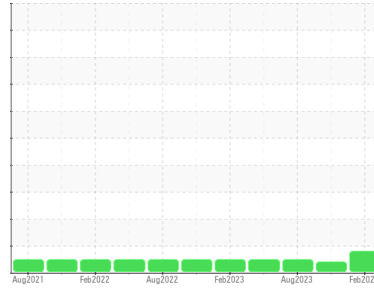


OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Area
Pickle Line
 Machine Id
[Pickle Line] 580045-CHOPPER KNIFE GB - DRIVE SIDE
 Component
Drive End Gearbox
 Fluid
PETRO CANADA ENDURATEX EP 220 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Moderate concentration of visible dirt/debris present in the oil.

Fluid Condition

The oil viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | PCA0113008 | PCA0107674 | PCA0101456 |
| Sample Date | Client Info | 13 Feb 2024 | 26 Nov 2023 | 22 Aug 2023 |
| Machine Age | hrs | Client Info | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 |
| Oil Changed | Client Info | N/A | N/A | N/A |
| Sample Status | | ABNORMAL | ATTENTION | NORMAL |

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 | 122 | --- | 10 |
| Iron | ppm ASTM D5185m >200 | 55 | 39 | 5 |
| Chromium | ppm ASTM D5185m >15 | <1 | <1 | 0 |
| Nickel | ppm ASTM D5185m >15 | 1 | 1 | 0 |
| Titanium | ppm ASTM D5185m | <1 | <1 | 0 |
| Silver | ppm ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm ASTM D5185m >25 | 7 | 3 | <1 |
| Lead | ppm ASTM D5185m >100 | 0 | <1 | 0 |
| Copper | ppm ASTM D5185m >200 | <1 | 2 | <1 |
| Tin | ppm ASTM D5185m >25 | 0 | <1 | 0 |
| Vanadium | ppm ASTM D5185m | 0 | 0 | <1 |
| Cadmium | ppm ASTM D5185m | 0 | <1 | <1 |

ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|-----------------------|--------------|----------|----------|
| Boron | ppm ASTM D5185m 60 | 42 | 44 | 72 |
| Barium | ppm ASTM D5185m 0 | 0 | <1 | 0 |
| Molybdenum | ppm ASTM D5185m 0 | 0 | <1 | 0 |
| Manganese | ppm ASTM D5185m 0 | <1 | <1 | <1 |
| Magnesium | ppm ASTM D5185m 0 | 0 | <1 | <1 |
| Calcium | ppm ASTM D5185m 0 | 45 | 34 | 2 |
| Phosphorus | ppm ASTM D5185m 270 | 368 | 341 | 282 |
| Zinc | ppm ASTM D5185m 0 | 127 | 94 | 0 |
| Sulfur | ppm ASTM D5185m 11200 | 6433 | 6891 | 8132 |

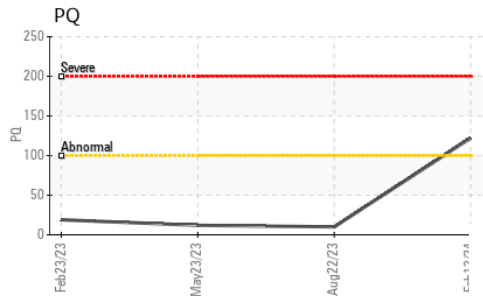
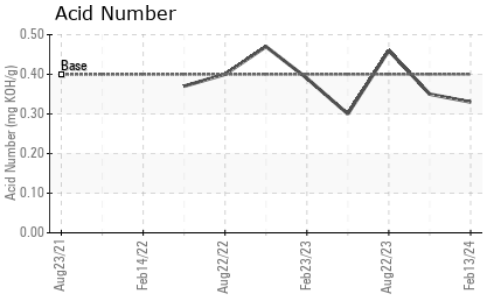
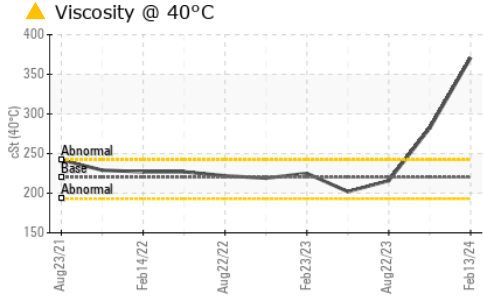
CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|---------------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185m >50 | 44 | 40 | 5 |
| Sodium | ppm ASTM D5185m | 2 | 0 | <1 |
| Potassium | ppm ASTM D5185m >20 | <1 | 2 | 1 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g ASTM D8045 0.40 | 0.33 | 0.35 | 0.46 |

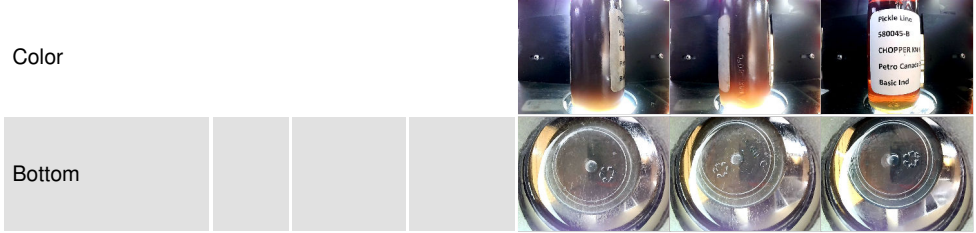
OIL ANALYSIS REPORT



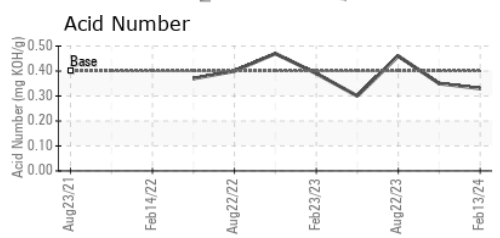
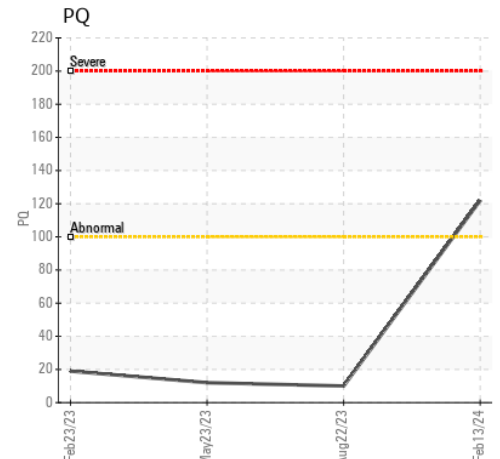
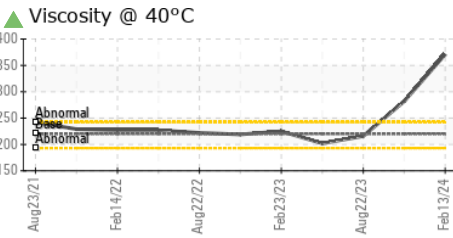
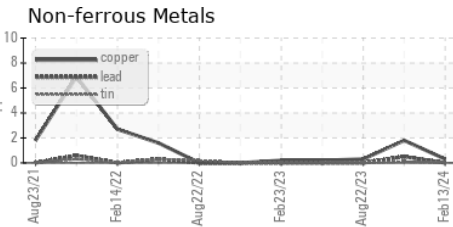
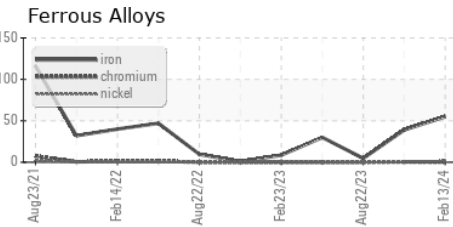
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | ▲ MODER | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 220 | ▲ 371 | ▲ 282.0 | 215.8 |

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



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0113008
Lab Number : 06088307
Unique Number : 10875752
Test Package : PLANT

SDI - Steel Dynamics Inc. - Heartland
 455 West Industrial Drive
 Terre Haute, IN
 US 47802
 Contact: BRAD ELLIS
 brad.ellis@steeldynamics.com

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)

T:
F: