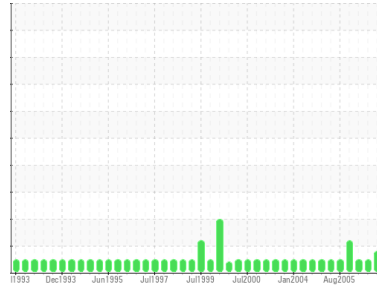




# OIL ANALYSIS REPORT

Sample Rating Trend



Area  
**Hydraulics**  
Machine Id  
**PRESS #2**

Component  
**Hydraulic System**  
Fluid

**SUNOCO SUNVIS 846 ISO 46 (550 GAL)**

## DIAGNOSIS

### Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

### Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of particulates (5 to 100 microns in size) present in the oil.

### Fluid Condition

The condition of oil is suitable for further service.

## SAMPLE INFORMATION

| method        | limit/base  | current            | history1    | history2    |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | <b>WC22053398</b>  | WC22051631  | WC22048483  |
| Sample Date   | Client Info | <b>24 Oct 2006</b> | 25 Jul 2006 | 27 Mar 2006 |
| Machine Age   | hrs         | <b>0</b>           | 0           | 0           |
| Oil Age       | hrs         | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             | <b>ABNORMAL</b>    | NORMAL      | NORMAL      |

## CONTAMINATION

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

## WEAR METALS

| method   | limit/base | current       | history1     | history2 |    |
|----------|------------|---------------|--------------|----------|----|
| Iron     | ppm        | ASTM D5185(m) | <b>7</b>     | 6        | 6  |
| Chromium | ppm        | ASTM D5185(m) | <b>&lt;1</b> | <1       | <1 |
| Nickel   | ppm        | ASTM D5185(m) | <b>0</b>     | <1       | <1 |
| Titanium | ppm        | ASTM D5185(m) | <b>0</b>     | 0        | 0  |
| Silver   | ppm        | ASTM D5185(m) | <b>0</b>     | 0        | 0  |
| Aluminum | ppm        | ASTM D5185(m) | <b>1</b>     | <1       | <1 |
| Lead     | ppm        | ASTM D5185(m) | <b>3</b>     | <1       | 2  |
| Copper   | ppm        | ASTM D5185(m) | <b>20</b>    | 19       | 17 |
| Tin      | ppm        | ASTM D5185(m) | <b>2</b>     | 1        | 1  |
| Vanadium | ppm        | ASTM D5185(m) | <b>0</b>     | <1       | 0  |

## ADDITIVES

| method     | limit/base | current       | history1     | history2 |      |
|------------|------------|---------------|--------------|----------|------|
| Boron      | ppm        | ASTM D5185(m) | <b>&lt;1</b> | 1        | <1   |
| Barium     | ppm        | ASTM D5185(m) | <b>2</b>     | 2        | 2    |
| Molybdenum | ppm        | ASTM D5185(m) | <b>&lt;1</b> | <1       | <1   |
| Manganese  | ppm        | ASTM D5185(m) | <b>&lt;1</b> | <1       | <1   |
| Magnesium  | ppm        | ASTM D5185(m) | <b>80</b>    | 79       | 76   |
| Calcium    | ppm        | ASTM D5185(m) | <b>91</b>    | 88       | 87   |
| Phosphorus | ppm        | ASTM D5185(m) | <b>601</b>   | 566      | 561  |
| Zinc       | ppm        | ASTM D5185(m) | <b>679</b>   | 620      | 620  |
| Sulfur     | ppm        | ASTM D5185(m) | <b>2382</b>  | 1928     | 2258 |

## CONTAMINANTS

| method    | limit/base | current       | history1 | history2 |   |
|-----------|------------|---------------|----------|----------|---|
| Silicon   | ppm        | ASTM D5185(m) | <b>6</b> | 6        | 6 |
| Sodium    | ppm        | ASTM D5185(m) | <b>2</b> | 4        | 4 |
| Potassium | ppm        | ASTM D5185(m) | <b>1</b> | 1        | 2 |

## FLUID CLEANLINESS

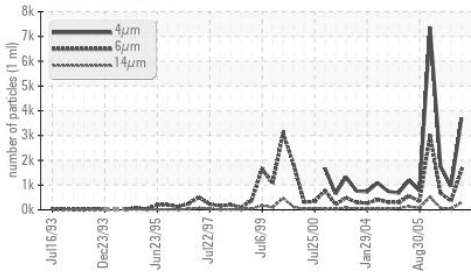
| method          | limit/base   | current           | history1 | history2 |
|-----------------|--------------|-------------------|----------|----------|
| Particles >4µm  | ASTM D7647   | <b>3697</b>       | 959      | 1743     |
| Particles >6µm  | ASTM D7647   | <b>▲ 1618</b>     | 355      | 672      |
| Particles >14µm | ASTM D7647   | <b>▲ 296</b>      | 32       | 78       |
| Particles >21µm | ASTM D7647   | <b>75</b>         | 9        | 14       |
| Particles >38µm | ASTM D7647   | <b>7</b>          | 4        | 2        |
| Particles >71µm | ASTM D7647   | <b>0</b>          | 0        | 0        |
| Oil Cleanliness | ISO 4406 (c) | <b>▲ 19/18/15</b> | 17/16/12 | 18/17/13 |

## FLUID DEGRADATION

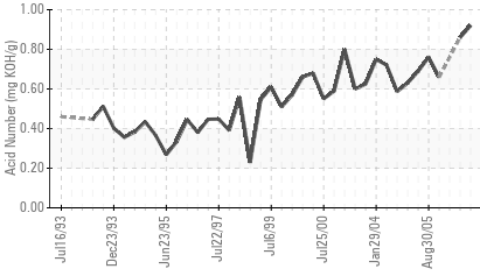
| method           | limit/base | current    | history1    | history2 |     |
|------------------|------------|------------|-------------|----------|-----|
| Acid Number (AN) | mg KOH/g   | ASTM D974* | <b>0.92</b> | 0.86     | --- |

# OIL ANALYSIS REPORT

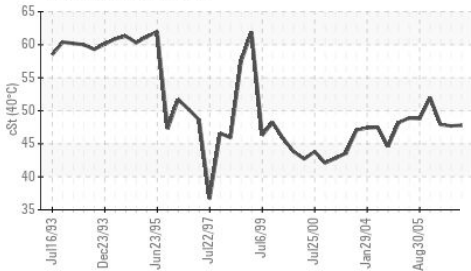
▲ Particle Trend



Acid Number



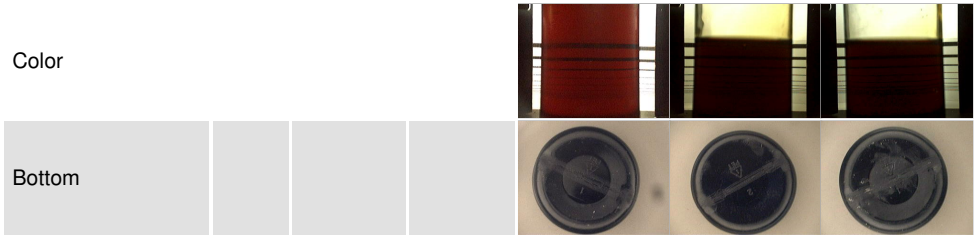
Viscosity @ 40°C



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

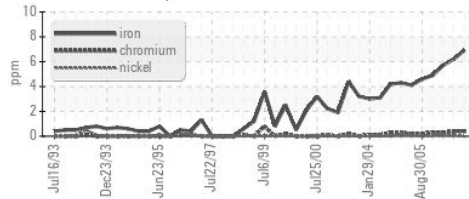
| FLUID PROPERTIES | method | limit/base    | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D7279(m) | 47.8    | 47.7     | 47.9     |

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

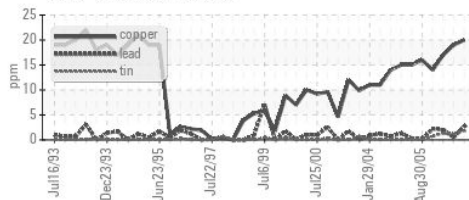


## GRAPHS

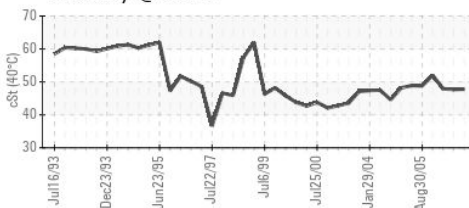
Ferrous Alloys



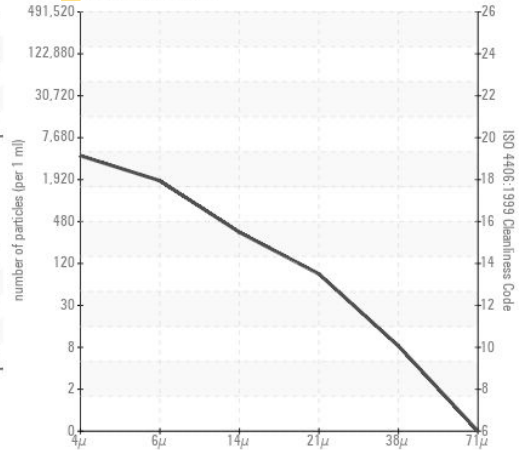
Non-ferrous Metals



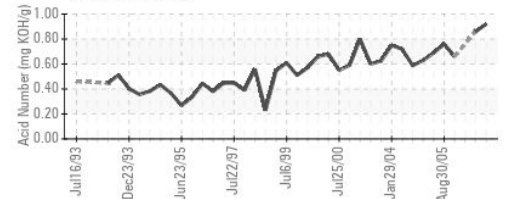
Viscosity @ 40°C



▲ Particle Count



Acid Number



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC22053398 **Received** : 25 Oct 2006  
**Lab Number** : 01338020 **Tested** : 27 Oct 2006  
**Unique Number** : 2332405 **Diagnosed** :  
**Test Package** : IND 2 ( Additional Tests: SCREEN )

**ABC Manufacturing**  
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 US 76100  
 Contact: Jim Smith  
 jim.smith@abcmanufacturing.com  
 T: (311)555-1212  
 F: (311)555-1313

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.