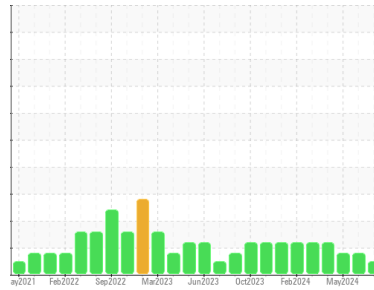




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
COLD MILL/CM-3STD-1S
 Machine Id
SOUTH 3-STAND PAYOFF DS GB 1526-007-1165
 Component
Gearbox
 Fluid
PETRO CANADA ENDURATEX EP 320 (100 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is 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 | KFS0004577 | KFS0004439 | KFS0004436 |
| Sample Date | Client Info | 10 Jul 2024 | 31 May 2024 | 13 May 2024 |
| Machine Age | hrs | Client Info | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 |
| Oil Changed | Client Info | N/A | N/A | N/A |
| Sample Status | | NORMAL | ATTENTION | ATTENTION |

CONTAMINATION

| method | limit/base | current | history1 | history2 | |
|--------|------------|---------|------------|----------|-----|
| Water | WC Method | >0.2 | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 | | |
|----------|------------|-------------|----------|----------|----|----|
| Iron | ppm | ASTM D5185m | >200 | 0 | 0 | 0 |
| Chromium | ppm | ASTM D5185m | >15 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 0 | 0 | <1 |
| Lead | ppm | ASTM D5185m | >100 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >200 | 0 | 0 | 0 |
| Tin | ppm | ASTM D5185m | >25 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 | | |
|------------|------------|-------------|----------|-------------|------|------|
| Boron | ppm | ASTM D5185m | 55 | 14 | 21 | 20 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | 0 | 0 | 2 |
| Calcium | ppm | ASTM D5185m | 0 | 2 | 2 | 2 |
| Phosphorus | ppm | ASTM D5185m | 240 | 170 | 191 | 178 |
| Zinc | ppm | ASTM D5185m | 1 | 0 | <1 | 0 |
| Sulfur | ppm | ASTM D5185m | 13700 | 8003 | 8110 | 8676 |

CONTAMINANTS

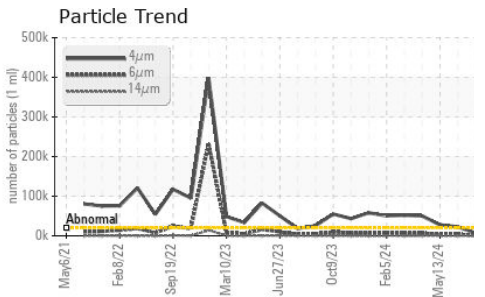
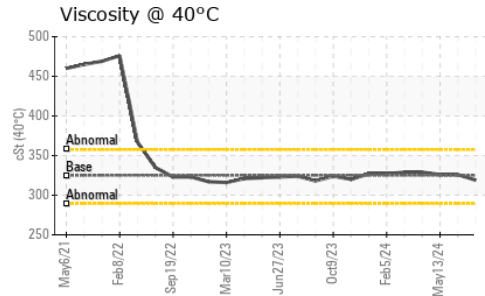
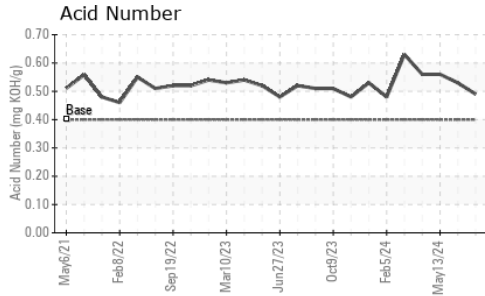
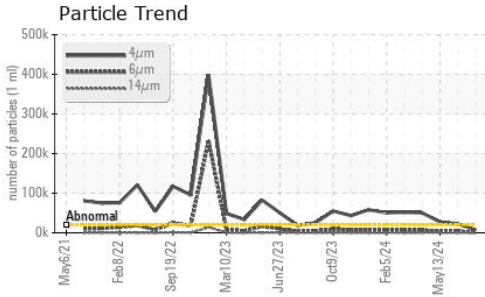
| method | limit/base | current | history1 | history2 | | |
|-----------|------------|-------------|----------|----------|---|----|
| Silicon | ppm | ASTM D5185m | >50 | 4 | 8 | 8 |
| Sodium | ppm | ASTM D5185m | | 1 | 0 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | 2 |

FLUID CLEANLINESS

| method | limit/base | current | history1 | history2 | |
|-----------------|--------------|-----------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >20000 | 6633 | 22739 | 27738 |
| Particles >6µm | ASTM D7647 | >5000 | 1496 | 3737 | 2995 |
| Particles >14µm | ASTM D7647 | >640 | 52 | 123 | 65 |
| Particles >21µm | ASTM D7647 | >160 | 12 | 27 | 10 |
| Particles >38µm | ASTM D7647 | >40 | 4 | 5 | 0 |
| Particles >71µm | ASTM D7647 | >10 | 3 | 4 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | 20/18/13 | 22/19/14 | 22/19/13 |

FLUID DEGRADATION

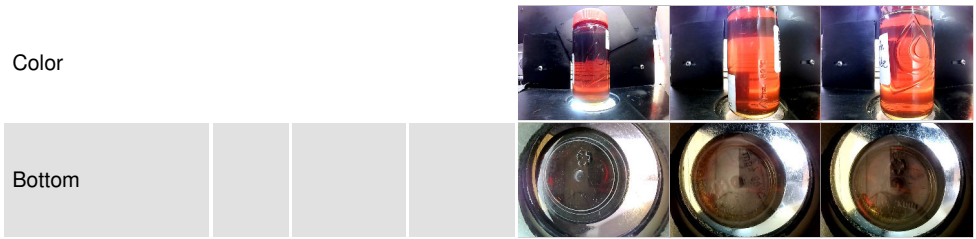
| method | limit/base | current | history1 | history2 | | |
|------------------|------------|------------|----------|-------------|------|------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | 0.49 | 0.53 | 0.56 |



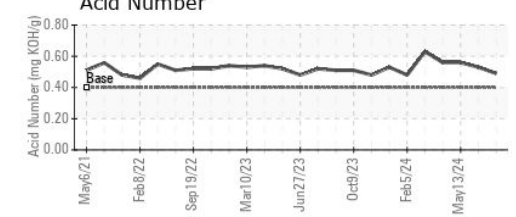
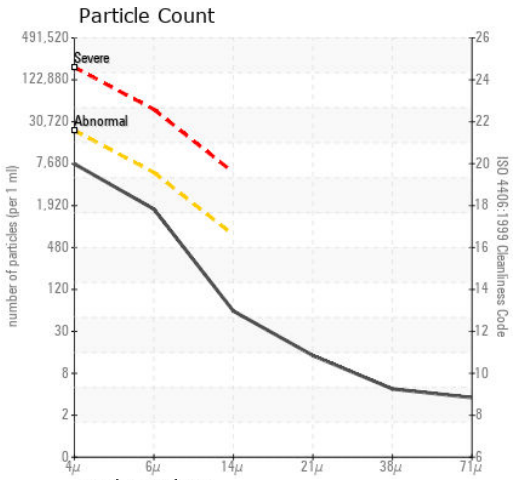
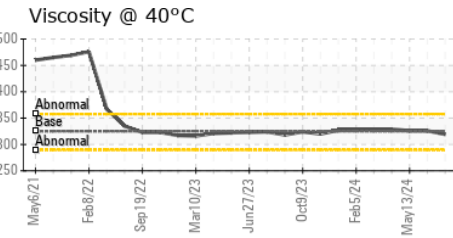
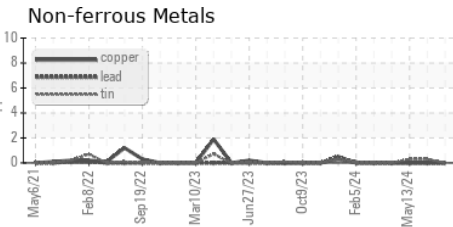
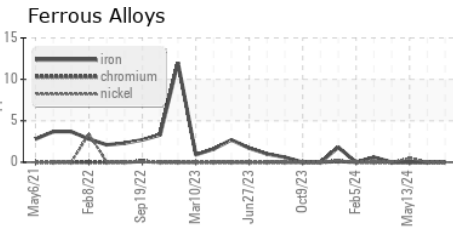
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | >0.2 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 325 | 319 | 326 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0004577
Lab Number : 06234859
Unique Number : 11123693
Test Package : IND 2 (Additional Tests: PrtCount)
Received : 12 Jul 2024
Tested : 15 Jul 2024
Diagnosed : 15 Jul 2024 - Wes Davis

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