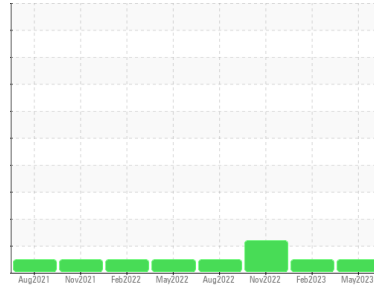


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Galv Line
 Machine Id
[Galv Line] 665225-STEERING UNIT 4
 Component
Hydraulic System
 Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. 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 | history 1 | history 2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | PCA0095424 | PCA0089484 | PCA0081707 |
| Sample Date | Client Info | 01 May 2023 | 01 Feb 2023 | 22 Nov 2022 |
| Machine Age | hrs | Client Info | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 |
| Oil Changed | Client Info | Not Changed | Not Changed | Not Changed |
| Sample Status | | NORMAL | NORMAL | ATTENTION |

WEAR METALS

| method | limit/base | current | history 1 | history 2 | |
|----------|------------|-----------------|--------------|-----------|----|
| Iron | ppm | ASTM D5185m >20 | 2 | 3 | 3 |
| Chromium | ppm | ASTM D5185m >20 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | <1 | 0 | 0 |
| Lead | ppm | ASTM D5185m >20 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m >20 | 2 | 2 | 2 |
| Tin | ppm | ASTM D5185m >20 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history 1 | history 2 | |
|------------|------------|-----------------|-------------|-----------|------|
| Boron | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 0 | 0 | <1 | <1 |
| Manganese | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m 0 | 5 | 1 | <1 |
| Calcium | ppm | ASTM D5185m 50 | 50 | 56 | 59 |
| Phosphorus | ppm | ASTM D5185m 330 | 312 | 311 | 322 |
| Zinc | ppm | ASTM D5185m 430 | 381 | 394 | 390 |
| Sulfur | ppm | ASTM D5185m 760 | 4053 | 4602 | 4712 |

CONTAMINANTS

| method | limit/base | current | history 1 | history 2 | |
|-----------|------------|-----------------|--------------|-----------|----|
| Silicon | ppm | ASTM D5185m >15 | 0 | <1 | <1 |
| Sodium | ppm | ASTM D5185m | <1 | <1 | <1 |
| Potassium | ppm | ASTM D5185m >20 | 0 | 0 | 0 |

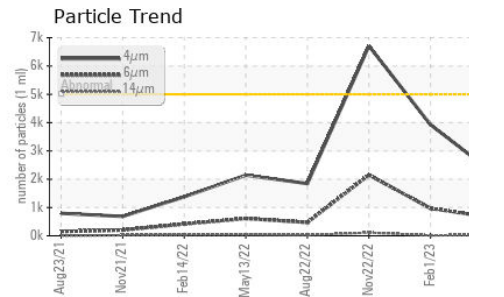
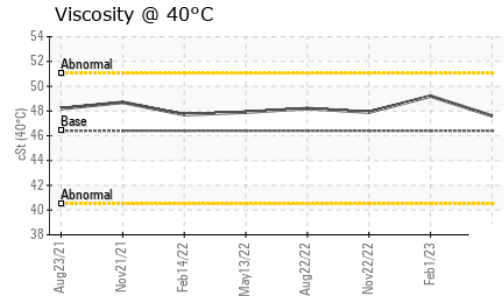
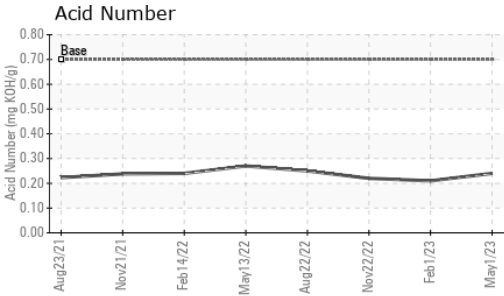
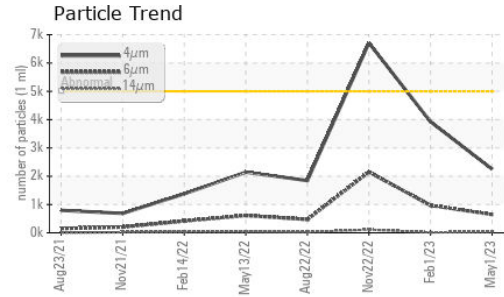
FLUID CLEANLINESS

| method | limit/base | current | history 1 | history 2 |
|-----------------|------------------------|-----------------|-----------|------------|
| Particles >4µm | ASTM D7647 >5000 | 2250 | 3926 | ▲ 6708 |
| Particles >6µm | ASTM D7647 >1300 | 643 | 969 | ▲ 2152 |
| Particles >14µm | ASTM D7647 >160 | 35 | 15 | 113 |
| Particles >21µm | ASTM D7647 >40 | 6 | 3 | 22 |
| Particles >38µm | ASTM D7647 >10 | 0 | 1 | 1 |
| Particles >71µm | ASTM D7647 >3 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) >19/17/14 | 18/17/12 | 19/17/11 | ▲ 20/18/14 |

FLUID DEGRADATION

| method | limit/base | current | history 1 | history 2 | |
|------------------|------------|-----------------|-------------|-----------|------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.70 | 0.24 | 0.21 | 0.22 |

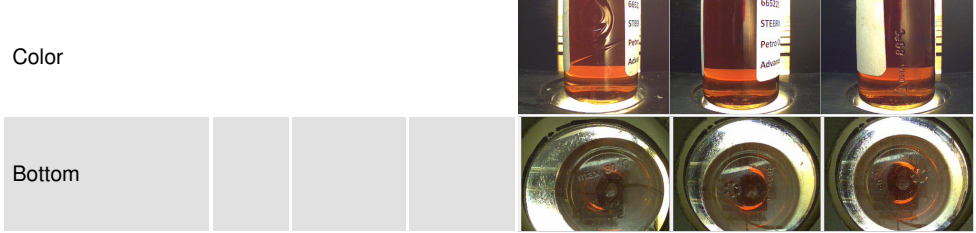
OIL ANALYSIS REPORT



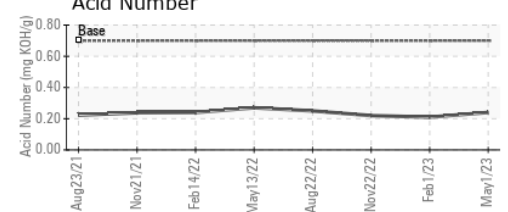
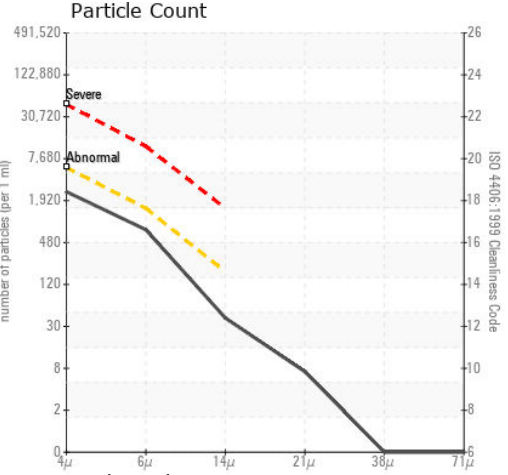
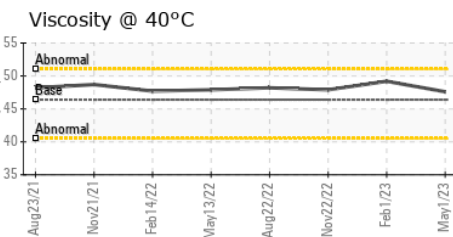
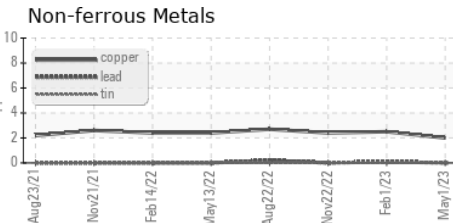
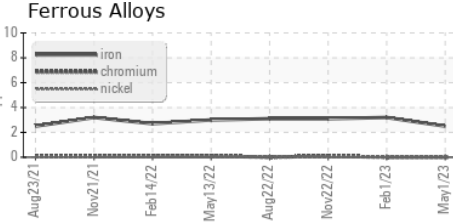
| VISUAL | method | limit/base | current | history 1 | history 2 |
|------------------|--------|------------|---------|-----------|-----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.05 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history 1 | history 2 | |
|------------------|--------|------------|---------|-----------|-----------|------|
| Visc @ 40°C | cSt | ASTM D445 | 46.4 | 47.6 | 49.2 | 47.9 |

| SAMPLE IMAGES | method | limit/base | current | history 1 | history 2 |
|---------------|--------|------------|---------|-----------|-----------|
|---------------|--------|------------|---------|-----------|-----------|



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0095424
Lab Number : 05894376
Unique Number : 10550186
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: