

OIL ANALYSIS REPORT

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Area **Pillen Family Farms** MILTK50 Component

Diesel Engine

Fluid MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

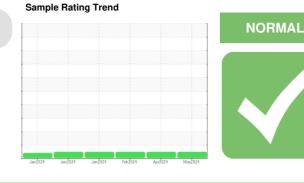
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

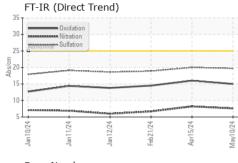
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

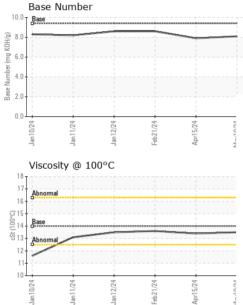


| SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
|---|--|--|--|---|---|---|
| Sample Number | | Client Info | | SBP0006879 | SBP0006804 | SBP0005314 |
| Sample Date | | Client Info | | 10 May 2024 | 15 Apr 2024 | 21 Feb 2024 |
| Machine Age | hrs | Client Info | | 350 | 350 | 350 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >3.0 | <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 | >90 | 19 | 23 | 15 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 9 | 5 | 5 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 1 | 1 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | limit/base 0 | current 0 | history1 0 | history2 1 |
| | ppm ppm | | | | | |
| Boron | | ASTM D5185m | 0 | 0 | 0 | 1 |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 0 | 0 0 | 0 0 | 1 0 |
| Boron Barium Molybdenum Manganese | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 0 | 0 0 63 | 0 0 64 | 1 0 64 |
| Boron Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 | 0 0 63 <1 | 0 0 64 0 | 1 0 64 0 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 | 0 0 63 <1 1116 | 0 0 64 0 1089 | 1 0 64 0 1038 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 | 0 0 63 <1 1116 1258 | 0 0 64 0 1089 1194 | 1 0 64 0 1038 1100 |
| 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 | 0 0 0 | 0 0 63 <1 1116 1258 1150 | 0 0 64 0 1089 1194 1116 | 1 0 64 0 1038 1100 1102 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 0 | 0 0 63 <1 1116 1258 1150 1478 | 0 0 64 0 1089 1194 1116 1422 | 1 0 64 0 1038 1100 1102 1339 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm 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 | 0 0 0 0 0 | 0 0 63 <1 1116 1258 1150 1478 3778 | 0 0 64 0 1089 1194 1116 1422 3547 | 1 0 64 0 1038 1100 1102 1339 3419 |
| 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 | 0 0 0 0 Imit/base | 0 0 63 <1 1116 1258 1150 1478 3778 current | 0 0 64 0 1089 1194 1116 1422 3547 history1 | 1 0 64 0 1038 1100 1102 1339 3419 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 | 0 0 0 0 Imit/base | 0 0 63 <1 1116 1258 1150 1478 3778 current 5 | 0 0 64 0 1089 1194 1116 1422 3547 history1 6 | 1 0 64 0 1038 1100 1102 1339 3419 history2 6 |
| 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 | 0 0 0 0 limit/base >25 | 0 0 63 <1 1116 1258 1150 1478 3778 current 5 2 | 0 0 64 0 1089 1194 1116 1422 3547 history1 6 3 | 1 0 64 0 1038 1100 1102 1339 3419 history2 6 3 |
| 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 | 0 0 0 0 limit/base >25 >20 | 0 0 63 <1 1116 1258 1150 1478 3778 current 5 2 2 22 | 0 0 64 0 1089 1194 1116 1422 3547 history1 6 3 3 11 | 1 0 64 0 1038 1100 1102 1339 3419 history2 6 3 10 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 0 0 63 <1 1116 1258 1150 1478 3778 current 5 2 2 22 current | 0 0 64 0 1089 1194 1116 1422 3547 history1 6 3 11 history1 | 1 0 64 0 1038 1100 1102 1339 3419 history2 6 3 10 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 | 0 0 0 0 limit/base >25 >20 limit/base >6 | 0 0 63 <1 1116 1258 1150 1478 3778 current 5 2 2 22 22 current 0.5 | 0 0 64 0 1089 1194 1116 1422 3547 history1 6 3 11 6 3 11 history1 0.6 | 1 0 64 0 1038 1100 1102 1339 3419 history2 6 3 10 history2 0.3 |
| 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 | 0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 0 0 63 <1 1116 1258 1150 1478 3778 current 5 2 22 22 current 0.5 7.6 | 0 0 64 0 1089 1194 1116 1422 3547 history1 6 3 3 11 6 3 11 6 8 3 11 0.6 8.2 | 1 0 64 0 1038 1100 1102 1339 3419 history2 6 3 10 history2 0.3 6.7 |
| 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 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 63 <1 1116 1258 1150 1478 3778 <u>current</u> 5 2 22 22 <u>current</u> 0.5 7.6 19.7 | 0 0 64 0 1089 1194 1116 1422 3547 history1 6 3 11 6 3 11 0.6 8.2 20.0 | 1 0 64 0 1038 1100 1102 1339 3419 history2 6 3 10 history2 0.3 6.7 18.9 |
| 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 D7624 *ASTM D7415 | 0 0 0 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 | 0 0 63 <1 1116 1258 1150 1478 3778 <i>current</i> 5 2 2 22 <i>current</i> 0.5 7.6 19.7 <i>current</i> | 0 0 64 0 1089 1194 1116 1422 3547 history1 6 3 3 11 6 3 11 0.6 8.2 20.0 history1 | 1 0 64 0 1038 1100 1102 1339 3419 history2 6 3 10 history2 0.3 6.7 18.9 history2 |

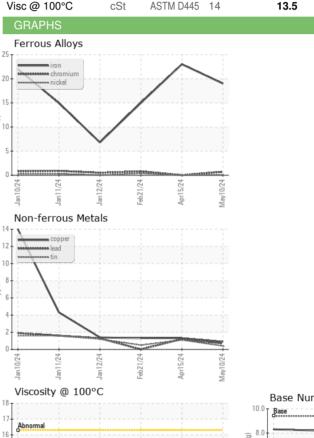


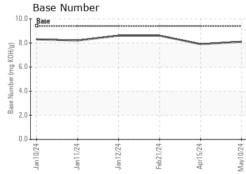
OIL ANALYSIS REPORT





| 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 | IES | method | limit/base | current | history1 | history2 |
| Visc @ 100°C | cSt | ASTM D445 | 14 | 13.5 | 13.4 | 13.6 |
| | | | | | | |







Jan 12/24

Apr15/24 -

Feb21/24

May10/24 -

12

10

Jan10/24

Jan11/24

Submitted By: JUSTIN HANSON