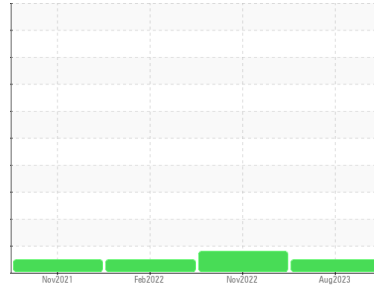


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
ROLL SHOP
Machine Id
[ROLL SHOP] BIG GRINDER SPINDLE
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 32 (--- 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 fluid. The amount and size of particulates present in the system are acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PCA0101460	PCA0081782	PCA0065515
Sample Date	Client Info	14 Aug 2023	22 Nov 2022	07 Feb 2022
Machine Age	hrs Client Info	0	0	0
Oil Age	hrs Client Info	0	0	0
Oil Changed	Client Info	N/A	Not Changd	Not Changd
Sample Status		NORMAL	ATTENTION	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >20	0	0	0
Chromium	ppm ASTM D5185m >20	0	0	0
Nickel	ppm ASTM D5185m >20	0	0	0
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m	0	<1	2
Aluminum	ppm ASTM D5185m >20	0	0	0
Lead	ppm ASTM D5185m >20	0	0	0
Copper	ppm ASTM D5185m >20	<1	<1	0
Tin	ppm ASTM D5185m >20	0	0	0
Antimony	ppm ASTM D5185m	---	---	---
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	0	<1	2
Barium	ppm ASTM D5185m 0	0	1	0
Molybdenum	ppm ASTM D5185m 0	0	0	<1
Manganese	ppm ASTM D5185m 0	0	0	0
Magnesium	ppm ASTM D5185m 0	3	5	26
Calcium	ppm ASTM D5185m 50	63	69	65
Phosphorus	ppm ASTM D5185m 330	301	280	333
Zinc	ppm ASTM D5185m 430	354	365	370
Sulfur	ppm ASTM D5185m 760	968	941	858

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >15	<1	<1	0
Sodium	ppm ASTM D5185m	1	0	1
Potassium	ppm ASTM D5185m >20	0	<1	0

FLUID CLEANLINESS

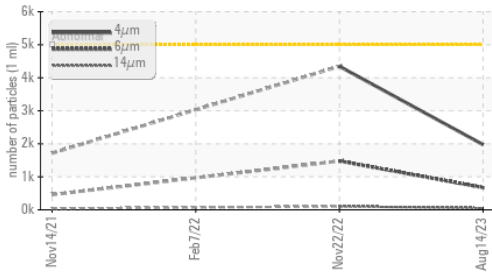
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	1974	4345	---
Particles >6µm	ASTM D7647 >1300	672	▲ 1477	---
Particles >14µm	ASTM D7647 >160	50	103	---
Particles >21µm	ASTM D7647 >40	12	27	---
Particles >38µm	ASTM D7647 >10	0	1	---
Particles >71µm	ASTM D7647 >3	0	0	---
Oil Cleanliness	ISO 4406 (c) >19/17/14	18/17/13	▲ 19/18/14	---

FLUID DEGRADATION

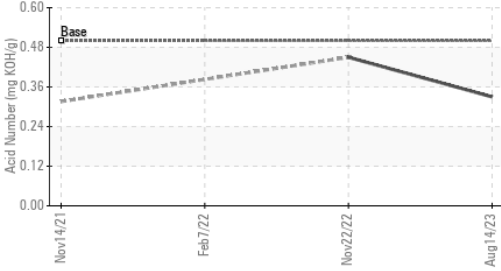
method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045 0.50	0.33	0.45	---

OIL ANALYSIS REPORT

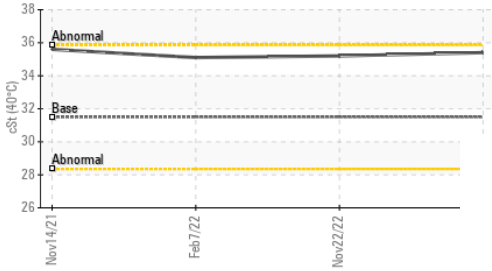
Particle Trend



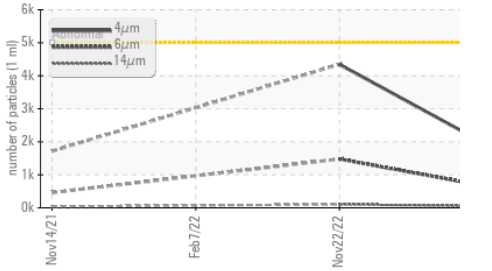
Acid Number



Viscosity @ 40°C



Particle Trend



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	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

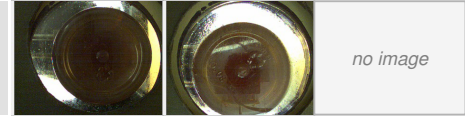
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	31.5	35.4	35.2	35.1

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

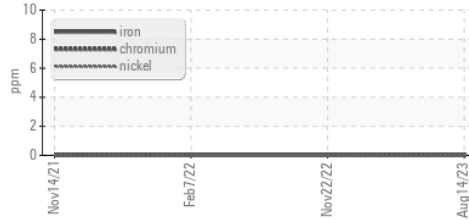


Bottom

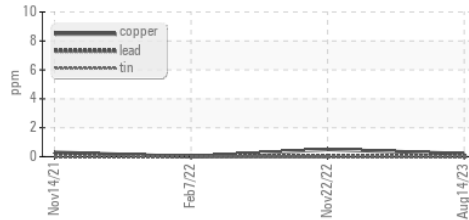


GRAPHS

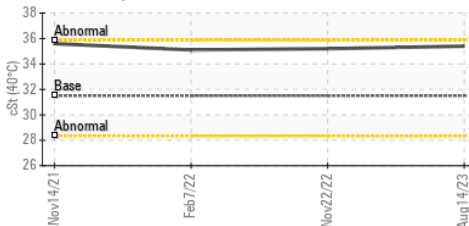
Ferrous Alloys



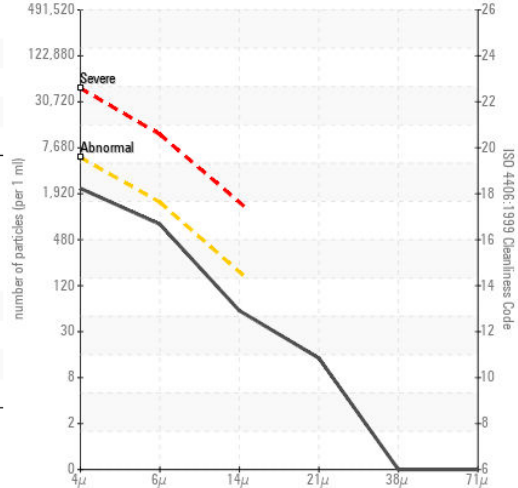
Non-ferrous Metals



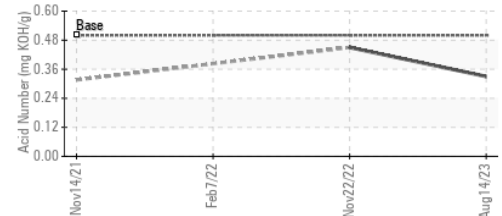
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0101460 **Received** : 14 Aug 2023
Lab Number : **05924161** **Diagnosed** : 15 Aug 2023
Unique Number : 10604108 **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: