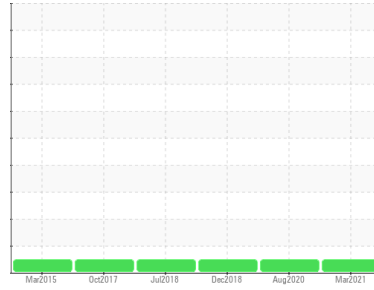




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
P2BF (PRESS 2 BEFORE FILTER)
 Component
Hydraulic System
 Fluid
PETRO CANADA HYDREX AW 68 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.
 NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

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 | | | WC0495641 | WC0495632 | WC0307402 |
| Sample Date | Client Info | | | 03 Mar 2021 | 19 Aug 2020 | 04 Dec 2018 |
| Machine Age | days | Client Info | | 0 | 0 | 0 |
| Oil Age | days | 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 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >20 | 9 | 7 | 4 |
| Chromium | ppm | ASTM D5185(m) | >20 | <1 | <1 | 0 |
| Nickel | ppm | ASTM D5185(m) | >20 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | <1 | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >20 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >20 | 2 | 2 | 1 |
| Tin | ppm | ASTM D5185(m) | >20 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | | <1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | <1 |

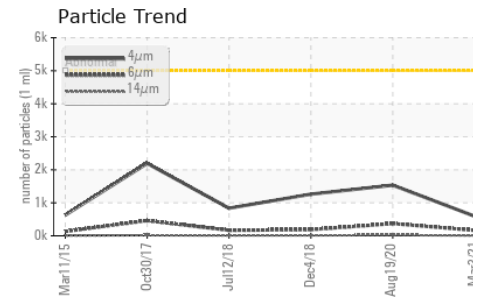
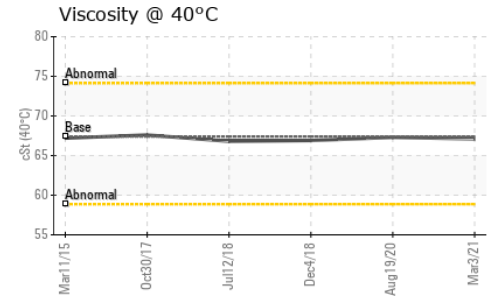
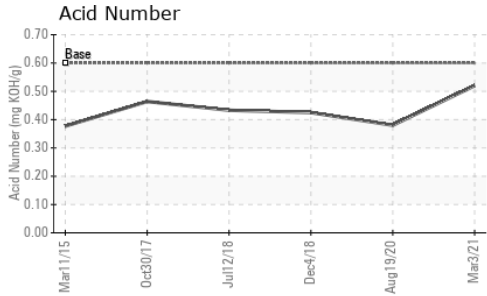
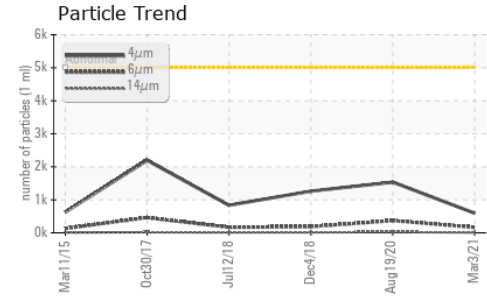
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | 0 | <1 | <1 | 0 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 0 | <1 | 0 | <1 |
| Calcium | ppm | ASTM D5185(m) | 50 | 53 | 57 | 64 |
| Phosphorus | ppm | ASTM D5185(m) | 330 | 306 | 320 | 300 |
| Zinc | ppm | ASTM D5185(m) | 430 | 373 | 384 | 400 |
| Sulfur | ppm | ASTM D5185(m) | 760 | 673 | 681 | 686 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | 0 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|---------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >15 | <1 | 0 | 0 |
| Sodium | ppm | ASTM D5185(m) | | <1 | 0 | 0 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | <1 | 0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >5000 | 594 | 1535 | 1261 |
| Particles >6µm | | ASTM D7647 | >1300 | 164 | 370 | 186 |
| Particles >14µm | | ASTM D7647 | >160 | 9 | 22 | 13 |
| Particles >21µm | | ASTM D7647 | >40 | 2 | 7 | 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 | 16/15/10 | 18/16/12 | 17/15/11 |



OIL ANALYSIS REPORT

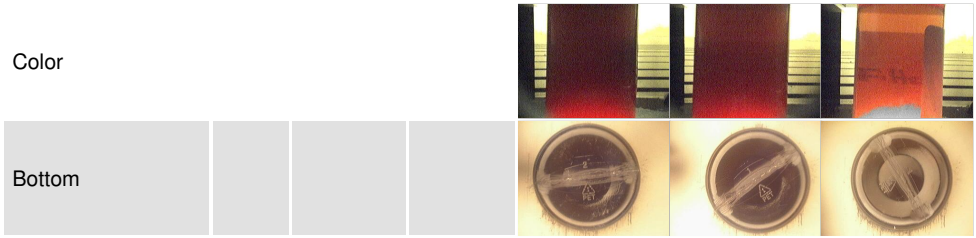


| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.60 | 0.52 | 0.38 | 0.425 |

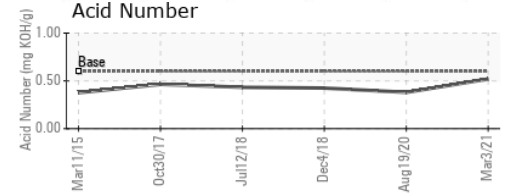
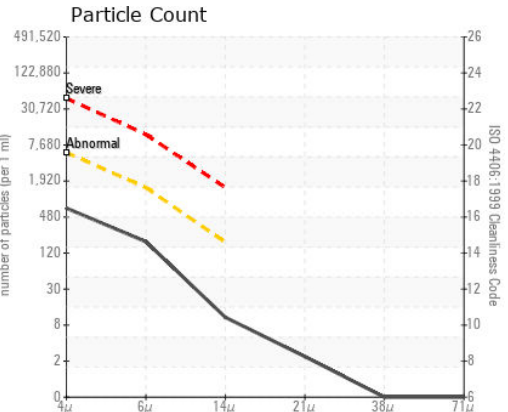
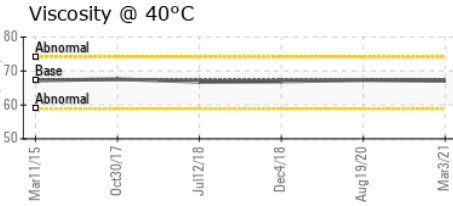
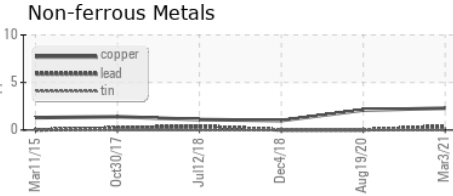
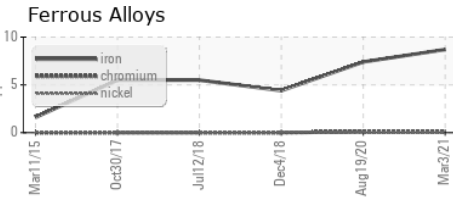
| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | NONE | NONE |
| Silt | scalar | Visual* | NONE | NONE | NONE | NONE |
| Debris | scalar | Visual* | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | Visual* | NONE | NONE | NONE | NONE |
| Appearance | scalar | Visual* | NORML | NORML | NORML | NORML |
| Odor | scalar | Visual* | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.05 | 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) | 67.4 | 67.1 | 67.3 | 66.9 |

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



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0495641
Lab Number : **02407494**
Unique Number : 5186971
Test Package : IND 2 (Additional Tests: TAN Man)
Received : 05 Mar 2021
Tested : 08 Mar 2021
Diagnosed : 08 Mar 2021 - Wes Davis

SPECTRA ALUMINUM PRODUCTS INC.
 95 REAGENS INDUSTRIAL PKWY
 BRADFORD, ON
 CA L3Z 2A4
 Contact: Chris Mayr
 cmayr@spectraaluminum.com
 T: (905)778-8093
 F: (905)778-8054

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.