



OIL ANALYSIS REPORT

| | |
|-----------------|-----------------|
| WEAR | NORMAL |
| CONTAMINATION | MARGINAL |
| FLUID CONDITION | NORMAL |

Machine Id
CASE 580SM BACKHOE
Component
Diesel Engine
Fluid
MOBIL DELVAC 1300 SUPER15W40 (12 QTS)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please note that this is a corrected copy for data entry and diagnostic comment updates.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | KL0011990 | KL0007968 | KL0007966 |
| Sample Date | | Client Info | | 20 May 2024 | 10 Mar 2023 | 19 Nov 2022 |
| Machine Age | hrs | Client Info | | 6688 | 6375 | 6246 |
| Oil Age | hrs | Client Info | | 104 | 3986 | 3858 |
| Filter Age | hrs | Client Info | | 104 | 119 | 668 |
| Oil Changed | | Client Info | | Not Chngd | Not Chngd | Not Chngd |
| Filter Changed | | Client Info | | Not Chngd | Not Chngd | Not Chngd |
| Sample Status | | | | MARGINAL | ABNORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 18 | 125 | 139 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 4 | 4 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 2 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | <1 | 20 | 16 |
| Lead | ppm | ASTM D5185m | >40 | 3 | 7 | 7 |
| Copper | ppm | ASTM D5185m | >330 | 2 | 9 | 13 |
| Tin | ppm | ASTM D5185m | >15 | 0 | 2 | 2 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

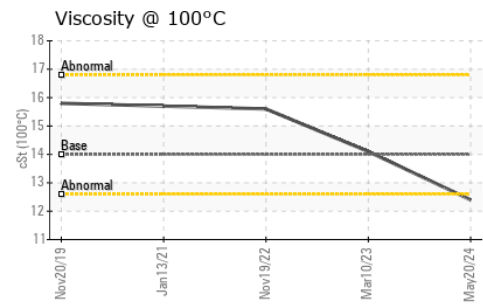
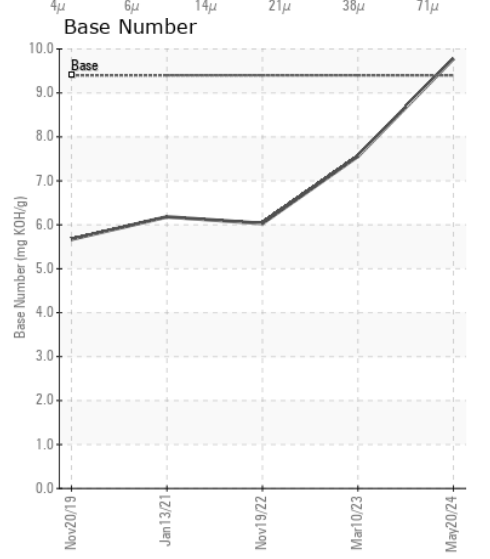
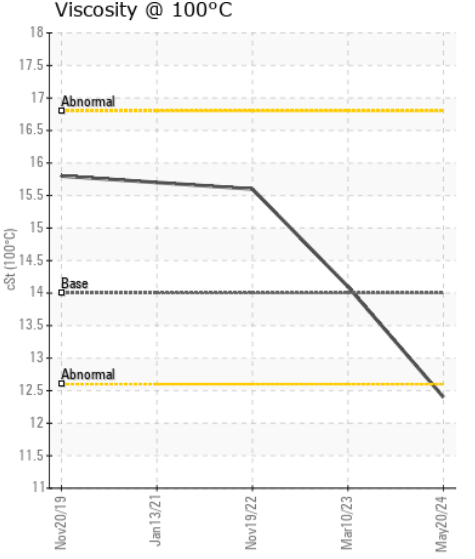
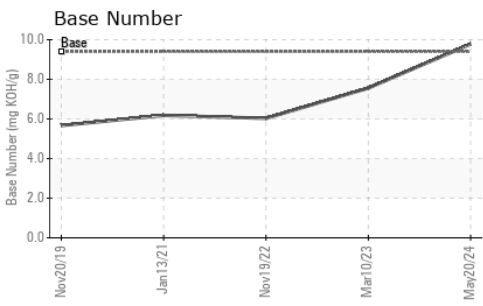
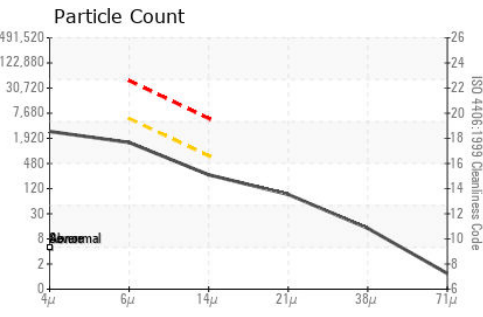
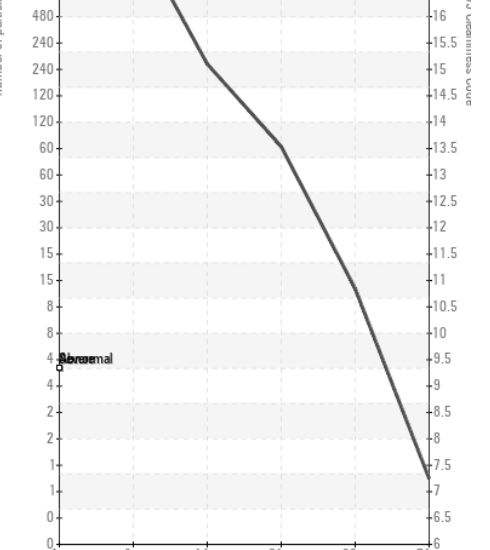
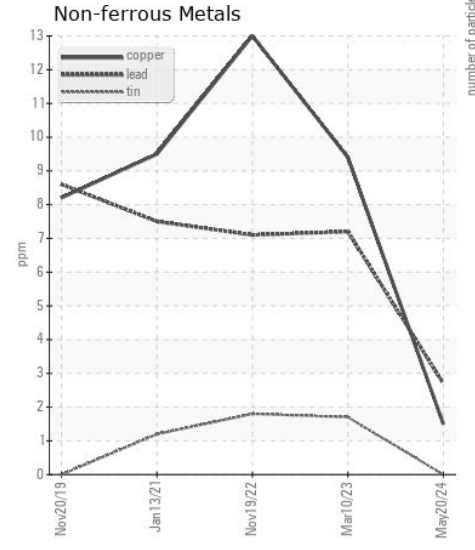
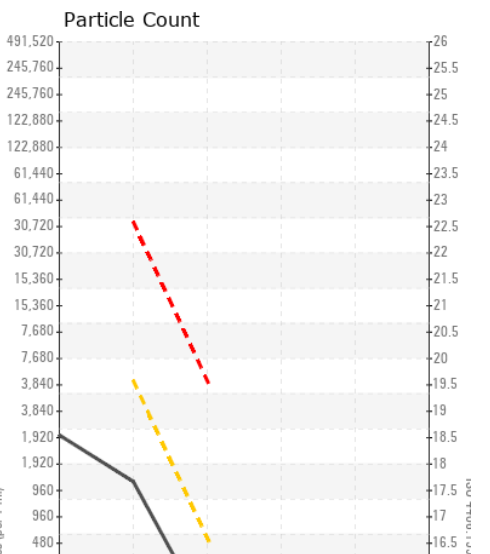
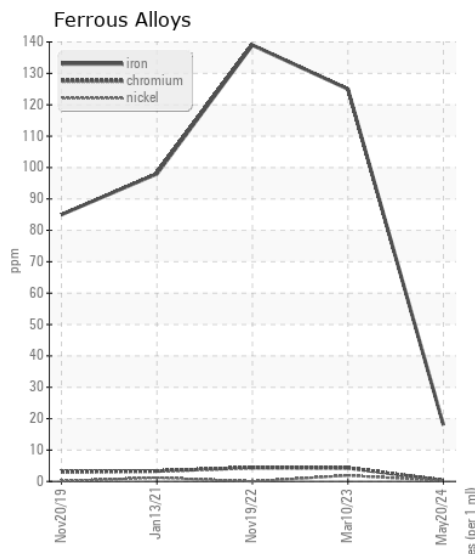
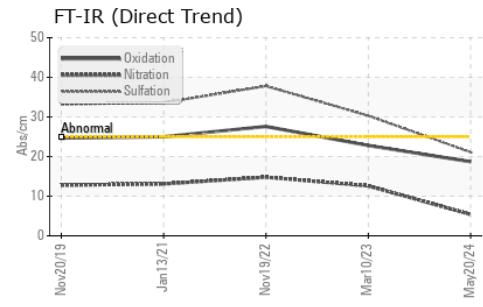
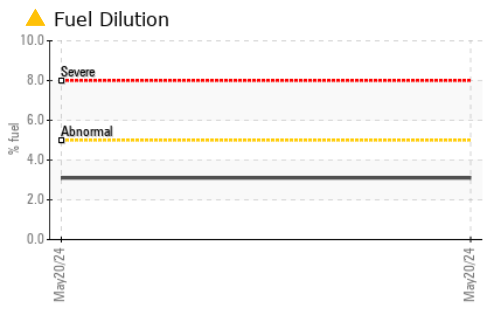
Light fuel dilution occurring. No other contaminants were detected in the oil.

| | | | | | | |
|------------------|----------|--------------|--------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 10 | ▲ 47 | ▲ 42 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 6 | 3 |
| Fuel | % | ASTM D3524 | >5 | ▲ 3.1 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.3 | 2.5 | ▲ 3.6 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 5.4 | 12.6 | 14.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 21.1 | 30.3 | 37.8 |
| Particles >4µm | | ASTM D7647 | | 2453 | 4376 | 2479 |
| Particles >6µm | | ASTM D7647 | >5000 | 1336 | 2384 | 1351 |
| Particles >14µm | | ASTM D7647 | >640 | 227 | 406 | 230 |
| Particles >21µm | | ASTM D7647 | >160 | 77 | 137 | 77 |
| Particles >38µm | | ASTM D7647 | >40 | 12 | 21 | 12 |
| Particles >71µm | | ASTM D7647 | >10 | 1 | 2 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >19/16 | 18/15 | 18/16 | 18/15 |
| 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 |

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.

| | | | | | | |
|------------------|----------|-------------|-----|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 0 | 16 | 11 |
| Boron | ppm | ASTM D5185m | 0 | 57 | 43 | 70 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 2 | <1 |
| Molybdenum | ppm | ASTM D5185m | 0 | 45 | 96 | 116 |
| Manganese | ppm | ASTM D5185m | | <1 | 4 | 5 |
| Magnesium | ppm | ASTM D5185m | 0 | 440 | 534 | 410 |
| Calcium | ppm | ASTM D5185m | | 1569 | 1959 | 2376 |
| Phosphorus | ppm | ASTM D5185m | | 711 | 1090 | 1112 |
| Zinc | ppm | ASTM D5185m | | 790 | 1362 | 1339 |
| Sulfur | ppm | ASTM D5185m | | 2868 | 4423 | 4576 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 18.7 | 22.8 | 27.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.4 | 9.78 | 7.56 | 6.03 |
| Visc @ 100°C | cSt | ASTM D445 | 14 | 12.4 | 14.1 | 15.6 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0011990 **Received** : 28 May 2024
Lab Number : 06192993 **Tested** : 05 Jun 2024
Unique Number : 11049745 **Diagnosed** : 05 Jun 2024 - Doug Bogart
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel, PrtCount)

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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)