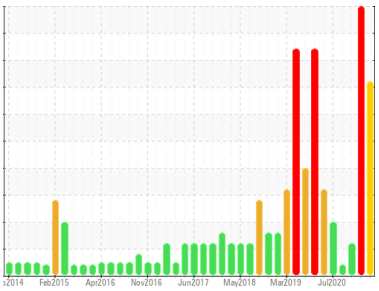
PROBLEM SUMMARY

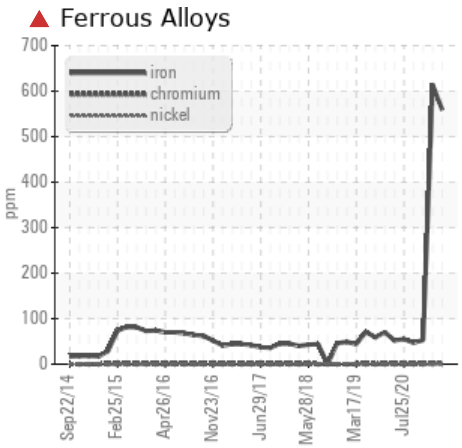
Area
1 White Oil/029 #2HTU/P Pump/401B 2 Stage HTU Charge
Machine Id
N/A 29GP401B
Component
Gearbox
Fluid
PETRO CANADA ENDURATEX SYNTHETIC EP 220 (100 LTR)

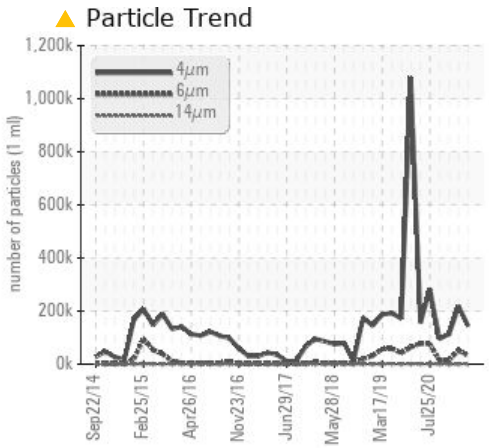
Sample Rating Trend

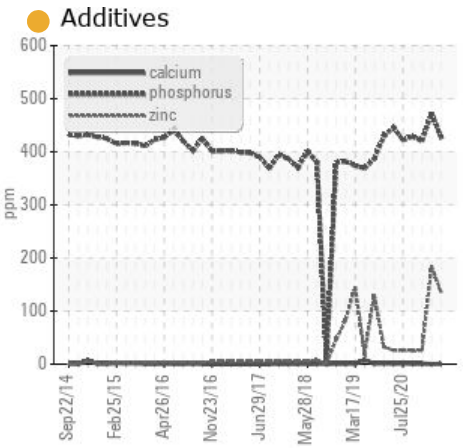


WEAR

COMPONENT CONDITION SUMMARY







RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185(m)	>200	▲ **559**	▲ 614	53
Particles >6µm		ASTM D7647	>5000	▲ **31127**	▲ 52499	▲ 15522
Oil Cleanliness		ISO 4406 (c)	>--/19/16	▲ **24/22/16**	▲ 25/23/16	▲ 24/21/14

Customer Id: PETMIS
Sample No.: WC0902162
Lab Number: 02621255
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
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Kevin.Marson@wearcheck.com

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 Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.

HISTORICAL DIAGNOSIS

WEAR

17 Feb 2023 Diag: Kevin Marson

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 that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. Resample in 30-45 days to monitor this situation.Iron ppm levels are severe. Copper ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. Particles >6µm and oil cleanliness are severely high. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

CONTAMINANT

29 Mar 2021 Diag: Kevin Marson

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Particles >6µm are abnormally high. The water content is negligible. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

ISO

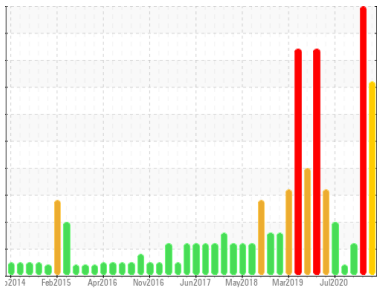
24 Nov 2020 Diag: Wes Davis

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Particles >6µm are abnormally high. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. 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



WEAR

Area
1 White Oil/029 #2HTU/P Pump/401B 2 Stage HTU Charge
Machine Id
N/A 29GP401B
Component
Gearbox
Fluid
PETRO CANADA ENDURATEX SYNTHETIC EP 220 (100 LTR)

DIAGNOSIS

▲ Recommendation

We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

▲ Wear

Iron ppm levels are severe. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

▲ Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

● Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0902162**	WC0783261	WC0510897
Sample Date		Client Info		**25 Feb 2024**	17 Feb 2023	29 Mar 2021
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**	SEVERE	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

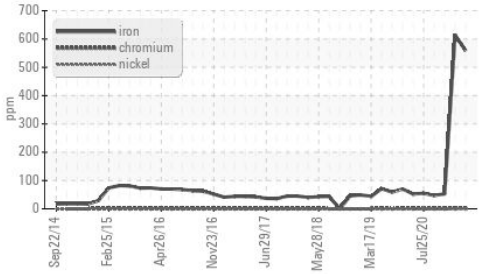
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	3	---
Iron	ppm	ASTM D5185(m)	>200	▲ **559**	▲ 614	53
Chromium	ppm	ASTM D5185(m)	>15	**1**	2	<1
Nickel	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	**<1**	<1	<1
Lead	ppm	ASTM D5185(m)	>100	**3**	5	2
Copper	ppm	ASTM D5185(m)	>200	**56**	● 85	22
Tin	ppm	ASTM D5185(m)	>25	**2**	3	<1
Antimony	ppm	ASTM D5185(m)	>5	**0**	<1	0
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)	33	**40**	48	39
Barium	ppm	ASTM D5185(m)	5	**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**2**	3	<1
Magnesium	ppm	ASTM D5185(m)	5	**<1**	1	5
Calcium	ppm	ASTM D5185(m)	5	**<1**	0	1
Phosphorus	ppm	ASTM D5185(m)	437	**427**	473	420
Zinc	ppm	ASTM D5185(m)	5	● **135**	● 184	26
Sulfur	ppm	ASTM D5185(m)	5000	**4768**	4539	5046
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

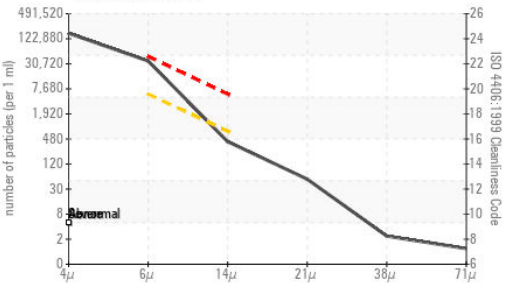
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	**2**	3	7
Sodium	ppm	ASTM D5185(m)		**1**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

OIL ANALYSIS REPORT

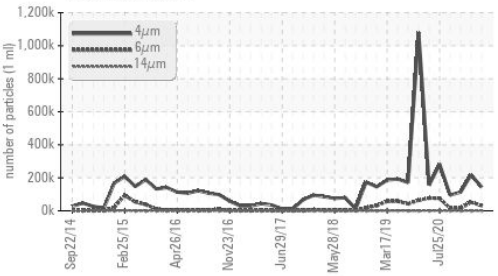
Ferrous Alloys



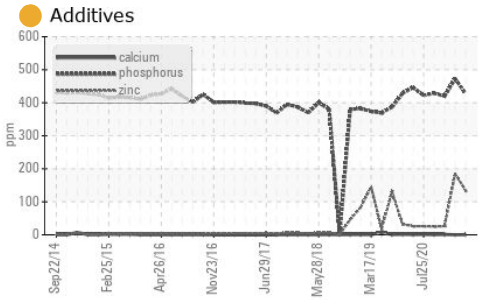
Particle Count



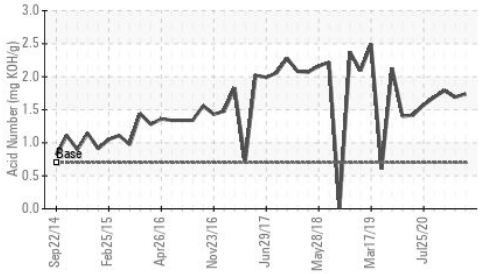
Particle Trend



Additives



Acid Number



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**143567**	217898	113135
Particles >6µm		ASTM D7647	>5000	▲ **31127**	▲ 52499	▲ 15522
Particles >14µm		ASTM D7647	>640	**365**	605	128
Particles >21µm		ASTM D7647	>160	**46**	99	19
Particles >38µm		ASTM D7647	>40	**2**	2	0
Particles >71µm		ASTM D7647	>10	**1**	0	0
Oil Cleanliness		ISO 4406 (c)	>--/19/16	▲ **24/22/16**	▲ 25/23/16	▲ 24/21/14

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.7	**1.74**	1.69	1.79

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**	▲ WGOIL	▲ HAZY
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	223	**224**	226	222

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0902162 **Received** : 11 Mar 2024
Lab Number : 02621255 **Tested** : 12 Mar 2024
Unique Number : 5746374 **Diagnosed** : 12 Mar 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: PQ, TAN Man)

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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