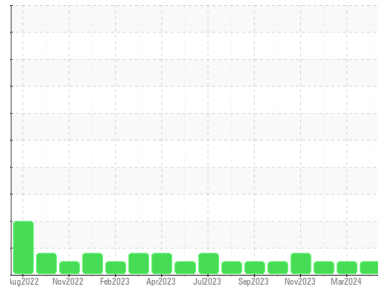




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Shredder

Machine Id

Mill DFR -Shredder

Component

Hydraulic Power Pack

Fluid

SHELL HYDRAULIC S1 M 68 (--- GAL)

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 | | | PE0003613 | PE0003608 | PE0000749 |
| Sample Date | Client Info | | | 18 Apr 2024 | 21 Mar 2024 | 07 Feb 2024 |
| 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 |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water | WC Method | | >0.05 | NEG | NEG | NEG |

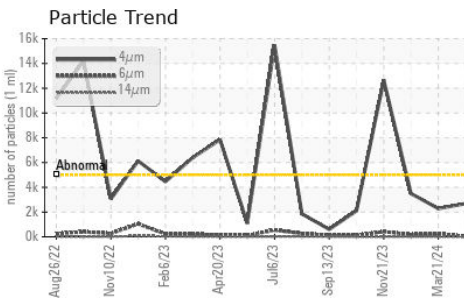
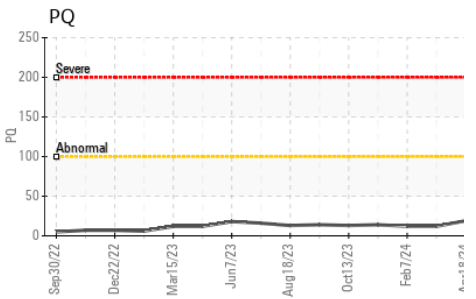
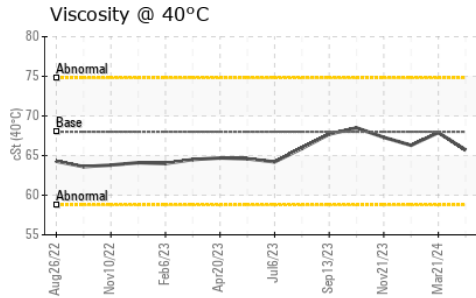
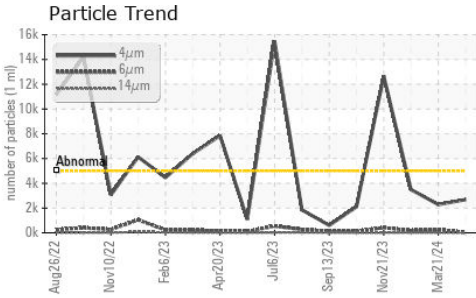
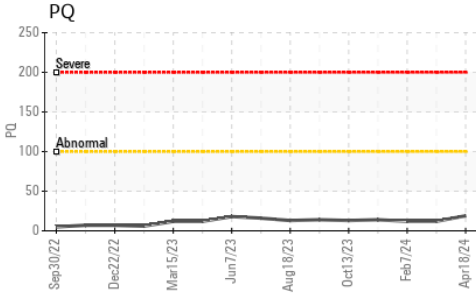
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| PQ | | ASTM D8184 | | 19 | 12 | 12 |
| Iron | ppm | ASTM D5185m | >20 | 2 | <1 | 2 |
| Chromium | ppm | ASTM D5185m | >20 | 1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 0 | 2 |
| Lead | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >20 | 10 | 9 | 12 |
| Tin | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | <1 | 0 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 13 |
| Molybdenum | ppm | ASTM D5185m | | <1 | 0 | 1 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | 5 | 4 | 7 |
| Calcium | ppm | ASTM D5185m | | 39 | 44 | 46 |
| Phosphorus | ppm | ASTM D5185m | | 329 | 295 | 323 |
| Zinc | ppm | ASTM D5185m | | 381 | 333 | 339 |
| Sulfur | ppm | ASTM D5185m | | 864 | 897 | 849 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185m | >15 | 1 | 0 | <1 |
| Sodium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 0 | <1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|----------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >5000 | 2686 | 2281 | 3489 |
| Particles >6µm | | ASTM D7647 | >1300 | 37 | 260 | 184 |
| Particles >14µm | | ASTM D7647 | >160 | 2 | 19 | 16 |
| Particles >21µm | | ASTM D7647 | >40 | 1 | 4 | 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 | 19/12/9 | 18/15/11 | 19/15/11 |

OIL ANALYSIS REPORT

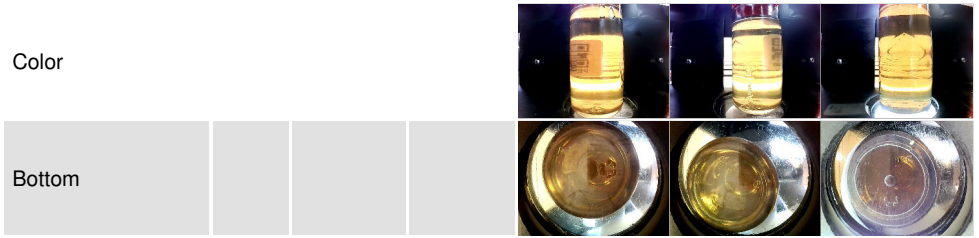


| FLUID DEGRADATION | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.37 | 0.43 | 0.30 |

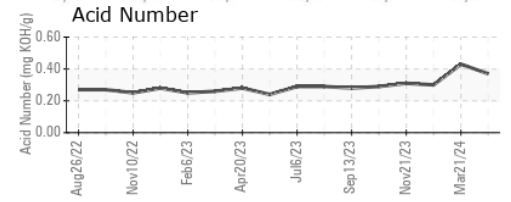
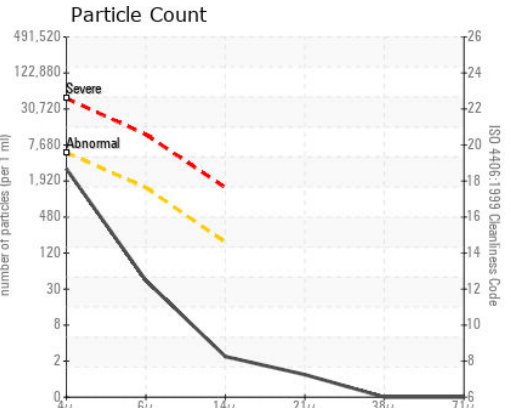
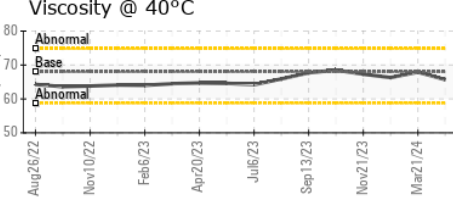
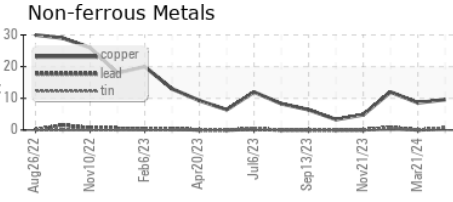
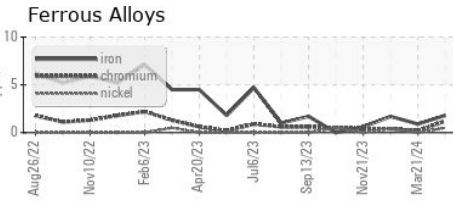
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | 65.7 | 67.9 | 66.3 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0003613
Lab Number : **06156852**
Unique Number : 10992275
Test Package : PLANT (Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN)
Received : 22 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 24 Apr 2024 - Angela Borella

Seattle Iron and Metals
 601 S MYRTLE ST
 SEATTLE, WA
 US 98108
 Contact: ADAM THOMAS
 athomas@seairon.com
 T: (206)682-0040
 F:

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)