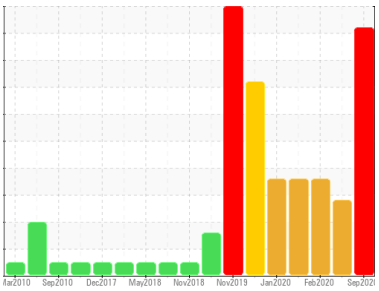
PROBLEM SUMMARY

Sample Rating Trend

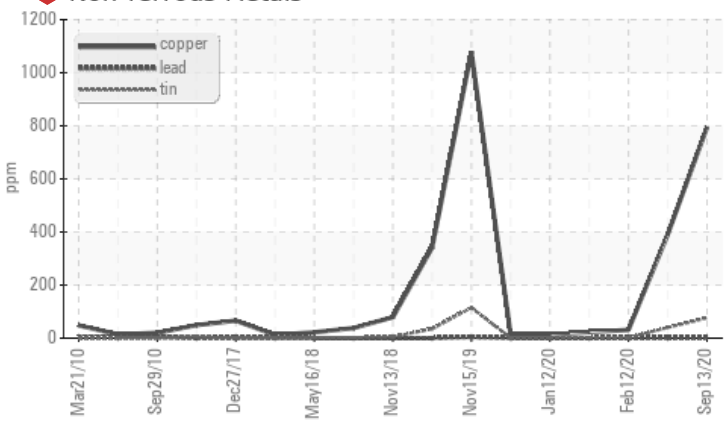


WEAR

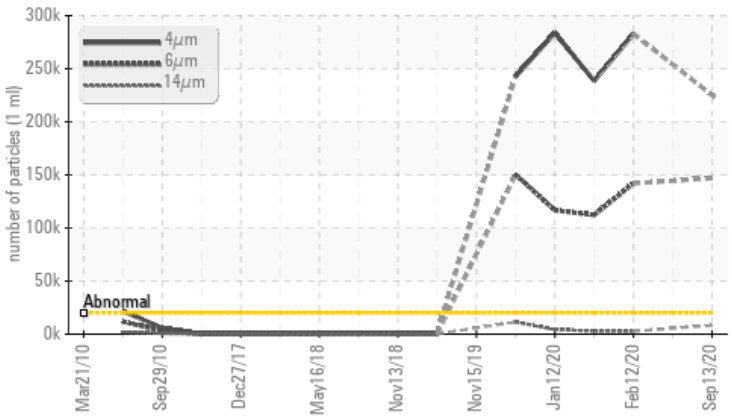
Machine Id
STORK TOPSIDE GEARBOX 4 (S/N 401 201 036-3-5)
Component
Gearbox
Fluid
PETRO CANADA ENDURATEX EP 680 (15 LTR)

COMPONENT CONDITION SUMMARY

Non-ferrous Metals



Particle Trend



RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Copper	ppm	ASTM D5185m	>200	**794**	391	31
Tin	ppm	ASTM D5185m	>25	**76**	40	1
Particles >4µm		ASTM D7647	>20000	**225107**	---	282989
Particles >6µm		ASTM D7647	>5000	**146942**	---	141975
Particles >14µm		ASTM D7647	>640	**8295**	---	2542
Particles >21µm		ASTM D7647	>160	**549**	---	318
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**25/24/20**	---	25/24/19

Customer Id: HORBEL
Sample No.: WC0452425
Lab Number: 05064790
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	MISSED	Jul 02 2021	?	We advise that you inspect for the source(s) of wear.
Change Filter	MISSED	Jul 02 2021	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	MISSED	Jul 02 2021	?	We recommend an early resample to monitor this condition.
Filter Fluid	MISSED	Jul 02 2021	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

12 May 2020 Diag: Jonathan Hester

VISUAL METAL

We recommend you service the filters on this component if applicable. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to metal particles present in this sample.High concentration of visible metal present. Bearing and/or bushing wear is indicated. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid.

view report

12 Feb 2020 Diag: Wes Davis

ISO

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.All component wear rates are normal. Particles >6µm are severely high. Particles >4µm are severely high. Particles >14µm are abnormally high. Particles >21µm are notably high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

21 Jan 2020 Diag: Wes Davis

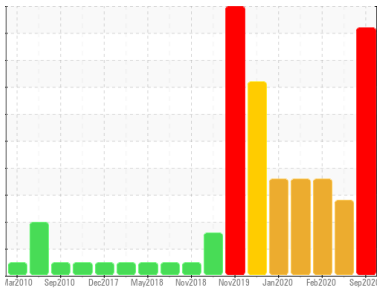
ISO

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.All component wear rates are normal. Particles >6µm are severely high. Particles >4µm are severely high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. 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

Machine Id
STORK TOPSIDE GEARBOX 4 (S/N 401 201 036-3-5)
Component
Gearbox
Fluid
PETRO CANADA ENDURATEX EP 680 (15 LTR)

DIAGNOSIS

Recommendation
We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear
Bearing and/or bushing wear is indicated.

Contamination
There is a high amount of particulates present in the oil. Appearance is milky.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0452425**	WC0452414	WC0427241
Sample Date		Client Info		**13 Sep 2020**	12 May 2020	12 Feb 2020
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	4000	0
Oil Changed		Client Info		**N/A**	Not Changd	N/A
Sample Status				**SEVERE**	ABNORMAL	SEVERE

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	**2**	1	11
Chromium	ppm	ASTM D5185m	>15	**0**	0	<1
Nickel	ppm	ASTM D5185m	>15	**13**	7	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**<1**	<1	<1
Aluminum	ppm	ASTM D5185m	>25	**0**	0	<1
Lead	ppm	ASTM D5185m	>100	**2**	<1	<1
Copper	ppm	ASTM D5185m	>200	**794**	391	31
Tin	ppm	ASTM D5185m	>25	**76**	40	1
Antimony	ppm	ASTM D5185m		**0**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

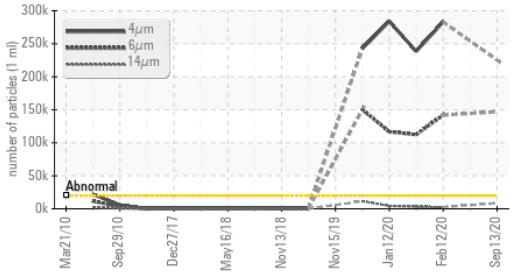
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	55	**3**	<1	5
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**0**	0	3
Manganese	ppm	ASTM D5185m	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185m	0	**0**	0	0
Calcium	ppm	ASTM D5185m	6	**2**	2	<1
Phosphorus	ppm	ASTM D5185m	250	**202**	272	357
Zinc	ppm	ASTM D5185m	2	**0**	0	0
Sulfur	ppm	ASTM D5185m	9410	**3344**	3154	3804

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	**1**	1	<1
Sodium	ppm	ASTM D5185m		**0**	<1	0
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	0

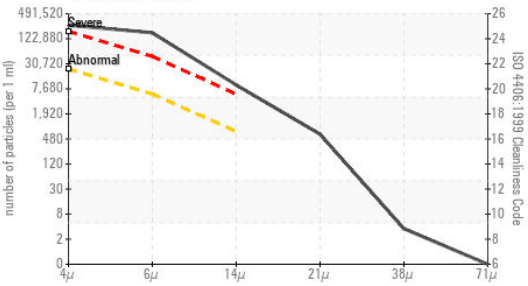
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	**225107**	---	282989
Particles >6µm	ASTM D7647	>5000	**146942**	---	141975
Particles >14µm	ASTM D7647	>640	**8295**	---	2542
Particles >21µm	ASTM D7647	>160	**549**	---	318
Particles >38µm	ASTM D7647	>40	**3**	---	17
Particles >71µm	ASTM D7647	>10	**0**	---	5
Oil Cleanliness	ISO 4406 (c)	>21/19/16	**25/24/20**	---	25/24/19

OIL ANALYSIS REPORT

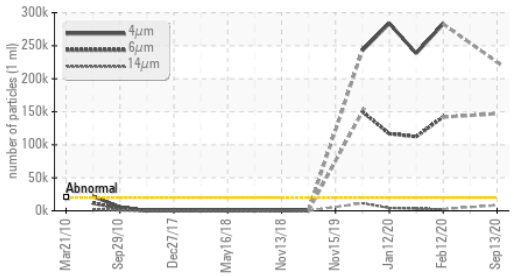
Particle Trend



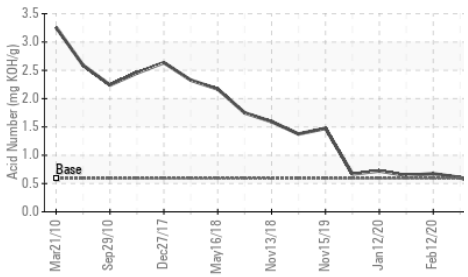
Particle Count



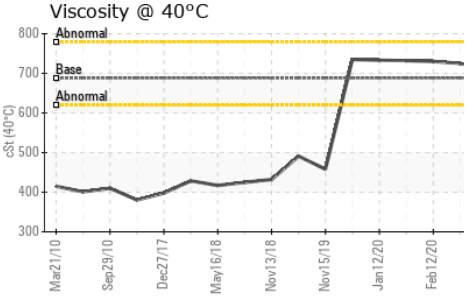
Particle Trend



Acid Number



Viscosity @ 40°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.59	**0.397**	0.607	0.673

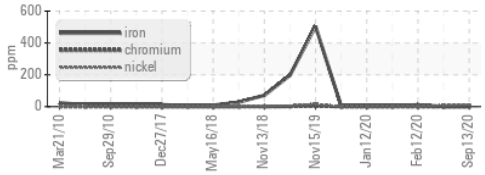
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	▲ HEAVY	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	VLITE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	▲ **MILKY**	NORML	NORML
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 D445	688	**710**	725	730

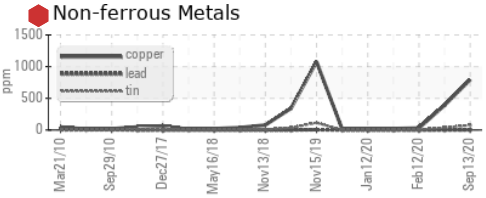
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

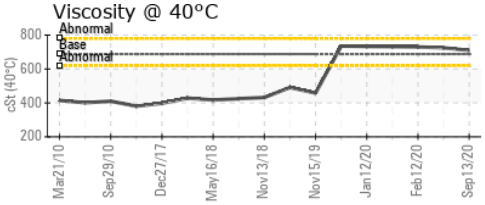
Ferrous Alloys



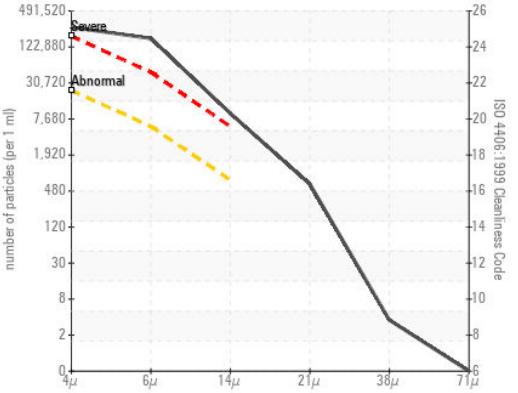
Non-ferrous Metals



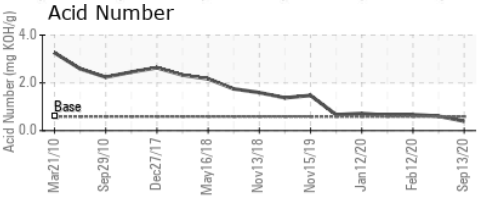
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0452425 **Recieved** : 14 Sep 2020
Lab Number : 05064790 **Diagnosed** : 15 Sep 2020
Unique Number : 9169971 **Diagnostician** : Don Baldridge
Test Package : IND 2 (Additional Tests: PrtCount)

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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