

PROBLEM SUMMARY

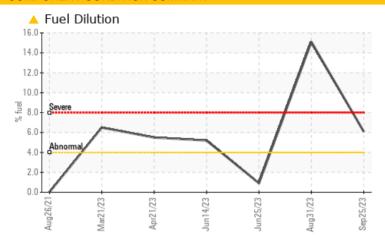
SUSAN JOHNSON Machine Id [SUSAN JOHNSON] 007 569359-7

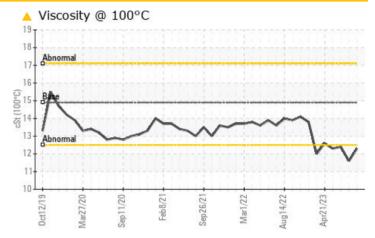
Port Genset

CHEVRON DELO 400 XLE 15W40 (7 GAL)

Sample Rating Trend FUEL Gail Mad200 Sept20 Feb301 Sep201 Mad202 App2012 App2023

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We recommend that you change the oil at the next available stoppage or outage. We recommend an early resample to monitor this condition.

| PROBLEMATIC TEST RESULTS | | | | | | | | |
|--------------------------|-----|------------|------|--------------|---------------|--------|--|--|
| Sample Status | | | | ABNORMAL | SEVERE | NORMAL | | |
| Fuel | % | ASTM D3524 | >4.0 | △ 6.1 | 15.1 | 0.9 | | |
| Visc @ 100°C | cSt | ASTM D445 | 14.9 | 12.3 | △ 11.6 | 12.4 | | |

Customer Id: INGPAD Sample No.: MW0058742 Lab Number: 05965189 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|--------------|--------|------|---------|--|
| Change Fluid | | | ? | We recommend that you change the oil at the next available stoppage or outage. |
| Resample | | | ? | We recommend an early resample to monitor this condition. |

HISTORICAL DIAGNOSIS

31 Aug 2023 Diag: Wes Davis

FUEL



We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.



25 Jun 2023 Diag: Jonathan Hester

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

14 Jun 2023 Diag: Jonathan Hester

FUEL



We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.



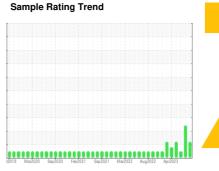


OIL ANALYSIS REPORT

SUSAN JOHNSON [SUSAN JOHNSON] 007 569359-7

Port Genset

CHEVRON DELO 400 XLE 15W40 (7 GAL)





DIAGNOSIS

Recommendation

We recommend that you change the oil at the next available stoppage or outage. We recommend an early resample to monitor this condition.

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

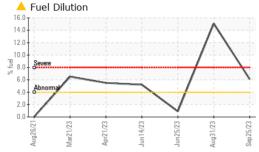
Fluid Condition

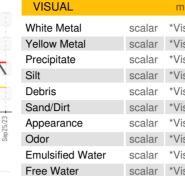
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

| 2019 Mm2020 Smp2020 Feb2021 Smp2021 Mm2022 Aug2022 Apr2023 | | | | | | |
|--|--|--|---|--|---|--|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | MW0058742 | MW0060165 | MW0053718 |
| Sample Date | | Client Info | | 25 Sep 2023 | 31 Aug 2023 | 25 Jun 2023 |
| Machine Age | hrs | Client Info | | 218 | 10866 | 10161 |
| Oil Age | hrs | Client Info | | 218 | 400 | 411 |
| Oil Changed | | Client Info | | Not Changd | Changed | Changed |
| Sample Status | | | | ABNORMAL | SEVERE | NORMAL |
| CONTAMINATION | V | method | limit/base | current | history1 | history2 |
| Glycol | | WC Method | | NEG | NEG | NEG |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >50 | 4 | 13 | 11 |
| Chromium | ppm | ASTM D5185m | >4 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 14 | 16 | 14 |
| Silver | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >12 | <1 | 1 | 0 |
| Lead | ppm | ASTM D5185m | >17 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >70 | 0 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| | | | | | | |
| Boron | ppm | ASTM D5185m | | 89 | 88 | 65 |
| Boron Barium | ppm ppm | ASTM D5185m ASTM D5185m | | 0 | | 65 0 |
| | | | | 0 30 | 88 0 34 | 0 32 |
| Barium Molybdenum Manganese | ppm | ASTM D5185m | | 0 30 <1 | 88 0 34 <1 | 0 32 <1 |
| Barium Molybdenum Manganese Magnesium | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | | 0 30 <1 701 | 88 0 34 <1 791 | 0 32 <1 638 |
| Barium Molybdenum Manganese Magnesium Calcium | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | | 0 30 <1 701 1482 | 88 0 34 <1 791 1794 | 0 32 <1 638 1480 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 760 | 0 30 <1 701 1482 700 | 88 0 34 <1 791 1794 759 | 0 32 <1 638 1480 665 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 830 | 0 30 <1 701 1482 700 801 | 88 0 34 <1 791 1794 759 880 | 0 32 <1 638 1480 665 818 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 830 | 0 30 <1 701 1482 700 | 88 0 34 <1 791 1794 759 | 0 32 <1 638 1480 665 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 830 | 0 30 <1 701 1482 700 801 | 88 0 34 <1 791 1794 759 880 | 0 32 <1 638 1480 665 818 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 830 2770 limit/base | 0 30 <1 701 1482 700 801 2923 | 88 0 34 <1 791 1794 759 880 3873 | 0 32 <1 638 1480 665 818 3301 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 830 2770 limit/base | 0 30 <1 701 1482 700 801 2923 | 88 0 34 <1 791 1794 759 880 3873 history1 | 0 32 <1 638 1480 665 818 3301 history2 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m | 830 2770 limit/base | 0 30 <1 701 1482 700 801 2923 current | 88 0 34 <1 791 1794 759 880 3873 history1 | 0 32 <1 638 1480 665 818 3301 history2 4 2 3 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 830 2770 limit/base >25 | 0 30 <1 701 1482 700 801 2923 current 4 | 88 0 34 <1 791 1794 759 880 3873 history1 5 | 0 32 <1 638 1480 665 818 3301 history2 4 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 830 2770 limit/base >25 >20 | 0 30 <1 701 1482 700 801 2923 current 4 2 | 88 0 34 <1 791 1794 759 880 3873 history1 5 2 1 | 0 32 <1 638 1480 665 818 3301 history2 4 2 3 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 830 2770 limit/base >25 >20 >4.0 | 0 30 <1 701 1482 700 801 2923 current 4 2 2 6.1 | 88 0 34 <1 791 1794 759 880 3873 history1 5 2 1 | 0 32 <1 638 1480 665 818 3301 history2 4 2 3 0.9 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 830 2770 limit/base >25 >20 >4.0 limit/base | 0 30 <1 701 1482 700 801 2923 | 88 0 34 <1 791 1794 759 880 3873 history1 5 2 1 15.1 history1 | 0 32 <1 638 1480 665 818 3301 history2 4 2 3 0.9 history2 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 830 2770 limit/base >25 >20 >4.0 limit/base | 0 30 <1 701 1482 700 801 2923 current 4 2 2 ▲ 6.1 current 0.2 | 88 0 34 <1 791 1794 759 880 3873 history1 5 2 1 15.1 history1 0.2 | 0 32 <1 638 1480 665 818 3301 history2 4 2 3 0.9 history2 0.3 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D7844 *ASTM D7844 | 830 2770 limit/base >25 >20 >4.0 limit/base | 0 30 <1 701 1482 700 801 2923 | 88 0 34 <1 791 1794 759 880 3873 history1 5 2 1 •• 15.1 history1 0.2 9.2 | 0 32 <1 638 1480 665 818 3301 history2 4 2 3 0.9 history2 0.3 10.1 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D76185m ASTM D5185m ASTM D5185 | 830 2770 limit/base >25 >20 >4.0 limit/base >20 >30 | 0 30 <1 701 1482 700 801 2923 | 88 0 34 <1 791 1794 759 880 3873 history1 5 2 1 15.1 history1 0.2 9.2 18.2 | 0 32 <1 638 1480 665 818 3301 history2 4 2 3 0.9 history2 0.3 10.1 19.6 |
| Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D7624 *ASTM D7624 *ASTM D76415 method | 830 2770 limit/base >25 >20 >4.0 limit/base >20 >30 limit/base | 0 30 <1 701 1482 700 801 2923 | 88 0 34 <1 791 1794 759 880 3873 history1 5 2 1 1 15.1 history1 0.2 9.2 18.2 history1 | 0 32 <1 638 1480 665 818 3301 history2 4 2 3 0.9 history2 0.3 10.1 19.6 history2 |



OIL ANALYSIS REPORT



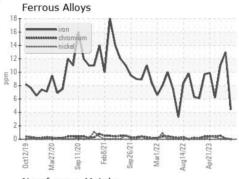


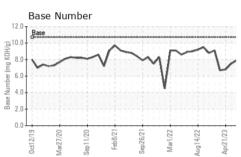
| /ISUAL | | method | limit/base | current | history1 | history2 |
|-----------------|--------|---------|------------|---------|----------|----------|
| hite Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| llow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| ecipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| t | scalar | *Visual | NONE | NONE | NONE | NONE |
| ebris | scalar | *Visual | NONE | NONE | NONE | NONE |
| ınd/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| pearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| dor | scalar | *Visual | NORML | NORML | NORML | NORML |
| nulsified Water | scalar | *Visual | >0.1 | NEG | NEG | NEG |
| ee Water | scalar | *Visual | | NEG | NEG | NEG |
| | | | | | | |

| FLUID PROPER | TIES | method | limit/base | current | history1 | history |
|--------------|------|-----------|------------|-------------|---------------|---------|
| Visc @ 100°C | cSt | ASTM D445 | 14.9 | 12.3 | ▲ 11.6 | 12.4 |

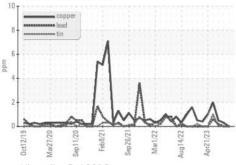
▲ Viscosity @ 100°C 20 cSt (100°C) 12

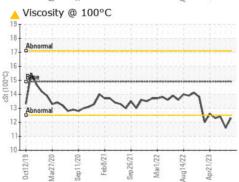


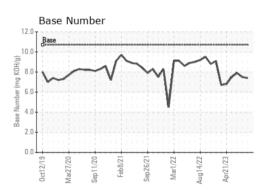
















Laboratory

Sample No. Lab Number

Unique Number

: MW0058742 : 05965189 : 10671740

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 29 Sep 2023 Diagnosed

: 03 Oct 2023 Diagnostician : Wes Davis

Test Package : MAR 2 (Additional Tests: PercentFuel) 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) **INGRAM BARGE**

900 S 3RD ST PADUCAH, KY US 42003

Contact: GLENN ELLIS glen.ellis@ingrambarge.com

T: (270)415-4467 F: (615)695-3697

Report Id: INGPAD [WUSCAR] 05965189 (Generated: 10/03/2023 20:56:05) Rev: 1

Contact/Location: GLENN ELLIS - INGPAD