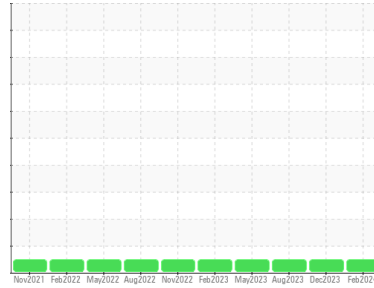


# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**Temper Mill**  
 Machine Id  
**[Temper Mill] 230085-DELIVERY BRIDLE ROLL 2**  
 Component  
**Gearbox**  
 Fluid  
**PETRO CANADA ENDURATEX EP 220 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination 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 | <b>PCA0112951</b>  | PCA0107729  | PCA0101481  |
| Sample Date   | Client Info | <b>27 Feb 2024</b> | 27 Dec 2023 | 01 Aug 2023 |
| Machine Age   | hrs         | Client Info        | <b>0</b>    | 0           |
| Oil Age       | hrs         | Client Info        | <b>0</b>    | 0           |
| Oil Changed   | Client Info | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## CONTAMINATION

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

## WEAR METALS

| method   | limit/base           | current      | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| PQ       | ASTM D8184           | <b>11</b>    | 21       | 13       |
| Iron     | ppm ASTM D5185m >200 | <b>9</b>     | 15       | 10       |
| Chromium | ppm ASTM D5185m >15  | <b>0</b>     | 0        | 0        |
| Nickel   | ppm ASTM D5185m >15  | <b>0</b>     | 0        | 0        |
| Titanium | ppm ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Silver   | ppm ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Aluminum | ppm ASTM D5185m >25  | <b>0</b>     | 0        | <1       |
| Lead     | ppm ASTM D5185m >100 | <b>&lt;1</b> | 0        | <1       |
| Copper   | ppm ASTM D5185m >200 | <b>0</b>     | 0        | <1       |
| Tin      | ppm ASTM D5185m >25  | <b>0</b>     | 0        | 0        |
| Vanadium | ppm ASTM D5185m      | <b>&lt;1</b> | 0        | 0        |
| Cadmium  | ppm ASTM D5185m      | <b>0</b>     | 0        | <1       |

## ADDITIVES

| method     | limit/base            | current      | history1 | history2 |
|------------|-----------------------|--------------|----------|----------|
| Boron      | ppm ASTM D5185m 60    | <b>&lt;1</b> | 6        | 0        |
| Barium     | ppm ASTM D5185m 0     | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm ASTM D5185m 0     | <b>0</b>     | 0        | 0        |
| Manganese  | ppm ASTM D5185m 0     | <b>0</b>     | <1       | <1       |
| Magnesium  | ppm ASTM D5185m 0     | <b>&lt;1</b> | 0        | <1       |
| Calcium    | ppm ASTM D5185m 0     | <b>4</b>     | 9        | 0        |
| Phosphorus | ppm ASTM D5185m 270   | <b>350</b>   | 264      | 394      |
| Zinc       | ppm ASTM D5185m 0     | <b>37</b>    | 33       | 35       |
| Sulfur     | ppm ASTM D5185m 11200 | <b>16837</b> | 12425    | 20048    |

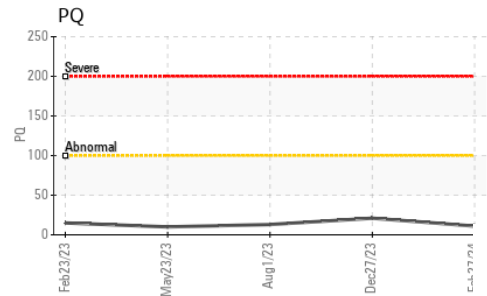
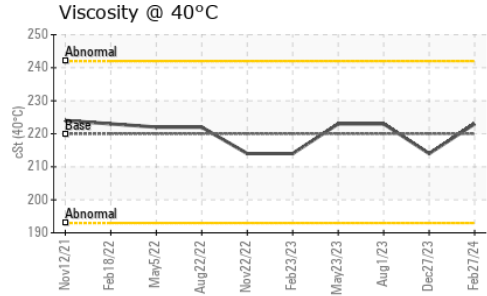
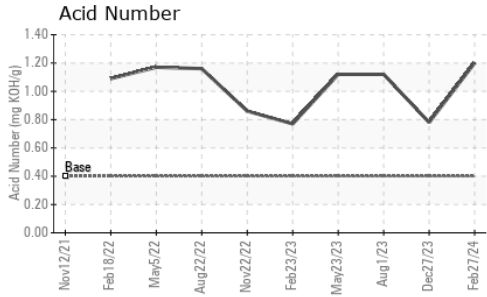
## CONTAMINANTS

| method    | limit/base          | current      | history1 | history2 |
|-----------|---------------------|--------------|----------|----------|
| Silicon   | ppm ASTM D5185m >50 | <b>27</b>    | 27       | 25       |
| Sodium    | ppm ASTM D5185m     | <b>&lt;1</b> | <1       | 2        |
| Potassium | ppm ASTM D5185m >20 | <b>0</b>     | <1       | 2        |

## FLUID DEGRADATION

| method           | limit/base               | current     | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g ASTM D8045 0.40 | <b>1.20</b> | 0.78     | 1.12     |

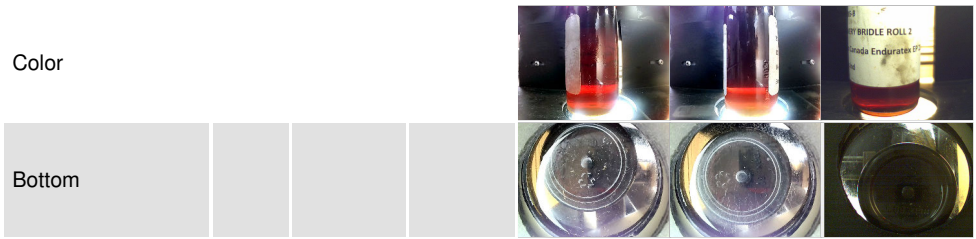
# OIL ANALYSIS REPORT



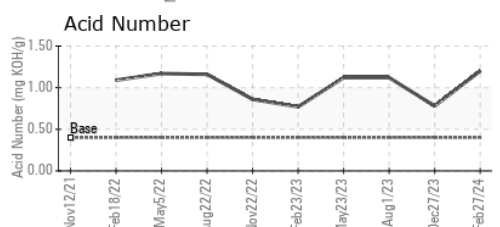
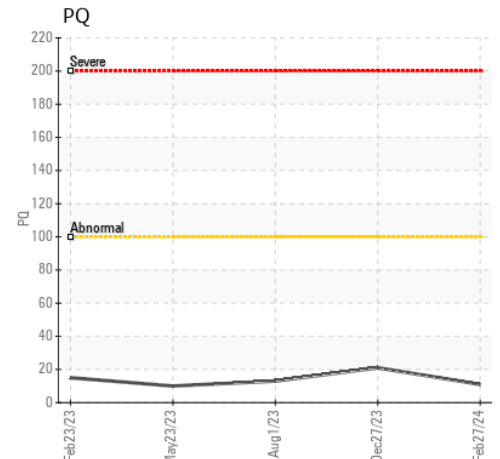
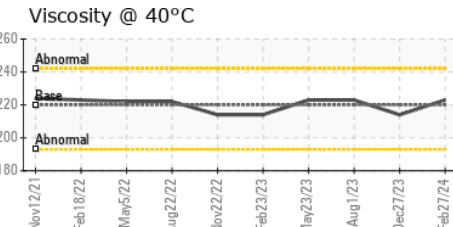
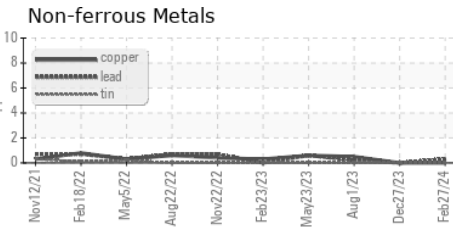
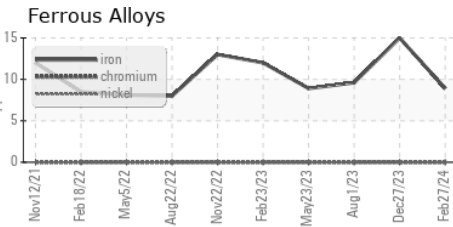
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | LIGHT    |
| 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 | <b>223</b> | 214      | 223      |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0112951 **Received** : 27 Feb 2024  
**Lab Number** : **06102545** **Tested** : 29 Feb 2024  
**Unique Number** : 10900775 **Diagnosed** : 29 Feb 2024 - Doug Bogart  
**Test Package** : PLANT

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

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)