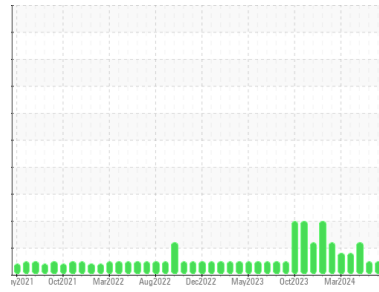




OIL ANALYSIS REPORT

Area
SSC
 Machine Id
NIRO 3 (S/N 005)
 Component
Transmission (Manual)
 Fluid
DTE 10 (15 GAL)

Sample Rating Trend



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. The amount and size of particulates present in the system are acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | USP0012346 | USP0013289 | USP0012831 |
| Sample Date | Client Info | | 12 Jul 2024 | 10 Jun 2024 | 24 May 2024 |
| Machine Age | hrs | Client Info | 0 | 34543 | 34289 |
| Oil Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | NORMAL | NORMAL | ATTENTION |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >200 | 2 | 2 | 1 |
| Chromium | ppm | ASTM D5185m >5 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m >5 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185m >7 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m >25 | 0 | 0 | <1 |
| Lead | ppm | ASTM D5185m >45 | 12 | 16 | 14 |
| Copper | ppm | ASTM D5185m >225 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185m >10 | 3 | 3 | 4 |
| Vanadium | ppm | ASTM D5185m | 0 | <1 | <1 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | <1 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1 | <1 | 1 |
| Calcium | ppm | ASTM D5185m | 76 | 91 | 95 |
| Phosphorus | ppm | ASTM D5185m | 175 | 202 | 199 |
| Zinc | ppm | ASTM D5185m | 0 | 4 | <1 |
| Sulfur | ppm | ASTM D5185m | 837 | 949 | 945 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >125 | 1 | 1 | 4 |
| Sodium | ppm | ASTM D5185m | 1 | 1 | 1 |
| Potassium | ppm | ASTM D5185m >20 | <1 | <1 | 1 |
| Water | % | ASTM D6304 >0.1 | 0.003 | 0.002 | 0.003 |
| ppm Water | ppm | ASTM D6304 >1000 | 26 | 25 | 39 |

FLUID CLEANLINESS

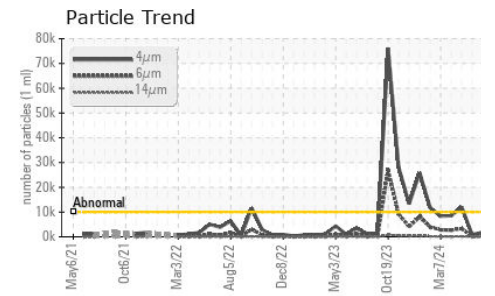
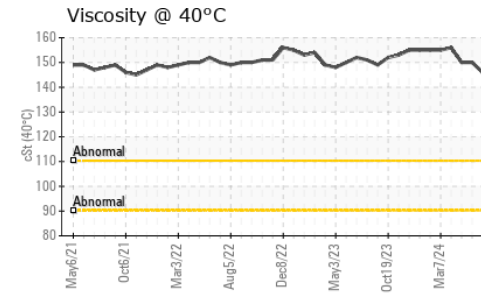
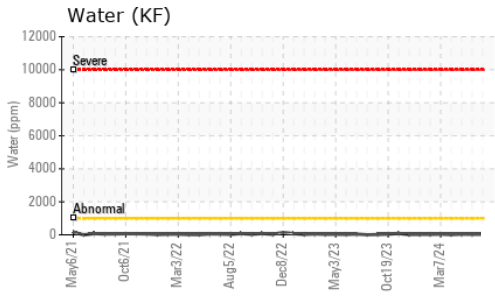
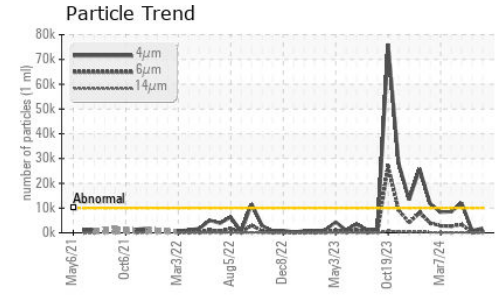
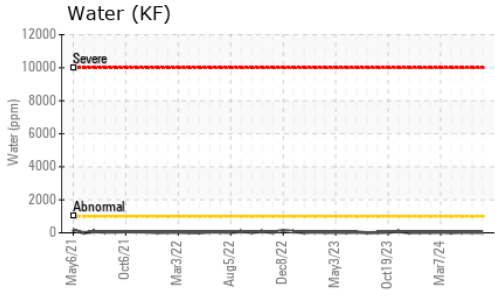
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|------------|
| Particles >4µm | ASTM D7647 | >10000 | 1794 | 927 | ● 12061 |
| Particles >6µm | ASTM D7647 | >2500 | 478 | 216 | ● 3290 |
| Particles >14µm | ASTM D7647 | >320 | 19 | 4 | 190 |
| Particles >21µm | ASTM D7647 | >80 | 3 | 1 | 35 |
| Particles >38µm | ASTM D7647 | >20 | 1 | 0 | 0 |
| Particles >71µm | ASTM D7647 | >4 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >20/18/15 | 18/16/11 | 17/15/9 | ● 21/19/15 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.178 | 0.161 | 0.083 |



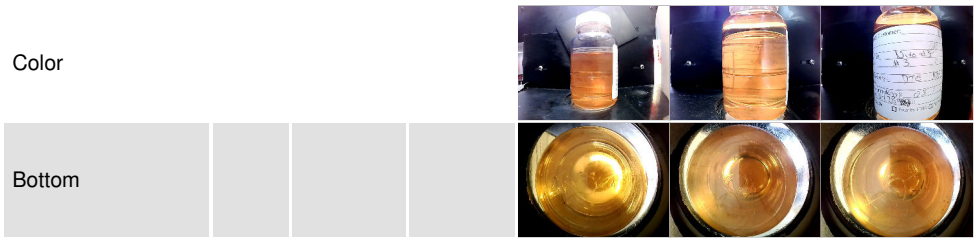
OIL ANALYSIS REPORT



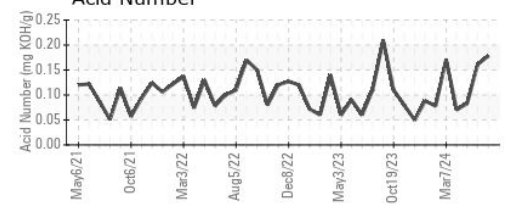
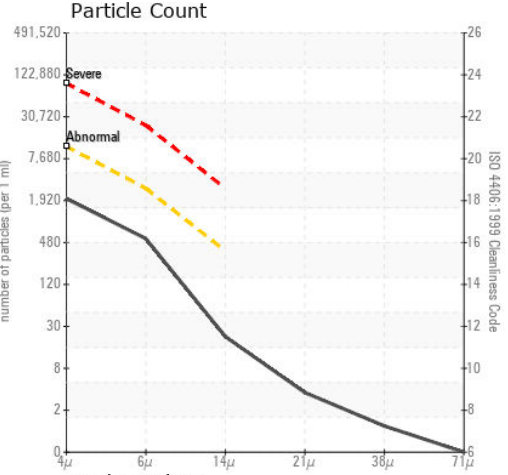
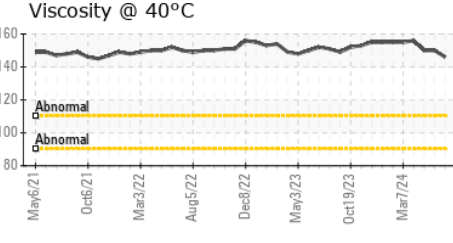
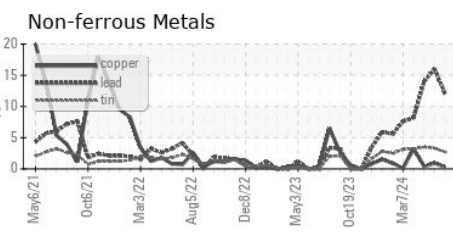
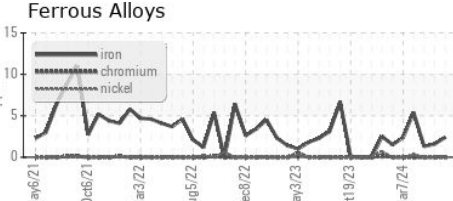
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 146 | 150 | 150 |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0012346
Lab Number : 06236877
Unique Number : 11125711
Test Package : IND 2
Received : 15 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 18 Jul 2024 - Jonathan Hester

EMPIRICAL FOODS INC. - BPISOUPRO - EMPSOUPRO
 S. SIOUX CITY, NE
 US
 Contact:

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)