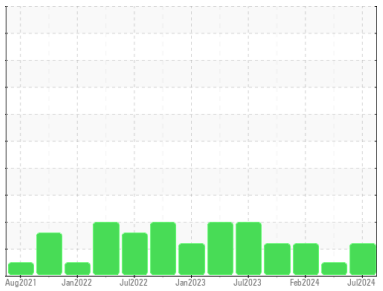
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
Pickle Line
Machine Id
[Pickle Line] 525030-B-ENTRY COIL CAR 2
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

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 oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0129334**	PCA0117558	PCA0112942
Sample Date		Client Info		**14 Jul 2024**	07 Apr 2024	14 Feb 2024
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.05	**NEG**	NEG	NEG

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

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	0
Barium	ppm	ASTM D5185m	0	**0**	<1	0
Molybdenum	ppm	ASTM D5185m	0	**<1**	0	0
Manganese	ppm	ASTM D5185m	0	**0**	0	0
Magnesium	ppm	ASTM D5185m	0	**<1**	1	0
Calcium	ppm	ASTM D5185m	50	**37**	57	47
Phosphorus	ppm	ASTM D5185m	330	**325**	357	329
Zinc	ppm	ASTM D5185m	430	**457**	443	406
Sulfur	ppm	ASTM D5185m	760	**772**	929	829

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

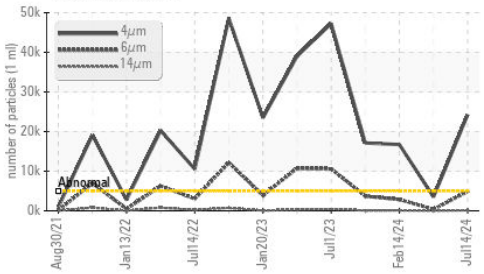
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **24225**	3517	▲ 16719
Particles >6µm		ASTM D7647	>1300	▲ **4898**	350	▲ 2853
Particles >14µm		ASTM D7647	>160	**122**	25	103
Particles >21µm		ASTM D7647	>40	**20**	6	20
Particles >38µm		ASTM D7647	>10	**0**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **22/19/14**	19/16/12	▲ 21/19/14

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.70	**0.25**	0.35	0.10

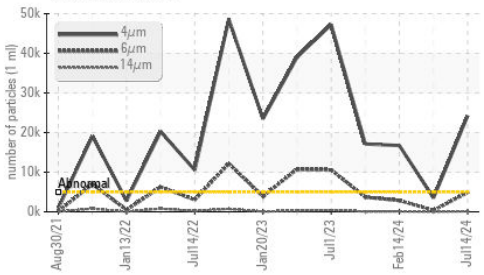
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

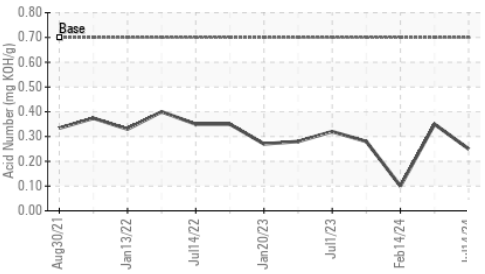
Particle Trend



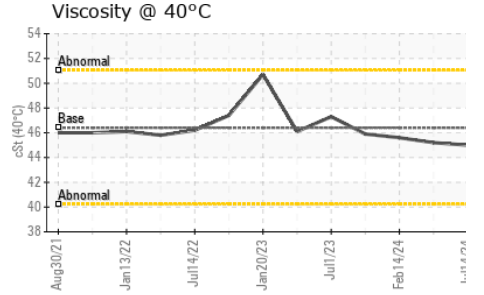
Particle Trend



Acid Number



Viscosity @ 40°C



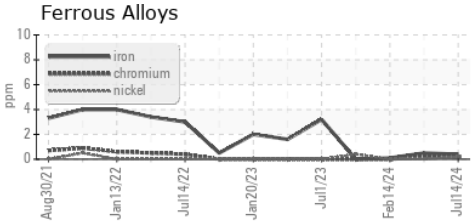
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46.4	**45.0**	45.2	45.6

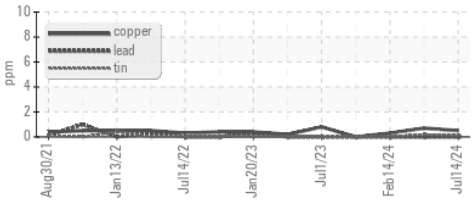
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

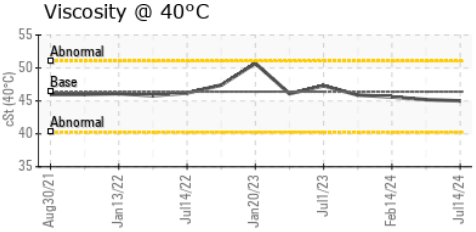
Ferrous Alloys



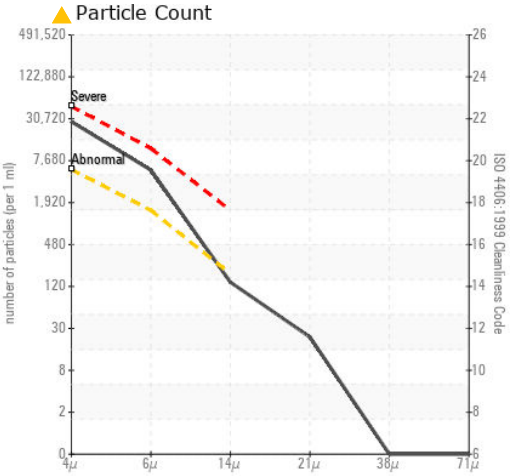
Non-ferrous Metals



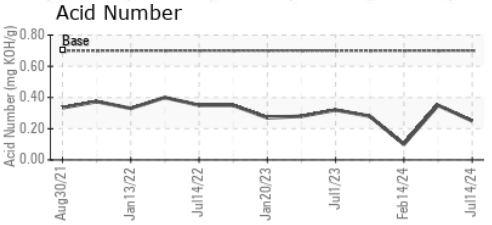
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0129334
Lab Number : 06235903
Unique Number : 11124737
Test Package : PLANT

Received : 15 Jul 2024
Tested : 16 Jul 2024
Diagnosed : 16 Jul 2024 - Wes Davis

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)

SDI - Steel DynamicsInc. - Heartland
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Terre Haute, IN
US 47802
Contact: BRAD ELLIS
brad.ellis@steeldynamics.com
T:
F:

Report Id: SDITER [WUSCAR] 06235903 (Generated: 07/16/2024 14:30:48) Rev: 1

Contact/Location: BRAD ELLIS - SDITER