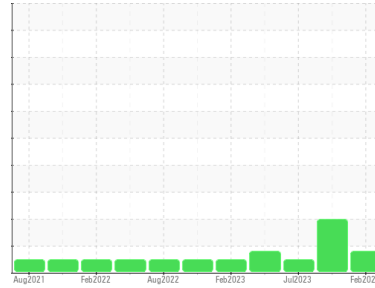


Area  
**Galv Line**  
 Machine Id  
**[Galv Line] 640160-STEERING UNITS 1- 2**  
 Component  
**Hydraulic System**  
 Fluid  
**PETRO CANADA HYDREX AW 46 (--- GAL)**



## 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**  
 There is a moderate amount of silt (particulates < 14 microns in size) 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	history1	history2
Sample Number	Client Info	<b>PCA0112960</b>	PCA0107661	PCA0101470
Sample Date	Client Info	<b>12 Feb 2024</b>	20 Nov 2023	01 Jul 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ATTENTION</b>	ABNORMAL	NORMAL

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >20	<b>13</b>	15	16
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>0</b>	2	0
Lead	ppm	ASTM D5185m >20	<b>1</b>	2	2
Copper	ppm	ASTM D5185m >20	<b>12</b>	15	15
Tin	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m 0	<b>0</b>	4	0
Molybdenum	ppm	ASTM D5185m 0	<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 0	<b>2</b>	4	4
Calcium	ppm	ASTM D5185m 50	<b>58</b>	60	64
Phosphorus	ppm	ASTM D5185m 330	<b>266</b>	341	319
Zinc	ppm	ASTM D5185m 430	<b>376</b>	382	393
Sulfur	ppm	ASTM D5185m 760	<b>3231</b>	3661	3859

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	0
Sodium	ppm	ASTM D5185m	<b>1</b>	<1	0
Potassium	ppm	ASTM D5185m >20	<b>2</b>	<1	<1
Water	%	ASTM D6304 >0.05	<b>NEG</b>	NEG	NEG

## FLUID CLEANLINESS

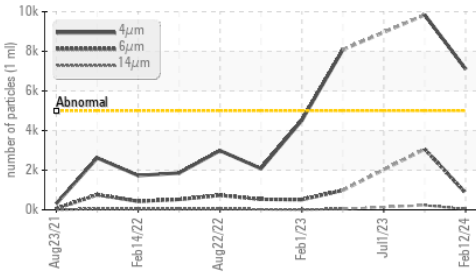
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	<b>▲ 7104</b>	▲ 9841	---
Particles >6µm	ASTM D7647 >1300	<b>851</b>	▲ 3067	---
Particles >14µm	ASTM D7647 >160	<b>34</b>	▲ 227	---
Particles >21µm	ASTM D7647 >40	<b>7</b>	▲ 50	---
Particles >38µm	ASTM D7647 >10	<b>0</b>	3	---
Particles >71µm	ASTM D7647 >3	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c) >19/17/14	<b>▲ 20/17/12</b>	▲ 20/19/15	---

## FLUID DEGRADATION

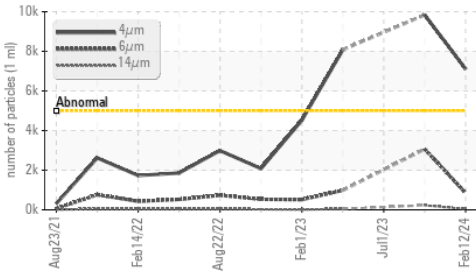
method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.70	<b>0.31</b>	0.35	0.41

# OIL ANALYSIS REPORT

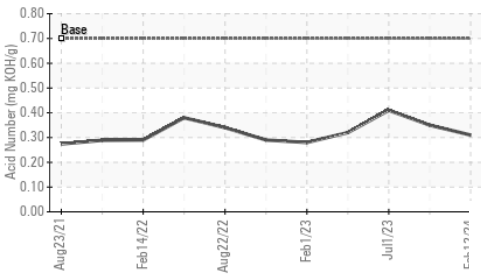
**▲ Particle Trend**



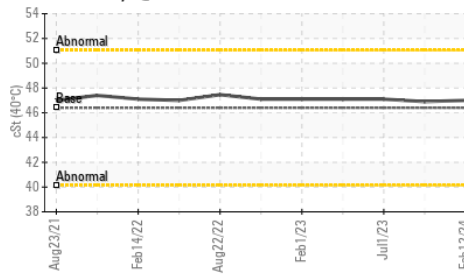
**▲ Particle Trend**



**Acid Number**



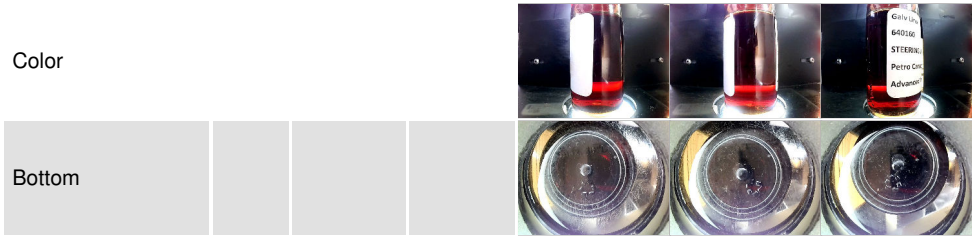
**Viscosity @ 40°C**



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

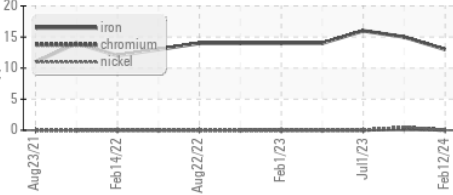
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	46.4	<b>47.0</b>	46.9	47.1

SAMPLE IMAGES	method	limit/base	current	history1	history2
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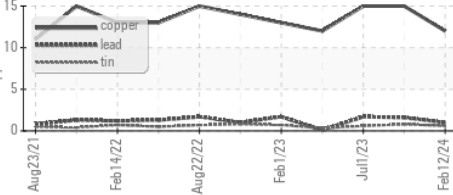


GRAPHS

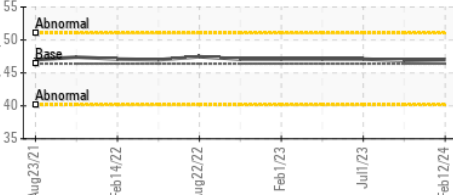
**Ferrous Alloys**



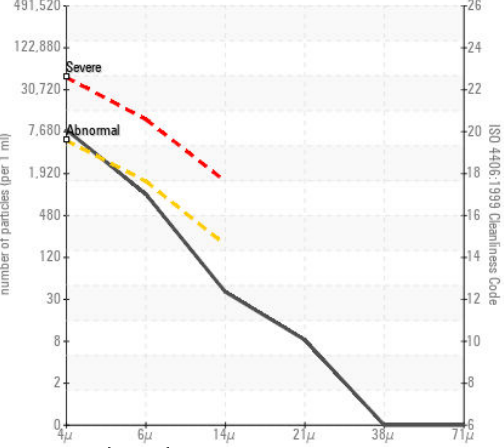
**Non-ferrous Metals**



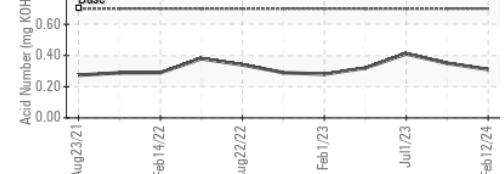
**Viscosity @ 40°C**



**▲ Particle Count**



**Acid Number**



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0112960 **Received** : 13 Feb 2024  
**Lab Number** : 06088143 **Tested** : 15 Feb 2024  
**Unique Number** : 10875588 **Diagnosed** : 15 Feb 2024 - 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)