

LABORATORY ANALYSIS



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Department **PRESS ROOM**
 Equipment No. **PP-22 COIL STRAIGHTENER (00002)**
 System **Hydraulic System**
 Oil Type **ENGINEERED LUBRICANTS ENLUBE 15-AW (21 GAL)**

MODINEER PLANT 7
 #17 CERMAK BLVD., MODINEER PLANT #7
 ST. PETERS, MO
 US 63376
 Contact: Kaleb Shocklee
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 T:
 F:

DIAGNOSIS

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. There is no indication of any contamination in the oil. The system and fluid cleanliness is acceptable. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

| Lab Number | New | 2311-00693 | 2306-00383 | 2303-00099 |
|---------------------|-----------|-------------|-------------|-------------|
| Date of Sample | (Typical) | 28 Nov 2023 | 09 Jun 2023 | 07 Mar 2023 |
| Oil Added | | UNK | UNK | UNK |
| Last Drain Date | | -- | -- | -- |
| Last Filter Service | | -- | -- | -- |
| Sample Point | | --- | --- | --- |
| Sample Status | | NORMAL | NORMAL | NORMAL |

VISCOSITY @ 100F OR 40C (ASTM D-445)

| SSU Vis. @ 100F | SSU | 167.2 | 172.3 | 173.8 |
|-----------------|-----|-------|-------|-------|
| cSt Vis. @ 40C | cSt | 32.0 | 33.33 | 33.62 |

COLOR (BASED ON ASTM D1500 STANDARDS)

| Color | Scale 0-8 | 1.5 | 2.0 | 2.0 |
|-------|-----------|-----|-----|-----|
|-------|-----------|-----|-----|-----|

PARTICLE COUNT (PER 1ML)

| ISO CODE | ISO 4406(c) | >19/18/14 | 19/17/13 | 18/16/13 | 18/16/13 |
|--------------------|--------------|-----------|----------|----------|----------|
| 4 Micron & Larger | particles/ml | >5000 | 2,879 | 2,267 | 1,347 |
| 6 Micron & Larger | particles/ml | >2500 | 777 | 500 | 413 |
| 14 Micron & Larger | particles/ml | >160 | 53 | 42 | 43 |
| 21 Micron & Larger | particles/ml | >40 | 10 | 11 | 15 |
| 38 Micron & Larger | particles/ml | >10 | 1 | 1 | 1 |
| 70 Micron & Larger | particles/ml | >3 | 0 | 0 | 0 |

ICP - OILS (REPORTED IN PARTS PER MILLION)

| | | | | |
|----------------|-----|-------|-------|-------|
| Aluminum (Al) | ppm | <5 | <5 | <5 |
| Antimony (Sb) | ppm | <5 | <5 | <5 |
| Cadmium (Cd) | ppm | <5 | <5 | <5 |
| Chromium (Cr) | ppm | <5 | <5 | <5 |
| Cobalt (Co) | ppm | <5 | <5 | <5 |
| Copper (Cu) | ppm | <5 | <5 | <5 |
| Iron (Fe) | ppm | <5 | <5 | <5 |
| Lead (Pb) | ppm | <5 | <5 | <5 |
| Manganese (Mn) | ppm | <5 | <5 | <5 |
| Molybdenum(Mo) | ppm | <5 | <5 | 6 |
| Nickel (Ni) | ppm | <5 | <5 | <5 |
| Silver (Ag) | ppm | <5 | <5 | <5 |
| Tin (Sn) | ppm | <5 | <5 | <5 |
| Titanium (Ti) | ppm | <5 | <5 | <5 |
| Vanadium (V) | ppm | <5 | <5 | <5 |
| Barium (Ba) | ppm | <5 | <5 | <5 |
| Boron (B) | ppm | <5 | <5 | <5 |
| Calcium (Ca) | ppm | 237 | 344 | 368 |
| Magnesium (Mg) | ppm | 7 | 11 | 12 |
| Phosphorus(P) | ppm | 516 | 573 | 565 |
| Silicon (Si) | ppm | <5 | <5 | <5 |
| Zinc (Zn) | ppm | 668 | 695 | 708 |
| Sulfur (S) | ppm | 1,460 | 1,480 | 1,580 |

Customer Id: WAISTP
 Sample No.: EN23110693
 Lab Number: 23110693
 Test Package: TEST



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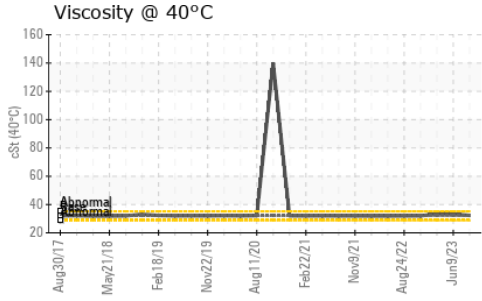
To discuss the diagnosis or test data:

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To change component or sample information:

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OIL ANALYSIS REPORT



DR FERROGRAPHY READINGS

| | | | | |
|-----|---------|-------|-------|-------|
| L | | ■ 7.1 | ■ 2.2 | ■ 2.2 |
| S | | ■ 0.4 | ■ 2.0 | ■ 0.7 |
| WPC | DL + DS | ■ 7.5 | ■ 4.2 | ■ 2.9 |

CONTAMINATION

| | | | | |
|-------|-------|------------|-----|-----|
| Water | >0.05 | NEG | NEG | NEG |
|-------|-------|------------|-----|-----|