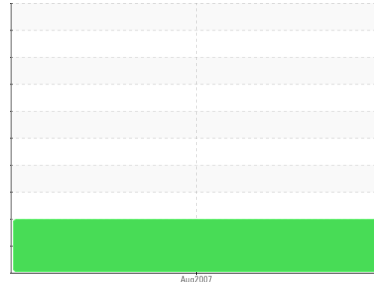




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id

044634-A

Component

Hydraulic System

Fluid

ROYAL ROYCO 717 (120 GAL)

DIAGNOSIS

▲ Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a high amount of particulates present in the oil. Elemental level of silicon (Si) above normal. NAS 1638 class 10.

Fluid Condition

The condition of oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info | | WC02010151 | --- | --- |
| Sample Date | Client Info | | 14 Aug 2007 | --- | --- |
| Machine Age | cyc | Client Info | 0 | --- | --- |
| Oil Age | cyc | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | N/A | --- | --- |
| Sample Status | | | ABNORMAL | --- | --- |

WEAR METALS

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

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | <1 | --- | --- |
| Barium | ppm | ASTM D5185m | <1 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | --- | --- |
| Manganese | ppm | ASTM D5185m | 0 | --- | --- |
| Magnesium | ppm | ASTM D5185m | <1 | --- | --- |
| Calcium | ppm | ASTM D5185m | <1 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 656 | --- | --- |
| Zinc | ppm | ASTM D5185m | <1 | --- | --- |
| Sulfur | ppm | ASTM D5185m | 160 | --- | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | ▲ 26 | --- | --- |
| Sodium | ppm | ASTM D5185m | 1 | --- | --- |
| Potassium | ppm | ASTM D5185m | 0 | --- | --- |
| Water | % | ASTM D6304 | 0.009 | --- | --- |

FLUID CLEANLINESS

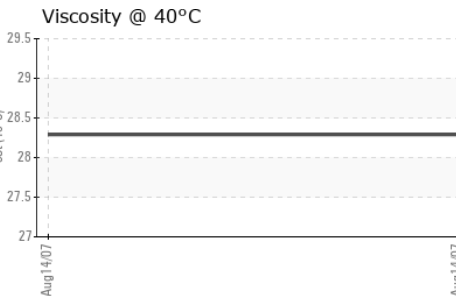
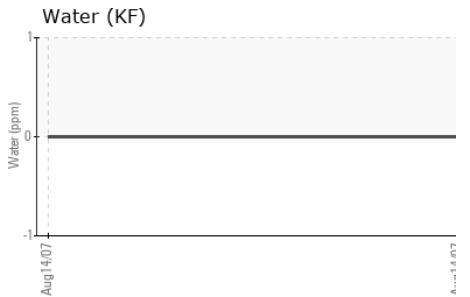
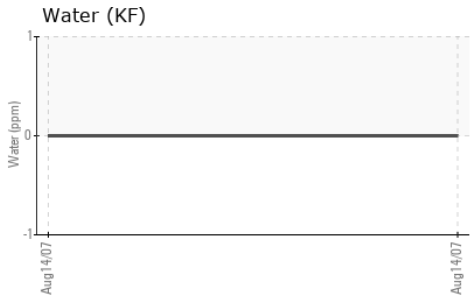
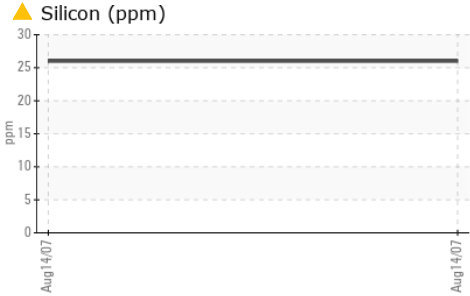
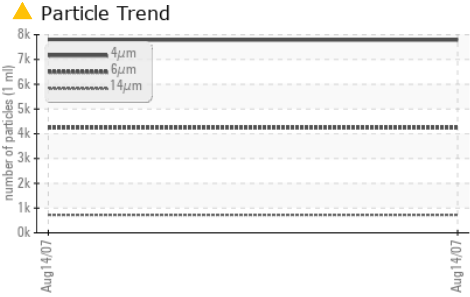
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|----------|----------|
| Particles >4µm | ASTM D7647 | | 7788 | --- | --- |
| Particles >6µm | ASTM D7647 | | ▲ 4242 | --- | --- |
| Particles >14µm | ASTM D7647 | | ▲ 722 | --- | --- |
| Particles >21µm | ASTM D7647 | | ▲ 243 | --- | --- |
| Particles >38µm | ASTM D7647 | | ▲ 37 | --- | --- |
| Particles >71µm | ASTM D7647 | | ▲ 3 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | | ▲ 20/19/17 | --- | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.101 | --- | --- |



OIL ANALYSIS REPORT

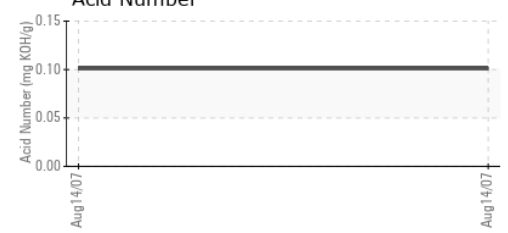
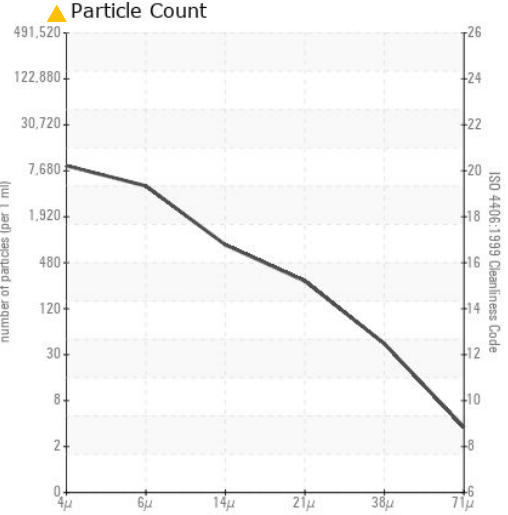
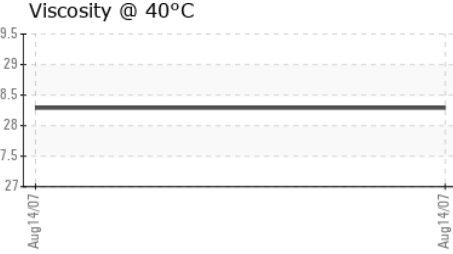
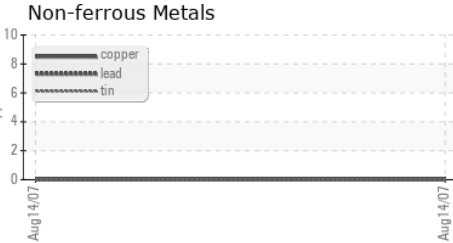
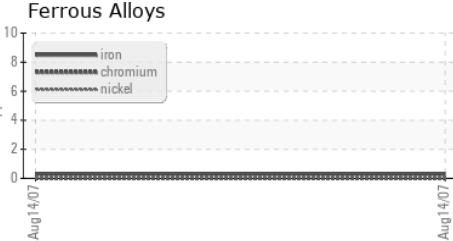


| VISUAL | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|----------|----------|-----|
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Precipitate | scalar | *Visual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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 28.29 | --- | --- |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 | |
|---------------|--------|------------|---------|----------|----------|----------|
| Color | | | | no image | no image | no image |
| Bottom | | | | no image | no image | no image |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC02010151 **Received** : 14 Aug 2007
Lab Number : 02010151 **Tested** : 15 Aug 2007
Unique Number : 4188904 **Diagnosed** : 16 Aug 2007 - Doug Bogart
Test Package : IND 2 (Additional Tests: KF)

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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)