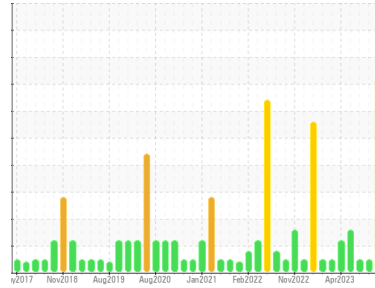


PROBLEM SUMMARY

Sample Rating Trend



ISO



Area
TEAM 3

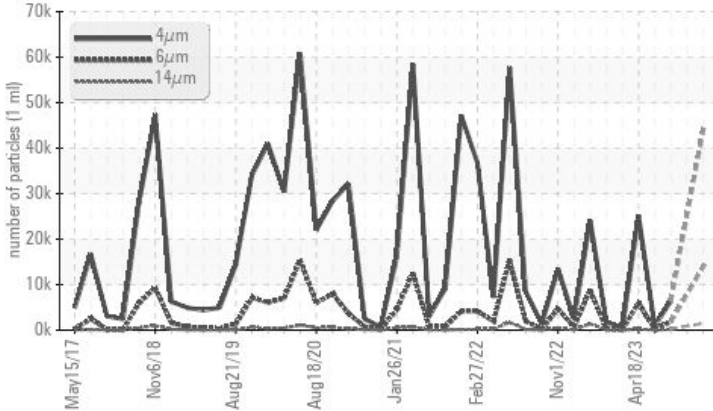
Machine Id
165716

Component
Hydraulic System

Fluid
PETRO CANADA HYDREX AW 46 (75 GAL)

COMPONENT CONDITION SUMMARY

Particle Trend



RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	NORMAL	NORMAL
Particles >6µm	ASTM D7647	>1300	13856	---	225
Particles >14µm	ASTM D7647	>160	1499	---	16
Particles >21µm	ASTM D7647	>40	432	---	4
Particles >38µm	ASTM D7647	>10	22	---	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14	23/21/18	---	17/15/11

Customer Id: CANDRY
Sample No.: PC0069889
Lab Number: 02585874
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

19 Jul 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report



17 May 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



17 May 2023 Diag: Kevin Marson

ISO



We recommend you service the filters on this component. We recommend an early resample to monitor this condition. An increase in the copper level is noted. All other component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service. NOTE: The color of the oil is darker than previous samples.

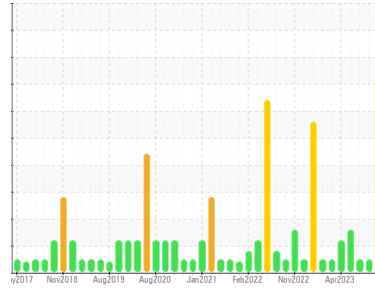
view report



Area
TEAM 3
Machine Id
165716

Component
Hydraulic System
Fluid

PETRO CANADA HYDREX AW 46 (75 GAL)



DIAGNOSIS

Recommendation

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. Resample in 30-45 days to monitor this situation.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

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	PC0069889	PC0074851	PC0070253
Sample Date	Client Info	27 Sep 2023	19 Jul 2023	17 May 2023
Machine Age	mths Client Info	0	0	0
Oil Age	mths Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		SEVERE	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm	ASTM D5185(m) >20	4	4	<1
Chromium ppm	ASTM D5185(m) >20	<1	<1	0
Nickel ppm	ASTM D5185(m) >20	<1	<1	<1
Titanium ppm	ASTM D5185(m)	0	0	0
Silver ppm	ASTM D5185(m)	<1	0	0
Aluminum ppm	ASTM D5185(m) >20	0	0	<1
Lead ppm	ASTM D5185(m) >20	2	2	<1
Copper ppm	ASTM D5185(m) >20	11	10	2
Tin ppm	ASTM D5185(m) >20	0	<1	0
Antimony ppm	ASTM D5185(m)	0	0	<1
Vanadium ppm	ASTM D5185(m)	0	0	0
Beryllium ppm	ASTM D5185(m)	0	0	0
Cadmium ppm	ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron ppm	ASTM D5185(m) 0	<1	<1	0
Barium ppm	ASTM D5185(m) 0	<1	0	0
Molybdenum ppm	ASTM D5185(m) 0	0	0	0
Manganese ppm	ASTM D5185(m) 0	0	0	0
Magnesium ppm	ASTM D5185(m) 0	<1	<1	0
Calcium ppm	ASTM D5185(m) 50	29	29	52
Phosphorus ppm	ASTM D5185(m) 330	331	351	369
Zinc ppm	ASTM D5185(m) 430	363	358	424
Sulfur ppm	ASTM D5185(m) 760	1332	1305	1102
Lithium ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm	ASTM D5185(m) >15	<1	<1	<1
Sodium ppm	ASTM D5185(m)	<1	<1	0
Potassium ppm	ASTM D5185(m) >20	0	<1	<1

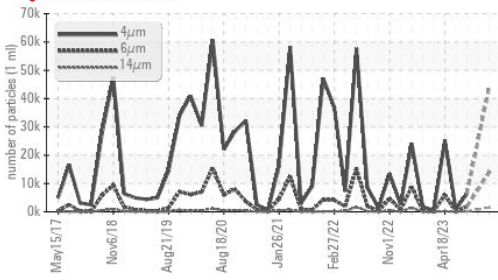
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	43791	---	900
Particles >6µm	ASTM D7647 >1300	13856	---	225
Particles >14µm	ASTM D7647 >160	1499	---	16
Particles >21µm	ASTM D7647 >40	432	---	4
Particles >38µm	ASTM D7647 >10	22	---	0
Particles >71µm	ASTM D7647 >3	2	---	0
Oil Cleanliness	ISO 4406 (c) >--/17/14	23/21/18	---	17/15/11

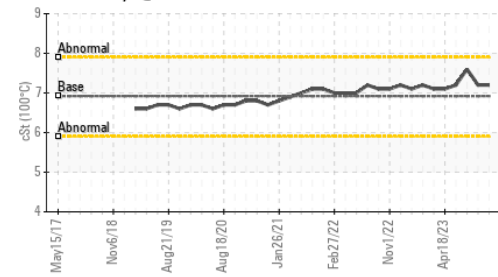
FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g	ASTM D974* 0.70	0.36	---	0.37

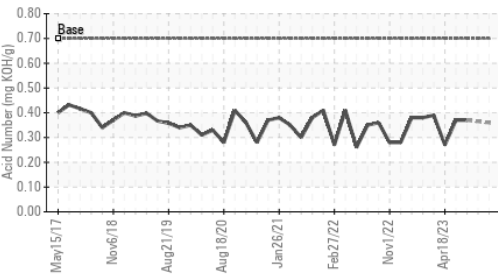
Particle Trend



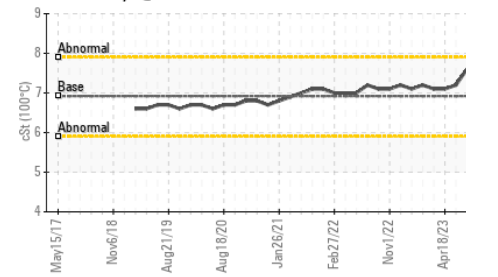
Viscosity @ 100°C



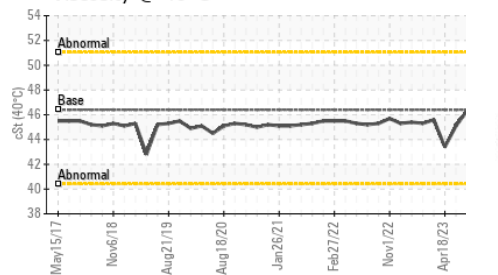
Acid Number



Viscosity @ 100°C



Viscosity @ 40°C



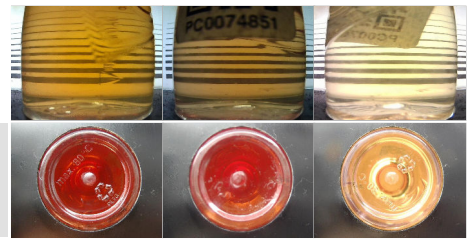
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	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 D7279(m)	46.4	45.3	46.3
Visc @ 100°C	cSt	ASTM D7279(m)	6.92	7.2	7.6
Viscosity Index (VI)	Scale	ASTM D2270*	104	119	130

SAMPLE IMAGES	method	limit/base	current	history1	history2
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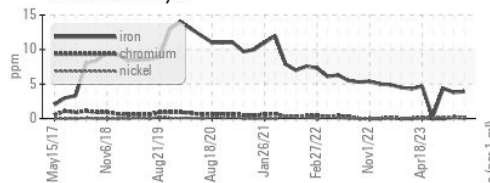
Color

Bottom

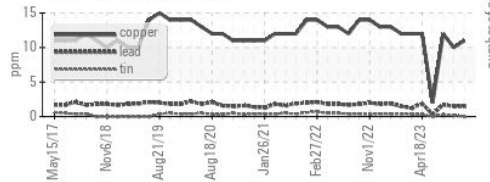


GRAPHS

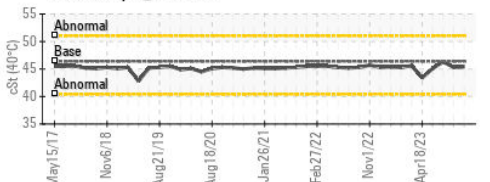
Ferrous Alloys



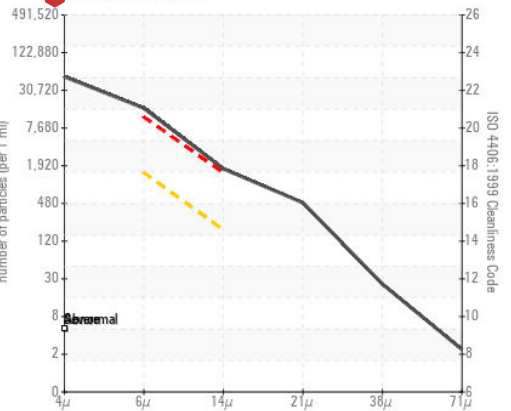
Non-ferrous Metals



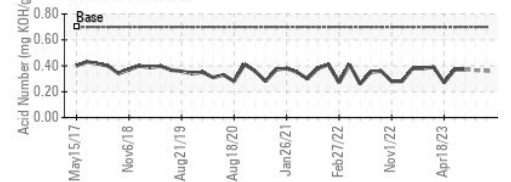
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0069889 **Received** : 28 Sep 2023
Lab Number : 02585874 **Diagnosed** : 02 Oct 2023
Unique Number : 5654940 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: KV100, VI)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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