

# **OIL ANALYSIS REPORT**

RIG 26 **DEC 7814** 

Hydraulic System

HYDRAULIC OIL (PE) ISO 10 (--- GAL)

# Sample Rating Trend



### DIAGNOSIS

### Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

### Wear

All component wear rates are normal.

## Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

### **Fluid Condition**

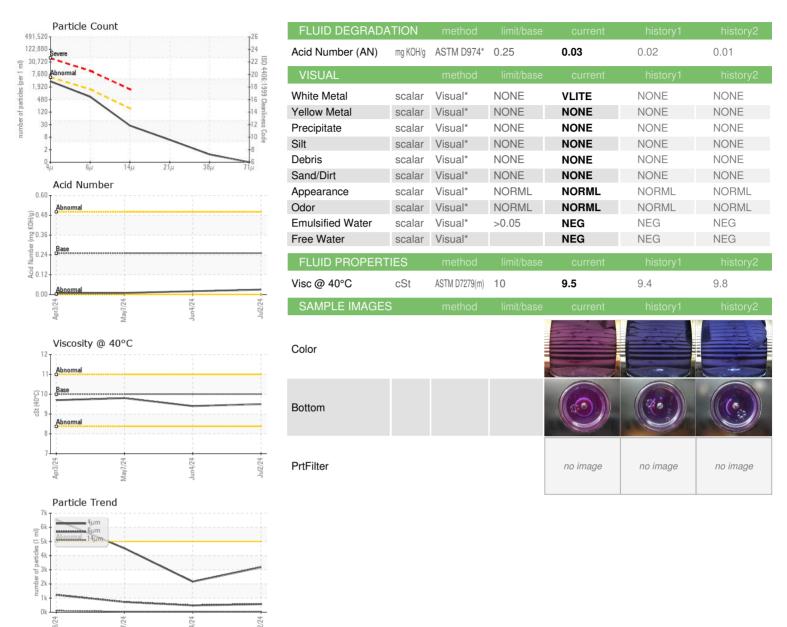
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORM   | //ATION   | method  | limit/base   | current  | history1   | history2   |
|---|---|---|--|--|--|--|
| Sample Number   |   | Client Info   |  | WC0961571  | WC0952512  | WC0941883  |
| Sample Date   |   | Client Info   |  | 02 Jul 2024  | 04 Jun 2024  | 07 May 2024  |
| Machine Age   | hrs   | Client Info   |  | 0  | 0  | 0  |
| Oil Age   | hrs   | Client Info   |  | 0  | 0  | 0  |
| Oil Changed   |   | Client Info   |  | N/A  | N/A  | N/A  |
| Sample Status   |   |   |  | NORMAL   | NORMAL   | NORMAL   |
| CONTAMINATIO  | V   | method  | limit/base   | current  | history1   | history2   |
| Water   |   | WC Method   | >0.05  | NEG  | NEG  | NEG  |
| WEAR METALS   |   | method  | limit/base   | current  | history1   | history2   |
| Iron  | ppm   | ASTM D5185(m)   | >20  | <1   | <1   | 0  |
| Chromium  | ppm   | ASTM D5185(m)   | >20  | 0  | 0  | 0  |
| Nickel  | ppm   | ASTM D5185(m)   | >20  | <1   | 0  | 0  |
| Titanium  | ppm   | ASTM D5185(m)   |  | 0  | 0  | 0  |
| Silver  | ppm   | ASTM D5185(m)   |  | 0  | 0  | 0  |
| Aluminum  | ppm   | ASTM D5185(m)   | >20  | <1   | 0  | 0  |
| Lead  | ppm   | ASTM D5185(m)   | >20  | 0  | 0  | 0  |
| Copper  | ppm   | ASTM D5185(m)   | >20  | <1   | <1   | <1   |
| Tin   | ppm   | ASTM D5185(m)   | >20  | 0  | 0  | 0  |
| Antimony  | ppm   | ASTM D5185(m)   |  | 0  | 0  | 0  |
| Vanadium  | ppm   | ASTM D5185(m)   |  | 0  | 0  | 0  |
| Beryllium   | ppm   | ASTM D5185(m)   |  | 0  | 0  | 0  |
| Cadmium   | ppm   | ASTM D5185(m)   |  | 0  | 0  | 0  |
|   |   |   |  |  |  |  |
| ADDITIVES   |   | method  | limit/base   | current  | history1   | history2   |
| ADDITIVES<br>Boron  | ppm   | method<br>ASTM D5185(m)   | limit/base<br>5  | current<br>1   | <1   | history2<br>1  |
|   | ppm   |   |  |  |  | · ·  |
| Boron   |   | ASTM D5185(m)<br>ASTM D5185(m)<br>ASTM D5185(m)   | 5  | 1  | <1<br>0<br>0   | 1<br>0<br>0  |
| Boron<br>Barium   | ppm   | ASTM D5185(m)<br>ASTM D5185(m)  | 5<br>5   | 1<br>0   | <1<br>0  | 1<br>0<br>0  |
| Boron<br>Barium<br>Molybdenum   | ppm<br>ppm  | ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)   | 5<br>5<br>5  | 1<br>0<br>0<br>0<br>0  | <1<br>0<br>0<br>0<br>0<br><1   | 1<br>0<br>0<br>0<br>0<br><1  |
| Boron Barium Molybdenum Manganese Magnesium Calcium   | ppm<br>ppm  | ASTM D5185(m)   | 5<br>5<br>5  | 1<br>0<br>0<br>0   | <1<br>0<br>0<br>0<br>0<br><1   | 1<br>0<br>0  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus  | ppm<br>ppm<br>ppm   | ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500   | 1<br>0<br>0<br>0<br>0<br>0<br>2<br>35067   | <1<br>0<br>0<br>0<br>0<br><1<br>1<br>42414   | 1<br>0<br>0<br>0<br><1<br>2<br>39300   |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5  | 1<br>0<br>0<br>0<br>0<br>0<br>2<br>35067   | <1<br>0<br>0<br>0<br>0<br><1<br>1<br>42414   | 1<br>0<br>0<br>0<br>0<br><1<br>2<br>39300  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500   | 1<br>0<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607  | <1<br>0<br>0<br>0<br>0<br><1<br>1<br>42414<br>1<br>1585                              | 1<br>0<br>0<br>0<br>0<br><1<br>2<br>39300<br>1<br>1608                             |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                      | ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5  | 1<br>0<br>0<br>0<br>0<br>0<br>2<br>35067   | <1<br>0<br>0<br>0<br>0<br><1<br>1<br>42414   | 1<br>0<br>0<br>0<br>0<br><1<br>2<br>39300  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5  | 1<br>0<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607  | <1<br>0<br>0<br>0<br>0<br><1<br>1<br>42414<br>1<br>1585                              | 1<br>0<br>0<br>0<br>0<br><1<br>2<br>39300<br>1<br>1608                             |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)  method ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500  | 1<br>0<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current   | <1<br>0<br>0<br>0<br><1<br>1<br>42414<br>1<br>1585<br><1<br>history1                 | 1<br>0<br>0<br>0<br><1<br>2<br>39300<br>1<br>1608                                  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500<br>limit/base<br>>15   | 1<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1   | <1<br>0<br>0<br>0<br><1<br>1<br>42414<br>1<br>1585<br><1<br>history1<br>0            | 1<br>0<br>0<br>0<br>0<br><1<br>2<br>39300<br>1<br>1608<br><1<br>history2           |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)  method ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500  | 1<br>0<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current   | <1<br>0<br>0<br>0<br><1<br>1<br>42414<br>1<br>1585<br><1<br>history1                 | 1<br>0<br>0<br>0<br><1<br>2<br>39300<br>1<br>1608<br><1<br>history2                |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium  CONTAMINANTS Silicon Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500<br>limit/base<br>>15   | 1<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current  | <1<br>0<br>0<br>0<br><1<br>1<br>42414<br>1<br>1585<br><1<br>history1<br>0            | 1<br>0<br>0<br>0<br>0<br><1<br>2<br>39300<br>1<br>1608<br><1<br>history2           |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)  MASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500<br>limit/base<br>>15   | 1<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current<br>0<br>7  | <1 0 0 0 0 <1 1 42414 1 1585 <1 history1 0 4 16                                      | 1<br>0<br>0<br>0<br>0<br><1<br>2<br>39300<br>1<br>1608<br><1<br>history2<br>0<br>4 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium  CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500<br>limit/base<br>>15<br>>20  | 1<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current<br>0<br>7<br>14                                      | <1<br>0<br>0<br>0<br><1<br>1<br>42414<br>1<br>1585<br><1<br>history1<br>0<br>4<br>16 | 1 0 0 0 0 0 0 <1 2 39300 1 1608 <1 history2 0 4 17 history2                        |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm                                  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)                         | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500<br>limit/base<br>>15<br>>20<br>limit/base                                  | 1<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current<br>0<br>7<br>14<br>current<br>3174<br>575            | <1 0 0 0 0 <1 1 42414 1 1585 <1 history1 0 4 16 history1 2159 483 37                 | 1 0 0 0 0 0 0 <1 2 39300 1 1608 <1 history2 0 4 17 history2 4514                   |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm                   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)  method ASTM D5185(m)   | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500<br>limit/base<br>>15<br>>20<br>limit/base<br>>5000<br>>1300<br>>160        | 1<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current<br>0<br>7<br>14<br>current<br>3174<br>575            | <1 0 0 0 0 <1 1 42414 1 1585 <1 history1 0 4 16 history1 2159 483                    | 1 0 0 0 0 <1 2 39300 1 1608 <1 history2 0 4 17 history2 4514 721                   |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles > 6µm Particles > 14µm                | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)  METHOD  ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647   | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500<br>limit/base<br>>15<br>>20<br>limit/base<br>>5000<br>>1300<br>>160        | 1<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current<br>0<br>7<br>14<br>current<br>3174<br>575<br>24<br>5 | <1 0 0 0 0 <1 1 42414 1 1585 <1 history1 0 4 16 history1 2159 483 37                 | 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium  CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185(m)  METHOD  ASTM D5185(m)  METHOD  ASTM D5185(m) ASTM D5185(m)  ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 | 5<br>5<br>5<br>5<br>5<br>27500<br>5<br>2500<br>limit/base<br>>15<br>>20<br>limit/base<br>>5000<br>>1300<br>>160<br>>40 | 1<br>0<br>0<br>0<br>0<br>2<br>35067<br>1<br>1607<br><1<br>current<br>0<br>7<br>14<br>current<br>3174<br>575<br>24<br>5 | <1 0 0 0 0 <1 1 42414 1 1585 <1 history1 0 4 16 history1 2159 483 37 7               | 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  |

Contact/Location: Stuart Potter - SAFAJA2



# **OIL ANALYSIS REPORT**





CALA ISO 17025:2017 Accredited Laboratory

Laboratory

Sample No.

: WC0961571 Lab Number : 02645352 Unique Number : 5802891

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 03 Jul 2024

**Tested** : 04 Jul 2024 Diagnosed : 05 Jul 2024 - Kevin Marson

Test Package : IND 2 ( Additional Tests: Bottom, FilterPatch, TAN Man ) 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.

Safran Landing Systems

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