

## **OIL ANALYSIS REPORT**

Sample Rating Trend





SJNM01BE Component

**Biogas Engine** 

CHEVRON HDAX 6500 LFG GAS ENGINE OIL (--- GAL)





|               | -      | CZUZZ HEDZU | 23 Marzuz3 Aprzuz3 | Mayzuza Junzuza Julzuza | Sep2U23     |             |
|---------------|--------|-------------|--------------------|-------------------------|-------------|-------------|
| SAMPLE INFORM | MATION | method      | limit/base         | current                 | history1    | history2    |
| Sample Number |        | Client Info |                    | WC0764362               | WC0764402   | WC0764399   |
| Sample Date   |        | Client Info |                    | 28 Sep 2023             | 22 Sep 2023 | 15 Sep 2023 |
| Machine Age   | hrs    | Client Info |                    | 67101                   | 66978       | 66808       |
| Oil Age       | hrs    | Client Info |                    | 651                     | 528         | 358         |
| Oil Changed   |        | Client Info |                    | Not Changd              | Not Changd  | Not Changd  |
| Sample Status |        |             |                    | NORMAL                  | NORMAL      | NORMAL      |
| CONTAMINATIO  | N      | method      | limit/base         | current                 | history1    | history2    |
| Fuel          |        | WC Method   | >4.0               | <1.0                    | <1.0        | <1.0        |
| Glycol        |        | WC Method   |                    | NEG                     | NEG         | NEG         |
| WEAR METALS   |        | method      | limit/base         | current                 | history1    | history2    |
| Iron          | ppm    | ASTM D5185m | >15                | 10                      | 4           | 2           |
| Chromium      | ppm    | ASTM D5185m | >4                 | <1                      | 0           | 0           |
| Nickel        | ppm    | ASTM D5185m | >2                 | <1                      | 0           | <1          |
| Titanium      | ppm    | ASTM D5185m |                    | <1                      | 0           | 0           |
| Silver        | ppm    | ASTM D5185m | >5                 | 0                       | 0           | 0           |
| Aluminum      | ppm    | ASTM D5185m | >6                 | <1                      | <1          | <1          |
| Lead          | ppm    | ASTM D5185m | >9                 | 6                       | 4           | 3           |
| Copper        | ppm    | ASTM D5185m | >6                 | 1                       | <1          | <1          |
| Tin           | ppm    | ASTM D5185m | >4                 | 4                       | 3           | 2           |
| Vanadium      | ppm    | ASTM D5185m |                    | 0                       | 0           | <1          |
| Cadmium       | ppm    | ASTM D5185m |                    | 0                       | 0           | 0           |
| ADDITIVES     |        | method      | limit/base         | current                 | history1    | history2    |
| Boron         | ppm    | ASTM D5185m |                    | 16                      | 5           | 5           |
| Barium        | ppm    | ASTM D5185m |                    | 0                       | 0           | 0           |
| Molybdenum    | ppm    | ASTM D5185m |                    | 8                       | 6           | 6           |
| Manganese     | ppm    | ASTM D5185m |                    | <1                      | <1          | <1          |
| Magnesium     | ppm    | ASTM D5185m |                    | 24                      | 23          | 21          |
| Calcium       | ppm    | ASTM D5185m |                    | 2015                    | 2047        | 2114        |
| Phosphorus    | ppm    | ASTM D5185m |                    | 328                     | 325         | 313         |
| Zinc          | ppm    | ASTM D5185m |                    | 400                     | 396         | 371         |
| Sulfur        | ppm    | ASTM D5185m |                    | 2301                    | 2380        | 2534        |
| CONTAMINANTS  | \$     | method      | limit/base         | current                 | history1    | history2    |
| Silicon       | ppm    | ASTM D5185m | >181               | 171                     | 152         | 136         |
| <b>a</b> "    |        |             |                    | • ·                     |             | -           |

| Potassium        | ppm      | ASTM D5185m | >20        | 1       | <1       | 0        |
|------------------|----------|-------------|------------|---------|----------|----------|
| INFRA-RED        |          | method      | limit/base | current | history1 | history2 |
| Soot %           | %        | *ASTM D7844 |            | 0.1     | 0.1      | 0        |
| Nitration        | Abs/cm   | *ASTM D7624 | >20        | 7.5     | 7.4      | 8.1      |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30        | 21.9    | 21.2     | 23.4     |
| FLUID DEGRADA    | TION     | method      | limit/base | current | history1 | history2 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25        | 14.7    | 16.4     | 16.6     |
| Acid Number (AN) | mg KOH/g | ASTM D8045  | 1.2        | 1.68    | 1.28     | 1.14     |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 4.5        | 4.75    | 4.31     | 3.88     |

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ppm ASTM D5185m

Sodium

### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

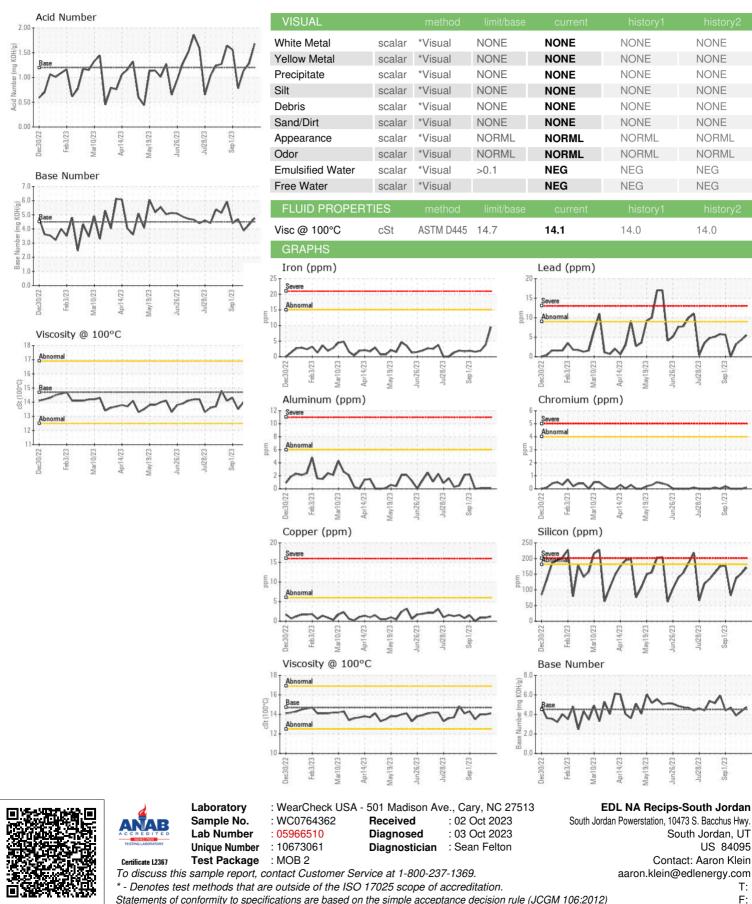
### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

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Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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