**WEAR CONTAMINATION FLUID CONDITION**  **NORMAL NORMAL** NORMAL

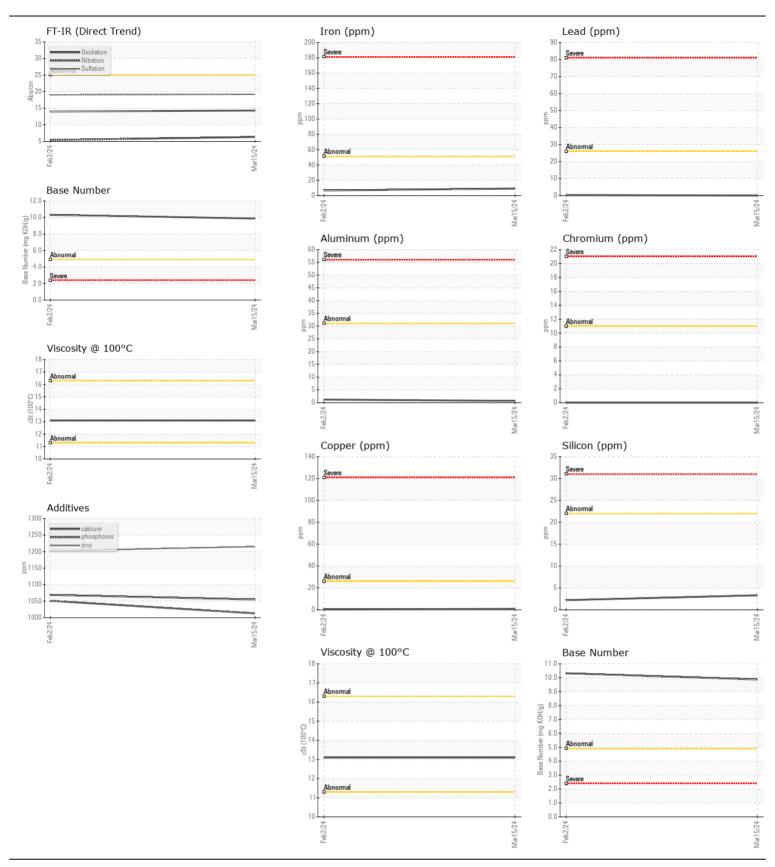
## Marsh Bay A Barge

## JOHN DEERE Feed Generator (S/N PE4045N044169) Diesel Engine

MORII 15W/10 (30 I TR)

| MOBIL 15W40 (30 LTR)  |                  |          |               |           | .,          |             |          |
|---|------------------|----------|---------------|-----------|-------------|-------------|----------|
| RECOMMENDATION  | Test             | UOM      | Method        | Limit/Abn | Current     | History1    | History2 |
| Resample at the next service interval to monitor.   | Sample Number    |          | Client Info   |           | WC0894283   | WC0894249   |          |
|   | Sample Date      |          | Client Info   |           | 15 Mar 2024 | 02 Feb 2024 |          |
|   | Machine Age      | hrs      | Client Info   |           | 3660        | 2980        |          |
|   | Oil Age          | hrs      | Client Info   |           | 680         | 255         |          |
|   | Filter Age       | hrs      | Client Info   |           | 280         | 255         |          |
|   | Oil Changed      |          | Client Info   |           | Changed     | Changed     |          |
|   | Filter Changed   |          | Client Info   |           | Changed     | Changed     |          |
|   | Sample Status    |          |               |           | NORMAL      | NORMAL      |          |
| WEAR  | Iron             | ppm      | ASTM D5185(m) | >51       | 9           | 7           |          |
| All component wear rates are normal.  | Chromium         | ppm      | ASTM D5185(m) | >11       | 0           | 0           |          |
|   | Nickel           | ppm      | ASTM D5185(m) | >5        | 0           | <1          |          |
|   | Titanium         | ppm      | ASTM D5185(m) |           | 0           | 0           |          |
|   | Silver           | ppm      | ASTM D5185(m) | >3        | 0           | 0           |          |
|   | Aluminum         | ppm      | ASTM D5185(m) | >31       | <1          | 1           |          |
|   | Lead             | ppm      | ASTM D5185(m) | >26       | 0           | <1          |          |
|   | Copper           | ppm      | ASTM D5185(m) | >26       | <1          | <1          |          |
|   | Tin              | ppm      | ASTM D5185(m) | >4        | 0           | 0           |          |
|   | Vanadium         | ppm      | ASTM D5185(m) |           | 0           | 0           |          |
| CONTAMINATION   | Silicon          | ppm      | ASTM D5185(m) | >22       | 3           | 2           |          |
| There is no indication of any contamination in the oil.   | Potassium        | ppm      | ASTM D5185(m) | >20       | <1          | <1          |          |
|   | Fuel             |          | WC Method     | >2.1      | <1.0        | <1.0        |          |
|   | Water            |          | WC Method     | >0.21     | NEG         | NEG         |          |
|   | Glycol           |          | WC Method     |           | NEG         | NEG         |          |
|   | Soot %           | %        | ASTM D7844*   | >3        | 0.1         | 0           |          |
|   | Nitration        | Abs/cm   | ASTM D7624*   | >20       | 6.3         | 5.4         |          |
|   | Sulfation        | Abs/.1mm | ASTM D7415*   | >30       | 19.2        | 19.0        |          |
|   | Emulsified Water | scalar   | Visual*       | >0.21     | NEG         | NEG         |          |
| FLUID CONDITION   | Sodium           | ppm      | ASTM D5185(m) | >118      | <1          | 1           |          |
| The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. | Boron            | ppm      | ASTM D5185(m) |           | 1           | 1           |          |
|   | Barium           | ppm      | ASTM D5185(m) |           | 0           | 0           |          |
|   | Molybdenum       | ppm      | ASTM D5185(m) |           | 62          | 61          |          |
|   | Manganese        | ppm      | ASTM D5185(m) |           | 0           | 0           |          |
|   | Magnesium        | ppm      | ASTM D5185(m) |           | 993         | 1004        |          |
|   | Calcium          | ppm      | ASTM D5185(m) |           | 1055        | 1069        |          |
|   | Phosphorus       | ppm      | ASTM D5185(m) |           | 1013        | 1051        |          |
|   | Zinc             | ppm      | ASTM D5185(m) |           | 1215        | 1202        |          |
|   | Sulfur           | ppm      | ASTM D5185(m) |           | 2655        | 2914        |          |
|   | Oxidation        | Abs/.1mm | ASTM D7414*   | >25       | 14.3        | 14.0        |          |
|   | Base Number (BN) | mg KOH/g | ASTM D2896*   |           | 9.87        | 10.32       |          |
|   | Visc @ 100°C     | cSt      | ASTM D7279(m) |           | 13.1        | 13.1        |          |

Submitted By: Brian Dalton





ISO 17025:2017 Accredited Laboratory Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

 Sample No.
 : WC0894283
 Received
 : 08 Apr 2024

 Lab Number
 : 02627215
 Tested
 : 09 Apr 2024

 Unique Number
 : 5760347
 Diagnosed
 : 09 Apr 2024 - Wes Davis

Test Package : MOB 2

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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