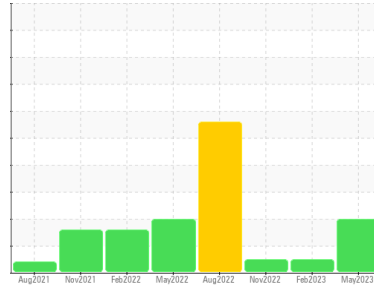


PROBLEM SUMMARY

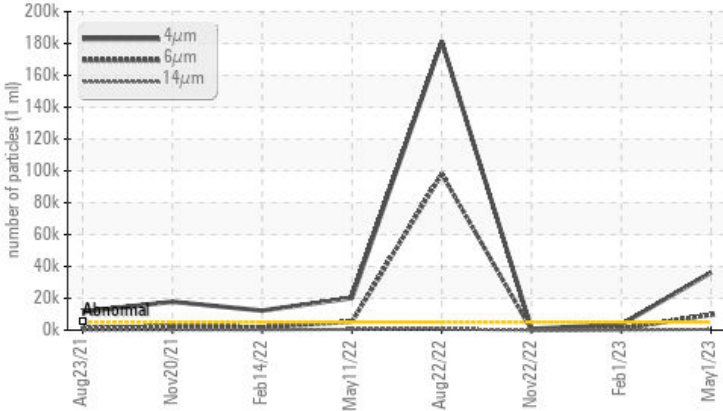
Sample Rating Trend



Area
Pickle Line
 Machine Id
[Pickle Line] 585130-STEERING UNITS 4- 4A- 5- 6
 Component
Hydraulic System
 Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	NORMAL	NORMAL
Particles >4µm	ASTM D7647	>5000	▲ 36188	3481	832
Particles >6µm	ASTM D7647	>1300	▲ 9744	930	113
Particles >14µm	ASTM D7647	>160	▲ 487	27	7
Particles >21µm	ASTM D7647	>40	▲ 84	2	2
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 22/20/16	19/17/12	17/14/10

Customer Id: SDITER
 Sample No.: PCA0095470
 Lab Number: 05894363
 Test Package: PLANT



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

01 Feb 2023 Diag: Doug Bogart

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



22 Nov 2022 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



22 Aug 2022 Diag: Don Baldrige

DIRT



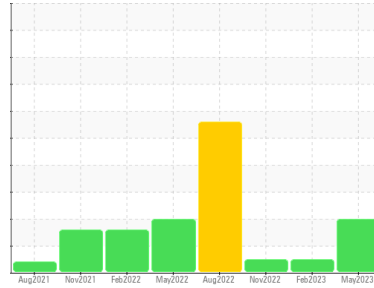
We recommend you service the filters on this component. Resample at the next service interval to monitor. The iron level is abnormal. There is a high amount of particulates present in the oil. Elemental level of silicon (Si) above normal. Viscosity of sample indicates oil is within ISO 220 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

view report



OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
Pickle Line
Machine Id
[Pickle Line] 585130-STEERING UNITS 4- 4A- 5- 6
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

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 high amount of particulates 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	history 1	history 2
Sample Number	Client Info	PCA0095470	PCA0089505	PCA0081740
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		ABNORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history 1	history 2	
Iron	ppm	ASTM D5185m >20	2	0	<1
Chromium	ppm	ASTM D5185m >20	0	0	0
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	0	0
Copper	ppm	ASTM D5185m >20	4	0	7
Tin	ppm	ASTM D5185m >20	0	0	<1
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	2	0
Molybdenum	ppm	ASTM D5185m 0	0	0	<1
Manganese	ppm	ASTM D5185m 0	0	0	0
Magnesium	ppm	ASTM D5185m 0	6	2	3
Calcium	ppm	ASTM D5185m 50	46	60	49
Phosphorus	ppm	ASTM D5185m 330	296	329	323
Zinc	ppm	ASTM D5185m 430	364	432	401
Sulfur	ppm	ASTM D5185m 760	1732	870	1169

CONTAMINANTS

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

FLUID CLEANLINESS

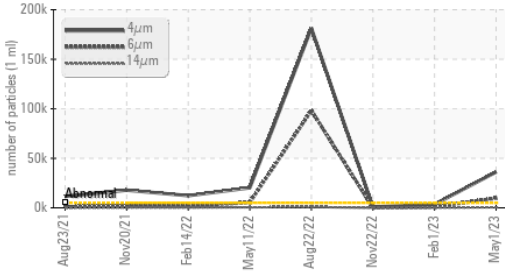
method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647 >5000	▲ 36188	3481	832
Particles >6µm	ASTM D7647 >1300	▲ 9744	930	113
Particles >14µm	ASTM D7647 >160	▲ 487	27	7
Particles >21µm	ASTM D7647 >40	▲ 84	2	2
Particles >38µm	ASTM D7647 >10	1	0	0
Particles >71µm	ASTM D7647 >3	0	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	▲ 22/20/16	19/17/12	17/14/10

FLUID DEGRADATION

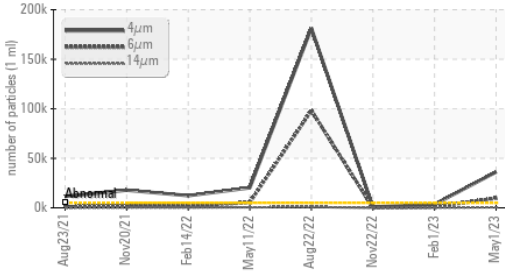
method	limit/base	current	history 1	history 2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.70	0.23	0.43	0.35

OIL ANALYSIS REPORT

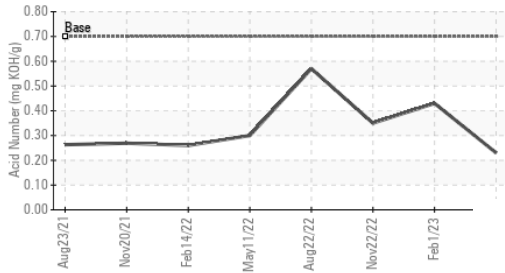
▲ Particle Trend



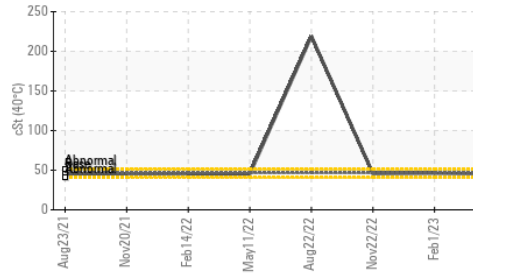
▲ Particle Trend



Acid Number



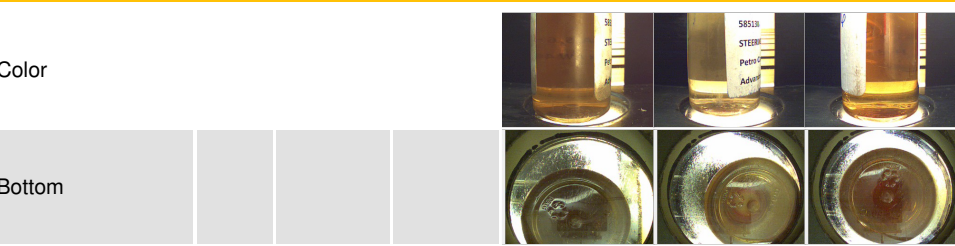
Viscosity @ 40°C



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

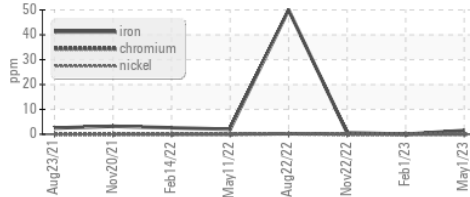
FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445	46.4	45.5	46.2

SAMPLE IMAGES

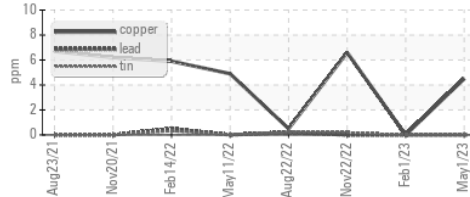


GRAPHS

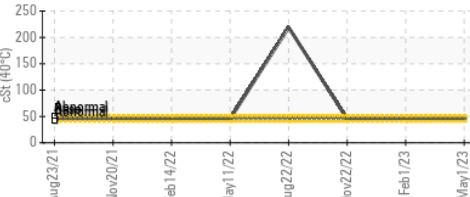
Ferrous Alloys



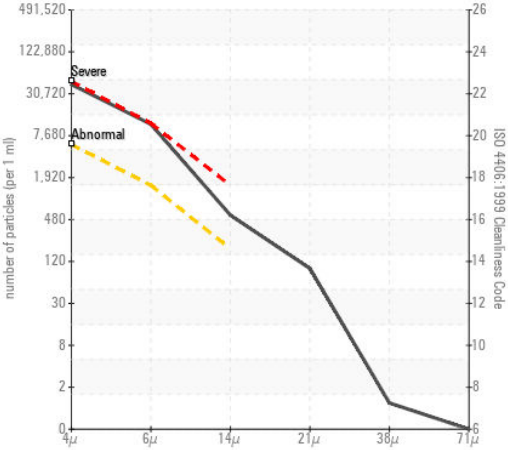
Non-ferrous Metals



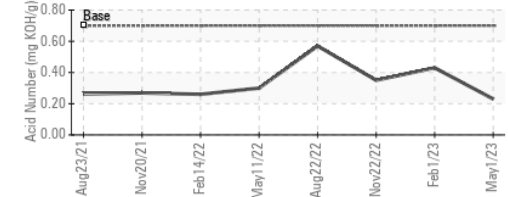
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0095470 **Received** : 10 Jul 2023
Lab Number : 05894363 **Diagnosed** : 12 Jul 2023
Unique Number : 10550173 **Diagnostician** : Don Baldrige
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: