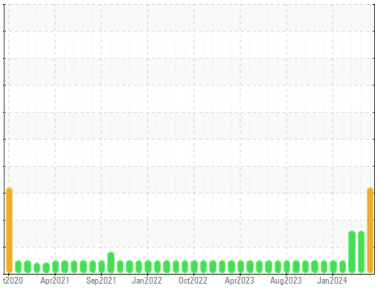
PROBLEM SUMMARY

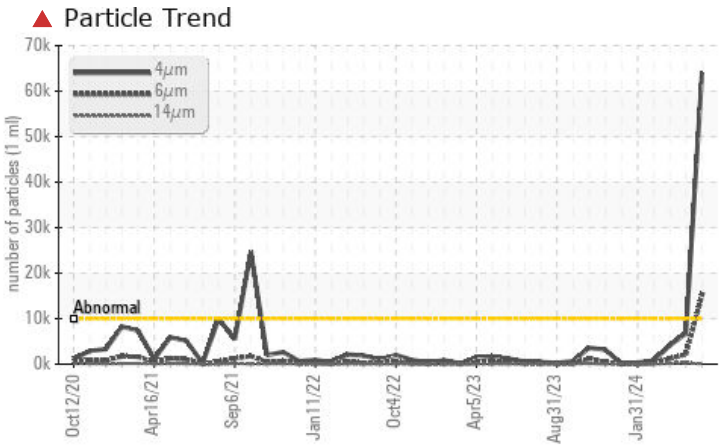
Area
HPP
Machine Id
VESSEL 5 PUMP 2 (S/N B47138)
Component
Hydraulic System
Fluid
PETRO CANADA PURITY FG AW HYDRAULIC 46 (90 GAL)

Sample Rating Trend



ISO

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Check seals and/or filters for points of contaminant entry. 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. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ATTENTION	MARGINAL
Particles >4µm		ASTM D7647	>10000	▲ **64039**	6733	4108
Particles >6µm		ASTM D7647	>1300	▲ **15096**	● 2171	1189
Oil Cleanliness		ISO 4406 (c)	>20/17/14	▲ **23/21/14**	● 20/18/15	19/17/14

Customer Id: OSCOSC
Sample No.: WC0929993
Lab Number: 06204647
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:
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.
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 Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

ISO

03 May 2024 Diag: Wes Davis
We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

WATER

02 Apr 2024 Diag: Don Baldridge
No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a trace of moisture present in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

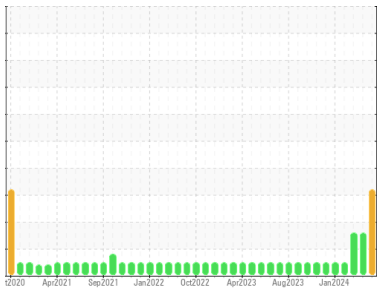
NORMAL

28 Feb 2024 Diag: Jonathan Hester
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 amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
HPP
Machine Id
VESSEL 5 PUMP 2 (S/N B47138)
Component
Hydraulic System
Fluid
PETRO CANADA PURITY FG AW HYDRAULIC 46 (90 GAL)

DIAGNOSIS

Recommendation
Check seals and/or filters for points of contaminant entry. 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. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

Wear
All component wear rates are normal.

Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. 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		**WC0929993**	WC0802554	WC0916591
Sample Date		Client Info		**31 May 2024**	03 May 2024	02 Apr 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				**SEVERE**	ATTENTION	MARGINAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**0**	0	0
Chromium	ppm	ASTM D5185m	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>20	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**0**	0	2
Lead	ppm	ASTM D5185m	>20	**0**	0	0
Copper	ppm	ASTM D5185m	>20	**0**	0	0
Tin	ppm	ASTM D5185m	>20	**0**	<1	0
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	0
Barium	ppm	ASTM D5185m		**<1**	<1	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	0	0
Magnesium	ppm	ASTM D5185m		**0**	0	<1
Calcium	ppm	ASTM D5185m		**0**	0	3
Phosphorus	ppm	ASTM D5185m		**426**	464	479
Zinc	ppm	ASTM D5185m		**6**	0	<1
Sulfur	ppm	ASTM D5185m		**566**	482	514

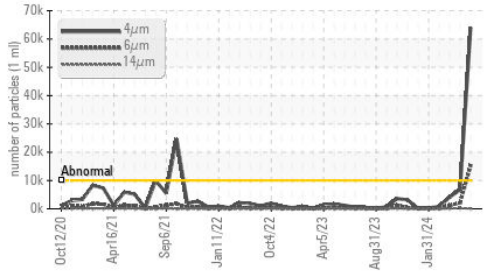
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**3**	3	2
Sodium	ppm	ASTM D5185m		**1**	0	0
Potassium	ppm	ASTM D5185m	>20	**2**	0	<1
Water	%	ASTM D6304	>0.05	**0.017**	0.003	▲ 0.053
ppm Water	ppm	ASTM D6304	>500	**170**	34	▲ 534

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	▲ **64039**	6733	4108
Particles >6µm		ASTM D7647	>1300	▲ **15096**	● 2171	1189
Particles >14µm		ASTM D7647	>160	**90**	● 228	145
Particles >21µm		ASTM D7647	>40	**6**	● 62	59
Particles >38µm		ASTM D7647	>10	**0**	3	8
Particles >71µm		ASTM D7647	>3	**0**	0	1
Oil Cleanliness		ISO 4406 (c)	>20/17/14	▲ **23/21/14**	● 20/18/15	19/17/14

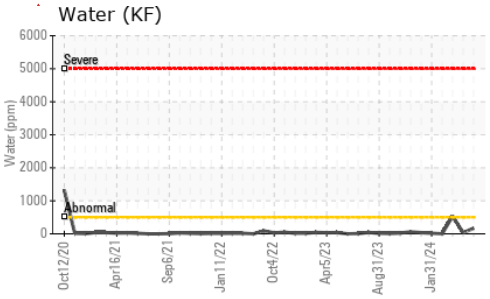
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.26	**0.17**	0.17	0.22

OIL ANALYSIS REPORT

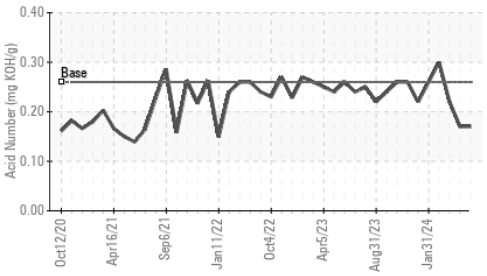
Particle Trend



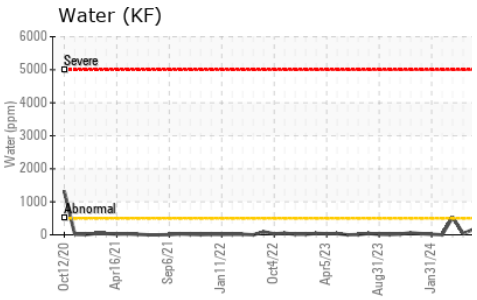
Water (KF)



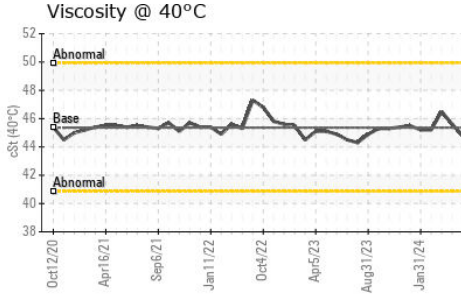
Acid Number



Water (KF)



Viscosity @ 40°C



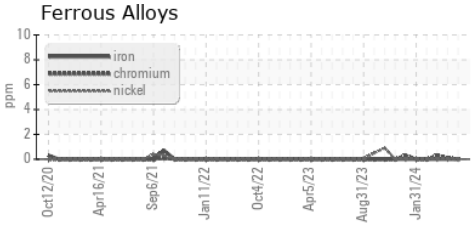
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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	45.36	**44.8**	45.6	46.5

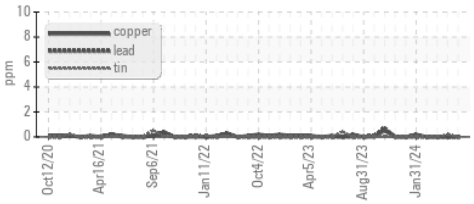
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

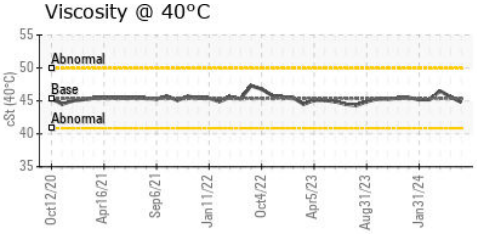
Ferrous Alloys



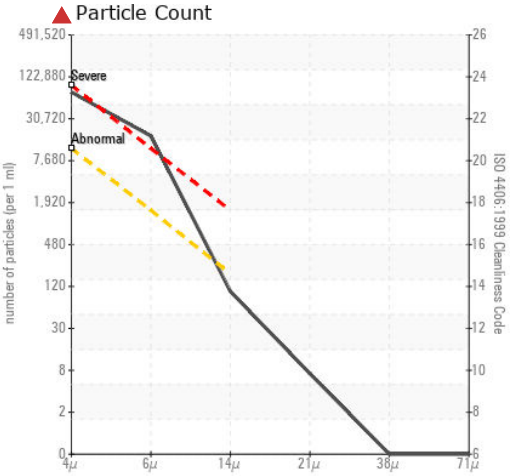
Non-ferrous Metals



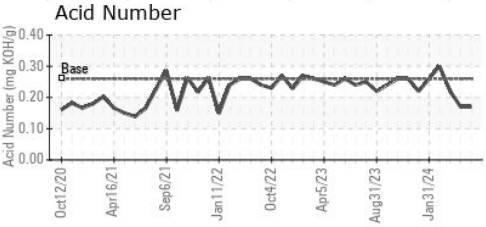
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0929993 **Received** : 10 Jun 2024
Lab Number : 06204647 **Tested** : 12 Jun 2024
Unique Number : 11072108 **Diagnosed** : 12 Jun 2024 - Wes Davis
Test Package : IND 2 (Additional Tests: KF)

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)

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F: (641)342-8047

Report Id: OSCOSC [WUSCAR] 06204647 (Generated: 06/12/2024 00:27:39) Rev: 1
Contact/Location: WADE MYERS - OSCOSC