

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 021-0111

Component Diesel Engine Fluid SCHAEFFER SUPREME 7000 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

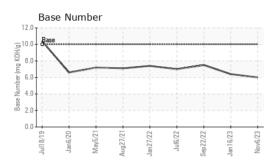
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

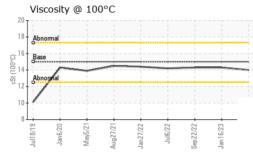


| SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
|---|--|--|---|---|---|--|
| Sample Number | | Client Info | | WC0868359 | WC0750803 | WC0698166 |
| Sample Date | | Client Info | | 06 Nov 2023 | 16 Jan 2023 | 22 Sep 2022 |
| Machine Age | hrs | Client Info | | 1273 | 976 | 765 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 12 | 8 | 7 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 4 | 4 | 4 |
| Lead | ppm | ASTM D5185m | >40 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | limit/base | current 75 | history1 91 | history2 79 |
| | ppm ppm | | limit/base | | | |
| Boron | | ASTM D5185m | limit/base | 75 | 91 | 79 |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | | 75 0 | 91 <1 | 79 0 |
| Boron Barium Molybdenum | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | | 75 0 72 | 91 <1 77 | 79 0 76 |
| Boron Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 50 | 75 0 72 <1 | 91 <1 77 <1 | 79 0 76 <1 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 50 1000 | 75 0 72 <1 20 | 91 <1 77 <1 13 | 79 0 76 <1 10 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 50 1000 1400 | 75 0 72 <1 20 2105 | 91 <1 77 <1 13 2227 | 79 0 76 <1 10 2317 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 50 1000 1400 985 1060 | 75 0 72 <1 20 2105 975 | 91 <1 77 <1 13 2227 975 | 79 0 76 <1 10 2317 1037 |
| Boron 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 | 50 1000 1400 985 1060 | 75 0 72 <1 20 2105 975 1277 | 91 <1 77 <1 13 2227 975 1218 | 79 0 76 <1 10 2317 1037 1240 |
| Boron 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 | 50 1000 1400 985 1060 4000 | 75 0 72 <1 20 2105 975 1277 4964 | 91 <1 77 <1 13 2227 975 1218 5882 | 79 0 76 <1 10 2317 1037 1240 5781 |
| Boron 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 ASTM D5185m | 50 1000 1400 985 1060 4000 | 75 0 72 <1 20 2105 975 1277 4964 current | 91 <1 77 <1 13 2227 975 1218 5882 history1 | 79 0 76 <1 10 2317 1037 1240 5781 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m | 50 1000 1400 985 1060 4000 limit/base >25 | 75 0 72 <1 20 2105 975 1277 4964 <u>current</u> 12 | 91 <1 77 <1 13 2227 975 1218 5882 history1 6 | 79 0 76 <1 10 2317 1037 1240 5781 history2 17 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m | 50 1000 1400 985 1060 4000 limit/base >25 | 75 0 72 <1 20 2105 975 1277 4964 current 12 3 | 91 <1 77 <1 13 2227 975 1218 5882 history1 6 1 | 79 0 76 <1 10 2317 1037 1240 5781 history2 17 1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 50 1000 1400 985 1060 4000 limit/base >25 >20 | 75 0 72 <1 20 2105 975 1277 4964 current 12 3 <1 | 91 <1 77 <1 13 2227 975 1218 5882 history1 6 1 <1 | 79 0 76 <1 10 2317 1037 1240 5781 history2 17 1 2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 50 1000 1400 985 1060 4000 limit/base >25 >20 limit/base | 75 0 72 <1 20 2105 975 1277 4964 <i>current</i> 12 3 <1 <i>current</i> | 91 <1 77 <1 13 2227 975 1218 5882 history1 6 1 <1 <1 <1 | 79 0 76 <1 10 2317 1037 1240 5781 history2 17 1 2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 50 50 1400 985 1060 4000 limit/base >25 >20 limit/base >3 >20 | 75 0 72 <1 20 2105 975 1277 4964 <i>current</i> 12 3 <1 <i>current</i> | 91 <1 77 <1 13 2227 975 1218 5882 history1 6 1 <1 <1 <1 history1 0.2 | 79 0 76 <1 10 2317 1037 1240 5781 history2 17 1 2 history2 0.2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 50 50 1400 985 1060 4000 limit/base >25 >20 limit/base >3 >20 | 75 0 72 <1 20 2105 975 1277 4964 <i>current</i> 12 3 <1 2 0.3 10.3 | 91 <1 777 <1 13 2227 975 1218 5882 history1 6 1 <1 <1 kistory1 0.2 9.4 | 79 0 76 <1 10 2317 1037 1240 5781 history2 17 17 1 2 history2 0.2 10.0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 50 50 1400 985 1060 4000 Iimit/base >25 20 Iimit/base >3 >20 >30 | 75 0 72 <1 20 2105 975 1277 4964 <u>current</u> 12 3 <1 2 0.3 (1) 0.3 10.3 19.1 | 91 <1 77 <1 13 2227 975 1218 5882 history1 6 1 <1 <1 history1 0.2 9.4 18.4 history1 | 79 0 76 <1 10 2317 1037 1240 5781 history2 17 1 2 history2 0.2 10.0 19.8 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844 | 50 1000 1400 985 1060 4000 limit/base >25 20 limit/base >3 >20 >3 | 75 0 72 <1 20 2105 975 1277 4964 <i>current</i> 12 3 <1 <i>current</i> 0.3 10.3 19.1 | 91 <1 77 <1 13 2227 975 1218 5882 history1 6 1 <1 <1 <1 history1 0.2 9.4 18.4 | 79 0 76 <1 10 2317 1037 1240 5781 history2 17 1 2 17 1 2 history2 0.2 10.0 19.8 |



OIL ANALYSIS REPORT





| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| FLUID PROPERT | TIES | method | limit/base | current | history1 | history2 |
| Visc @ 100°C | cSt | ASTM D445 | 15 | 14.0 | 14.3 | 14.3 |
| GRAPHS | | | | | | |

Ferrous Alloys 50 40 icke 30 20 10 n Jul18/19 lan6/20 lul6/22 Mav5/71 /Ug27/21 an27/22 ep22/22 v6/73 Non-ferrous Metals 12 lead 10 4 2 0 Aug27/21 v6/23 n22/2 Jul18/1 Viscosity @ 100°C Base Number 19 12.0 18 Abr 10.0 Base Number (mg KOH/g) 16 8 (() 15 001 Ba 6.0 ²उँ 13 At

4.0 2 (

0.0

lan6/20 -May5/21.

Nov6/23 -

: 21 Nov 2023

: 22 Nov 2023



Test Package : CONST (Additional Tests: TBN) Certificate L2367 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)

Aug27/21 Jan27/22 lul6/22

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

Sep 22/22 Jan 16/23

Diagnostician : Wes Davis

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Unique Number : 10753601

Laboratory

Sample No.

Lab Number

Jul18/19 Jan6/20 Mav5/71

: WC0868359

: 06014457

Jan27/22

Aug27/21

Sep 22/22 Jan 16/23 Nov6/23

1.16/27

SHIMMICK CONSTRUCTION

5535 TRAILHEAD DRIVE

Contact: DANIEL LISELLA

daniel.lisella@shimmick.com

CHATTANOOGA, TN

US 37415

Т:

F: