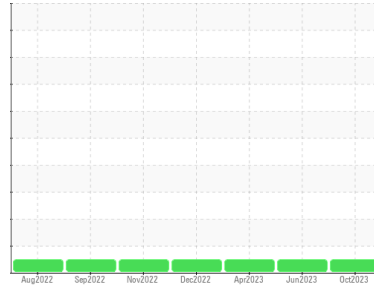




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Shear
 Machine Id
Harris Shear
 Component
Hydraulic System
 Fluid
SHELL AW HYDRAULIC S2 46 (1800 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 | | PE0000613 | PE0001406 | PE0000664 |
| Sample Date | Client Info | | 13 Oct 2023 | 07 Jun 2023 | 20 Apr 2023 |
| Machine Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|------------|-----------------|--------------|----------|----------|
| PQ | ASTM D8184 | | 16 | 19 | 12 |
| Iron | ppm | ASTM D5185m >20 | 5 | 7 | 6 |
| Chromium | ppm | ASTM D5185m >20 | 1 | 1 | <1 |
| Nickel | ppm | ASTM D5185m >20 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | <1 | 0 | <1 |
| Lead | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m >20 | 5 | 6 | 6 |
| Tin | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | 5 | 11 |
| Calcium | ppm | ASTM D5185m | 48 | 50 | 48 |
| Phosphorus | ppm | ASTM D5185m | 248 | 321 | 306 |
| Zinc | ppm | ASTM D5185m | 342 | 360 | 336 |
| Sulfur | ppm | ASTM D5185m | 765 | 920 | 593 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >15 | 1 | <1 | <1 |
| Sodium | ppm | ASTM D5185m | <1 | <1 | <1 |
| Potassium | ppm | ASTM D5185m >20 | <1 | <1 | <1 |

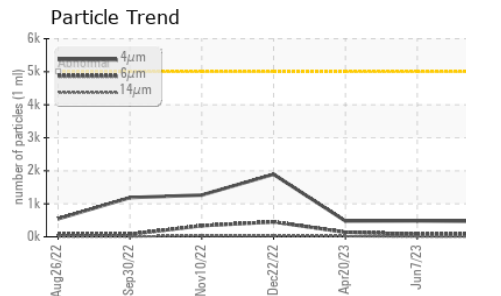
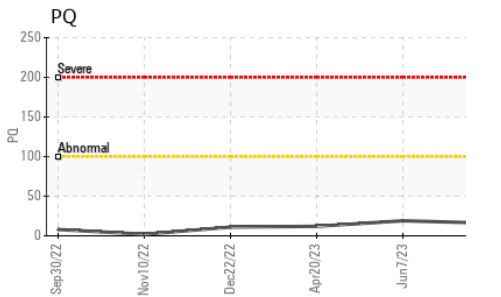
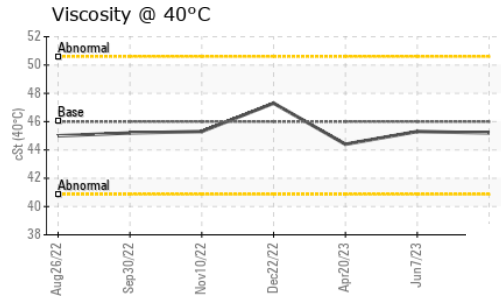
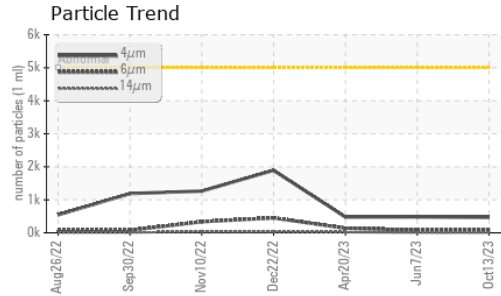
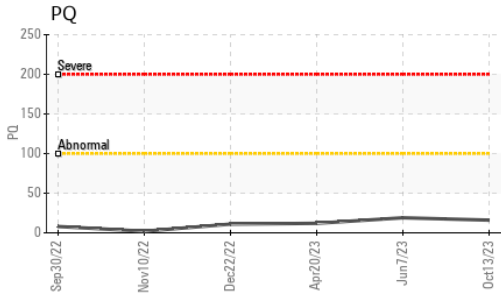
FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >5000 | 466 | 482 | 478 |
| Particles >6µm | ASTM D7647 | >1300 | 97 | 79 | 140 |
| Particles >14µm | ASTM D7647 | >160 | 7 | 6 | 18 |
| Particles >21µm | ASTM D7647 | >40 | 2 | 1 | 5 |
| Particles >38µm | ASTM D7647 | >10 | 0 | 0 | 0 |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | 16/14/10 | 16/13/10 | 16/14/11 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.26 | 0.23 | 0.25 |

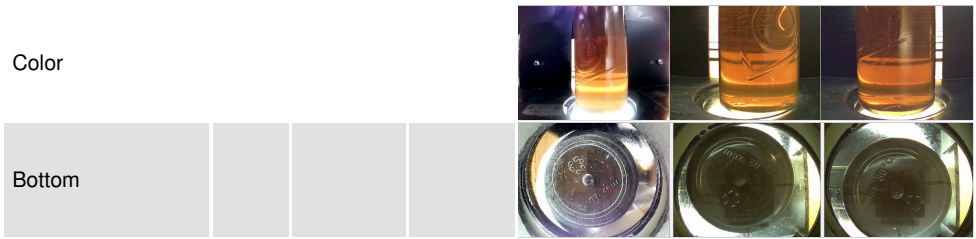
OIL ANALYSIS REPORT



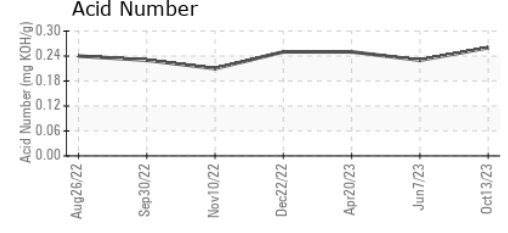
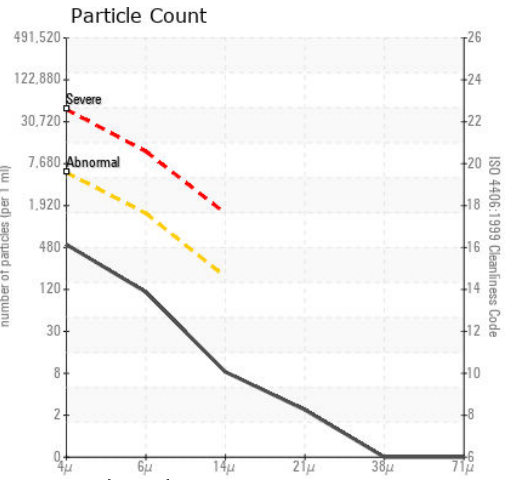
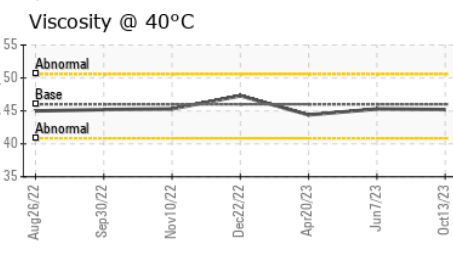
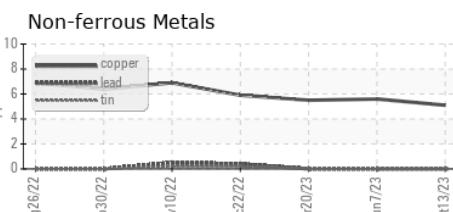
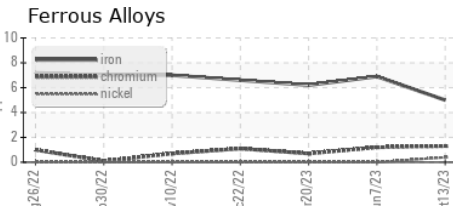
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | >0.05 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 46 | 45.2 | 45.3 | 44.4 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0000613 **Received** : 16 Oct 2023
Lab Number : 05980332 **Diagnosed** : 18 Oct 2023
Unique Number : 10697627 **Diagnostician** : Angela Borella
Test Package : PLANT (Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN)
 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)

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