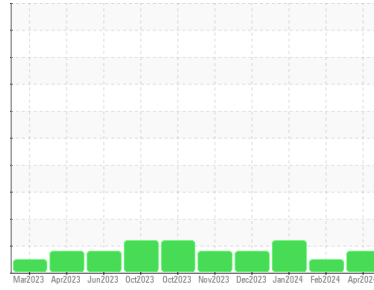




Area
1851
Machine Id
1851-5419-8002
Component
Gearbox
Fluid
PETRO CANADA SYNDURO SHB ISO150 (15 LTR)



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 light amount of silt (particulates < 14 microns in size) present in the oil.
- 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 | | | PC0077232 | PC0070739 | PC0070684 |
| Sample Date | Client Info | | | 16 Apr 2024 | 20 Feb 2024 | 23 Jan 2024 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | Client Info | | | Not Chngd | N/A | Not Chngd |
| Sample Status | | | | ATTENTION | NORMAL | ATTENTION |

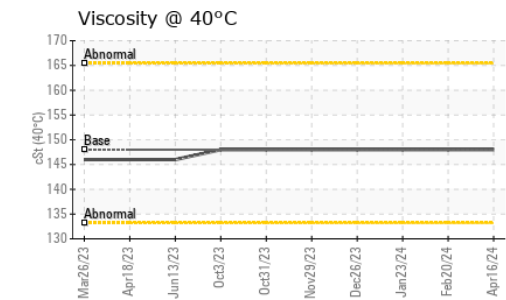
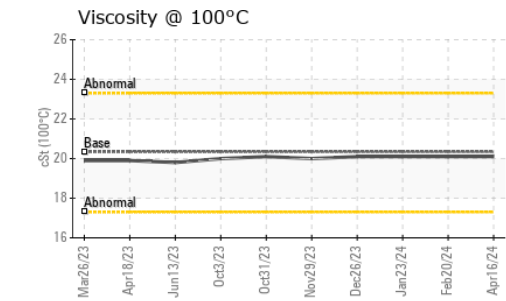
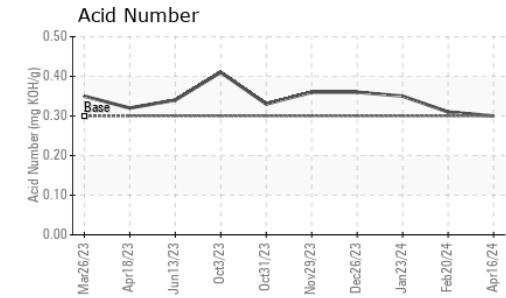
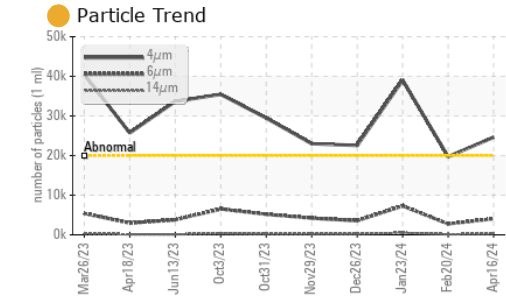
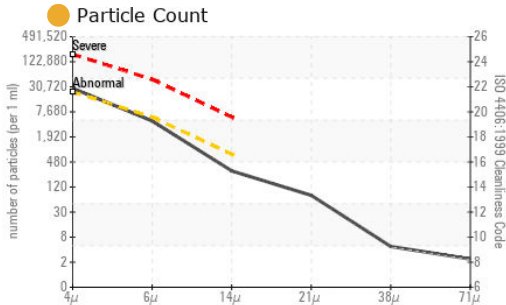
| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water | WC Method | | >0.2 | NEG | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| PQ | | ASTM D8184* | | 0 | 0 | 0 |
| Iron | ppm | ASTM D5185(m) | >200 | 6 | 6 | 6 |
| Chromium | ppm | ASTM D5185(m) | >15 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >15 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >25 | 0 | <1 | <1 |
| Lead | ppm | ASTM D5185(m) | >100 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185(m) | >200 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) | >25 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) | >5 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | | <1 | <1 | <1 |
| Barium | ppm | ASTM D5185(m) | 5.0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) | 5.0 | <1 | <1 | <1 |
| Calcium | ppm | ASTM D5185(m) | 5.0 | <1 | <1 | <1 |
| Phosphorus | ppm | ASTM D5185(m) | 100 | 84 | 86 | 88 |
| Zinc | ppm | ASTM D5185(m) | 5.0 | 2 | 2 | 2 |
| Sulfur | ppm | ASTM D5185(m) | 1900 | 1882 | 2000 | 2022 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|---------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >50 | 3 | 4 | 4 |
| Sodium | ppm | ASTM D5185(m) | | <1 | <1 | 0 |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | <1 | <1 |

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0077232
Lab Number : 02634756
Unique Number : 5775909
Test Package : IND 2 (Additional Tests: KV100, PQ, PrtCount, VI)

Vale - Voisey's Bay
 Voisey's Bay Mine Site, P.O. Box 7001, Stn. C Happy Valley
 Goose Bay, NL
 CA A0P 1C0
 Contact: Robert Feltham
 robert.feltham@vale.com

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.

| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|-------------------|--------------|------------|----------|----------|----------|
| Particles >4µm | ASTM D7647 | >20000 | 24637 | 19716 | 39009 |
| Particles >6µm | ASTM D7647 | >5000 | 4053 | 2741 | 7315 |
| Particles >14µm | ASTM D7647 | >640 | 258 | 107 | 502 |
| Particles >21µm | ASTM D7647 | >160 | 67 | 25 | 140 |
| Particles >38µm | ASTM D7647 | >40 | 4 | 4 | 17 |
| Particles >71µm | ASTM D7647 | >10 | 2 | 3 | 9 |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | 22/19/15 | 21/19/14 | 22/20/16 |

| FLUID DEGRADATION | method | limit/base | current | history1 | history2 |
|-------------------|---------------------|------------|---------|----------|----------|
| Acid Number (AN) | mg KOH/g ASTM D974* | 0.3 | 0.30 | 0.31 | 0.35 |

| 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 | VLITE | NONE | VLITE |
| 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* | >0.2 | 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) | 148 | 148 | 148 | 148 |
| Visc @ 100°C | cSt ASTM D7279(m) | 20.34 | 20.1 | 20.1 | 20.1 |
| Viscosity Index (VI) | Scale ASTM D2270* | 159 | 157 | 157 | 157 |

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