

OIL ANALYSIS REPORT

WH-100 B25970 - STORK GEARBOX #2 (P Component

Gearbox Eluid

PETRO CANADA ENDURATEX WG 680 (--- GA

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. 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 light amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

(PRE-STE	RILE)					
GAL)		ay2017 Jan2	020 Jul2020 Jun2021	Jan2022 Jul2022 Feb2023	Nov2023	
SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0880590	WC0856016	WC0826076
Sample Date		Client Info		10 Jan 2024	29 Nov 2023	25 Jul 2023
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				ATTENTION	ABNORMAL	ABNORMAL
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	15	8	7
Chromium	ppm	ASTM D5185m	>15	<1	0	0
Nickel	ppm	ASTM D5185m	>15	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	05	0	0	0
Aluminum	ppm	ASTM D5185m		2	0	0
Lead	ppm	ASTM D5185m	>100	0	0	0
Copper	ppm	ASTM D5185m	>200	10	13	11
Tin Kara adiwa	ppm	ASTM D5185m	>25	0	0	0
Vanadium Cadmium	ppm	ASTM D5185m ASTM D5185m		0	0	<1 0
	ppm			-	-	-
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	1	0	0	0
Barium	nnm	ASTM D5185m	1	3	0	0
	ppm					
Volybdenum	ppm	ASTM D5185m	1	0	0	0
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	1	0	<1	0
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1	0	<1 <1	0
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 1	0 0 <1	<1 <1 <1	0 0 0
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 1 1	0 0 <1 48	<1 <1 <1 <1	0 0 0 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 1 1 1	0 0 <1 48 0	<1 <1 <1 <1 <1 28	0 0 0 0 8
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 1 1 1 3114	0 0 <1 48 0 2966	<1 <1 <1 <1 28 2424	0 0 0 0 8 3046
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1 1 1 1 1 3114 limit/base	0 0 <1 48 0 2966 current	<1 <1 <1 <1 <1 <1 28 2424 history1	0 0 0 0 8 3046 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1 1 1 1 1 3114 limit/base	0 0 <1 48 0 2966 current 7	<1 <1 <1 <1 <1 28 2424 history1 1	0 0 0 0 8 3046 history2 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 1 1 3114 iimit/base >50	0 0 <1 48 0 2966 <u>current</u> 7 0	<1 <1 <1 <1 <1 28 2424 history1 1 <	0 0 0 8 3046 history2 <1 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 1 1 1 3114 <i>limit/base</i> >50 >20	0 0 <1 48 0 2966 <u>current</u> 7 0 <1	<1 <1 <1 <1 28 2424 history1 1 <1 0	0 0 0 8 3046 history2 <1 <1 <1 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water	S ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D5185m ASTM D5185m	1 1 1 1 1 3114 limit/base >50 >20 >0.2	0 0 <1 48 0 2966 <u>current</u> 7 0 <1 0.032	<1 <1 <1 28 2424 history1 1 <1 0 	0 0 0 8 3046 history2 <1 <1 <1 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 1 1 1 3114 limit/base >50 >20 >0.2 >2000	0 0 <1 48 0 2966 <u>current</u> 7 0 <1 0.032 320	<1 <1 <1 28 2424 history1 1 <1 0 	0 0 0 8 3046 history2 <1 <1 <1 <1 <1 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water opm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1 1 1 1 1 3114 limit/base >50 >20 >0.2	0 0 <1 48 0 2966 <u>current</u> 7 0 <1 0.032 320	<1 <1 <1 28 2424 history1 1 <1 0 	0 0 0 8 3046 history2 <1 <1 <1 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water opm Water FLUID CLEANLI Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D7647	1 1 1 1 3114 <i>limit/base</i> >50 >20 >0.2 >2000 <i>limit/base</i> >10000	0 0 (1 48 0 2966 <u>current</u> 7 0 <1 0.032 320 <u>current</u> 12844	<1 <1 <1 28 2424 history1 1 <1 0 	0 0 0 8 3046 history2 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water opm Water FLUID CLEANLI Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647	1 1 1 1 1 1 1 1 3114 imit/base >50 >20 >20 >20 2000 imit/base >10000 >2500	0 0 (<1 48 0 2966 Current 7 0 <1 0.032 320 (urrent 12844 2225	<1 <1 <1 <1 <1 28 2424 history1 1 <1 0 history1	0 0 0 8 3046 history2 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water ppm Water FLUID CLEANLI Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647	1 1 1 1 1 3 1 3 1 3 1 3 1 4 2 5 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 0 2 2 2 0 2 2 2 0 2 2 2 0 2 2 2 0 2 2 2 0 2 2 2 0 2 2 2 0 2 2 2 0 2 2 2 0 2 2 2 2 0 2 2 2 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2	0 0 (<1 48 0 2966 Current 7 0 <1 0.032 320 (urrent 12844 2225 80	<1 <1 <1 <1 28 2424 history1 1 <1 0 history1	0 0 0 8 3046 history2 <1 <1 <1 <1 <1 <1 <1 <1 272130 ↓272130 ↓12485
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water ppm Water FLUID CLEANLI Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	1 1 1 1 1 3 1 3 1 3 1 4 5 5 0 2 5 0 2 2 0 2 2 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 2 2 2 0 0 0 2 2 2 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 0 0 2 2 2 0 0 0 2 2 2 0 0 0 2 2 2 8 0 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 3 48 0 2966 Current 7 0 320 <1 0.032 320 current 12844 2225 80 17	<1 <1 <1 <1 <1 28 2424 history1 1 <1 <1 0 history1	0 0 0 8 3046
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water ppm Water FLUID CLEANLI Particles >4µm Particles >6µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 (1 48 0 2966 <u>current</u> 7 0 <1 0.032 320 <u>current</u> 12844 2225 80 17 0	<1 <1 <1 28 2424 history1 1 <1 0 history1 	0 0 0 0 8 3046
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 3 48 0 2966 Current 7 0 320 <1 0.032 320 current 12844 2225 80 17	<1 <1 <1 <1 <1 28 2424 history1 1 <1 <1 0 history1	0 0 0 0 8 3046

Sample Rating Trend

Acid Number (AN) mg KOH/g ASTM D8045 0.43

FLUID DEGRADATION

1.03

Contact/Location: RYAN LOWE - HORAUS

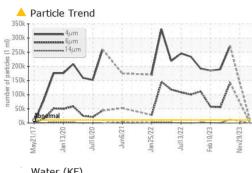
1.15

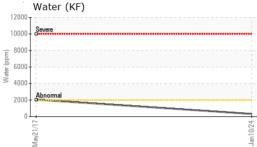
1.34

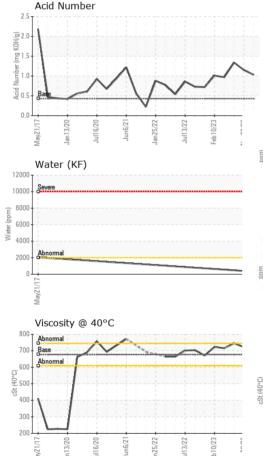
ISO



OIL ANALYSIS REPORT

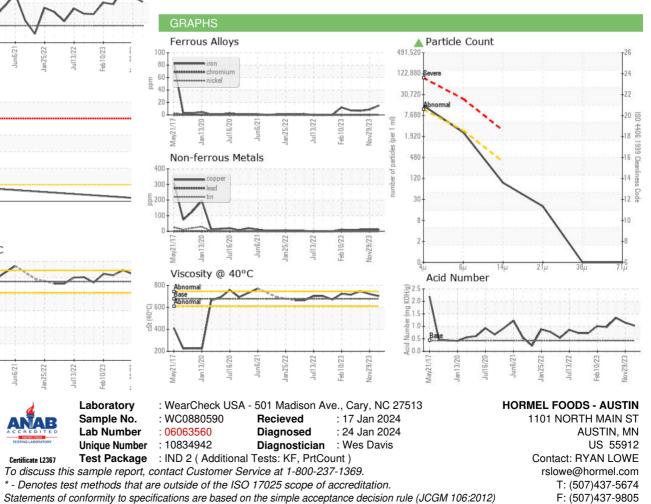






VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	🔺 MODER	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	0.2%	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	676.7	702	722	745
SAMPLE IMAGES	\$	method	limit/base	current	history1	history2
Color				. @.	0.	

Bottom



Contact/Location: RYAN LOWE - HORAUS