Id H/R JAW CRUSHER 5011 DRIVE Component Gearbox Fluid SHELL OMALA S2 G 220 (45 GAL)

## RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

### **WEAR**

All component wear rates are normal.

## CONTAMINATION

Elemental levels of silicon (Si) and aluminum (AI) indicate aluminasilicate (coarse dirt) ingress.

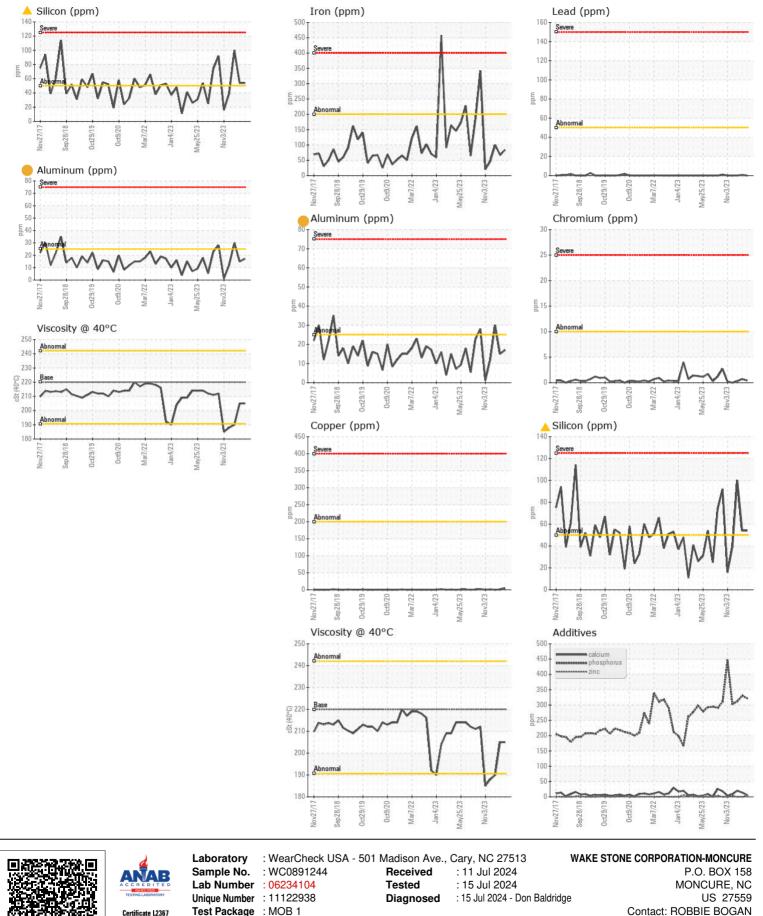
# FLUID CONDITION

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

|   |   |   |  | ~   |   |  |
|---|---|---|--|---|---|--|
| Test  | UOM   | Method  | Limit/Abn  | Current   | History1  | History2   |
| Sample Number   |   | Client Info   |  | WC0891244   | WC0921830   | WC0891250  |
| Sample Date   |   | Client Info   |  | 26 Jun 2024   | 25 Apr 2024   | 31 Jan 2024  |
| Machine Age   | hrs   | Client Info   |  | 20838   | 20533   | 203  |
| Oil Age   | hrs   | Client Info   |  | 324   | 506   | 719  |
| Filter Age  | hrs   | Client Info   |  | 324   | 506   | 719  |
| Oil Changed   |   | Client Info   |  | Changed   | Changed   | Changed  |
| Filter Changed  |   | Client Info   |  | N/A   | N/A   | N/A  |
| Sample Status   |   |   |  | ABNORMAL  | ABNORMAL  | ABNORMAL   |
| Iron  | ppm   | ASTM D5185m   | >200   | 84  | 67  | 100  |
| Chromium  | ppm   | ASTM D5185m   | >10  | <1  | <1  | <1   |
| Nickel  | ppm   | ASTM D5185m   | >10  | <1  | <1  | <1   |
| Titanium  | ppm   | ASTM D5185m   |  | 2   | 2   | 2  |
| Silver  | ppm   | ASTM D5185m   |  | <1  | <1  | 0  |
| Aluminum  | ppm   | ASTM D5185m   | >25  | <b>1</b> 7  | <b>1</b> 5  | <b>3</b> 0   |
| Lead  | ppm   | ASTM D5185m   | >50  | 0   | <1  | <1   |
| Copper  | ppm   | ASTM D5185m   | >200   | 4   | <1  | 0  |
| Tin   | ppm   | ASTM D5185m   | >10  | 0   | <1  | <1   |
| Vanadium  | ppm   | ASTM D5185m   |  | <1  | <1  | 0  |
| White Metal   | scalar  | *Visual   | NONE   | NONE  | NONE  | NONE   |
| Yellow Metal  | scalar  | *Visual   | NONE   | NONE  | NONE  | NONE   |
|   |   |   |  |   |   |  |
| 0'11'   |   | AOTH DEADE  | 50   | A = A   |   | 4  |
| Silicon   | ppm   | ASTM D5185m   | >50  | ▲ 54<br>C   | ▲ 54  | ▲ 100<br>¬   |
| Potassium   | ppm<br>ppm  | ASTM D5185m   | >20  | 6   | 5   | 7  |
| Potassium<br>Water  | ppm   | ASTM D5185m<br>WC Method  | >20<br>>0.2  | 6<br>NEG  | 5<br>NEG  | 7<br>NEG   |
| Potassium<br>Water<br>Silt  | ppm<br>scalar   | ASTM D5185m<br>WC Method<br>*Visual   | >20<br>>0.2<br>NONE  | 6<br>NEG<br>NONE  | 5<br>NEG<br>LIGHT   | 7<br>NEG<br>NONE   |
| Potassium<br>Water<br>Silt<br>Debris  | ppm<br>scalar<br>scalar   | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual  | >20<br>>0.2<br>NONE<br>NONE  | 6<br>NEG<br>NONE<br>NONE  | 5<br>NEG<br>LIGHT<br>NONE   | 7<br>NEG<br>NONE<br>NONE   |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt   | ppm<br>scalar<br>scalar<br>scalar   | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual   | >20<br>>0.2<br>NONE<br>NONE<br>NONE  | 6<br>NEG<br>NONE<br>NONE<br>NONE  | 5<br>NEG<br>LIGHT<br>NONE<br>NONE   | 7<br>NEG<br>NONE<br>NONE<br>NONE   |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance   | ppm<br>scalar<br>scalar<br>scalar<br>scalar   | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual  | >20<br>>0.2<br>NONE<br>NONE<br>NONE<br>NORML   | 6<br>NEG<br>NONE<br>NONE<br>NONE<br>NORML   | 5<br>NEG<br>LIGHT<br>NONE<br>NONE<br>NORML  | 7<br>NEG<br>NONE<br>NONE<br>NONE<br>NORML  |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt   | ppm<br>scalar<br>scalar<br>scalar   | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual   | >20<br>>0.2<br>NONE<br>NONE<br>NONE  | 6<br>NEG<br>NONE<br>NONE<br>NONE  | 5<br>NEG<br>LIGHT<br>NONE<br>NONE   | 7<br>NEG<br>NONE<br>NONE<br>NONE   |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water   | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar   | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual  | >20<br>>0.2<br>NONE<br>NONE<br>NORML<br>NORML  | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG   | 5<br>NEG<br>LIGHT<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG  | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG  |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium   | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar   | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m   | >20<br>>0.2<br>NONE<br>NONE<br>NORML<br>NORML<br>>0.2  | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3  | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4   | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10  |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron  | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm  | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m   | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> </ul>  | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2   | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2  | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3   |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium  | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm                                 | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m  | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> <li>0.0</li> </ul>   | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2<br>1  | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2<br>0   | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3<br>0  |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Molybdenum  | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm                                    | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> </ul>  | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2<br>1<br>2   | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2<br>0<br><1   | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3<br>0<br>0   |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Molybdenum<br>Manganese   | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> <li>0.0</li> <li>0</li> </ul>  | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2<br>1<br><1<br><1  | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2<br>0<br><1<br>1                                      | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3<br>0<br>0<br>0<br>2                                   |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Malybdenum<br>Manganese<br>Magnesium                                  | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> <li>0.0</li> <li>0</li> <li>0</li> </ul>                         | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2<br>1<br><1<br><1<br><1<br><1<br>4   | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2<br>0<br><1<br>1<br>3                                 | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3<br>0<br>0<br>0<br>2<br>6                              |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium                       | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                               | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> <li>0.0</li> <li>0</li> <li>0</li> <li>0</li> </ul>              | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2<br>1<br><1<br><1<br><1<br><1<br>4<br>6  | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2<br>0<br><1<br>1<br>3<br>14                           | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3<br>0<br>0<br>2<br>6<br>6<br>20                        |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Malybdenum<br>Manganese<br>Magnesium<br>Calcium                       | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> <li>0.0</li> <li>0</li> <li>0</li> <li>0</li> <li>215</li> </ul>               | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2<br>1<br><1<br><1<br><1<br><1<br><1<br>4<br>6<br>322                               | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2<br>0<br>4<br>2<br>0<br>(<br>1<br>1<br>3<br>14<br>330 | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3<br>0<br>0<br>2<br>6<br>20<br>312                      |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Molybdenum<br>Manganese<br>Magnesium<br>Calcium<br>Phosphorus<br>Zinc | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NONE</li> <li>NORML</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> <li>0.0</li> <li>0</li> <li>0</li> <li>215</li> <li>0</li> </ul> | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2<br>1<br><1<br><1<br><1<br><1<br><1<br><1<br><1<br><1<br><1<br><1<br><1<br><1<br>< | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2<br>0<br><1<br>1<br>3<br>14<br>330<br>0<br>0          | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3<br>0<br>0<br>2<br>6<br>20<br>5<br>6<br>20<br>312<br>0 |
| Potassium<br>Water<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance<br>Odor<br>Emulsified Water<br>Sodium<br>Boron<br>Barium<br>Malybdenum<br>Malybdenum<br>Manganese<br>Magnesium<br>Calcium         | ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m<br>WC Method<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m                | <ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>4.4</li> <li>0.0</li> <li>0</li> <li>0</li> <li>0</li> <li>215</li> </ul>               | 6<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>3<br>2<br>1<br><1<br><1<br><1<br><1<br><1<br>4<br>6<br>322                               | 5<br>NEG<br>LIGHT<br>NONE<br>NORML<br>NORML<br>NEG<br>4<br>2<br>0<br>4<br>2<br>0<br>(<br>1<br>1<br>3<br>14<br>330 | 7<br>NEG<br>NONE<br>NONE<br>NORML<br>NORML<br>NEG<br>10<br>3<br>0<br>0<br>2<br>6<br>20<br>312                      |

Report Id: WAKMON [WUSCAR] 06234104 (Generated: 07/15/2024 10:09:08) Rev: 1

Contact/Location: ROBBIE BOGAN - WAKMON



Test Package : MOB 1 Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. robbiebogan@wakestonecorp.com \* - 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)

Contact/Location: ROBBIE BOGAN - WAKMON Page 2 of 2

T:

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