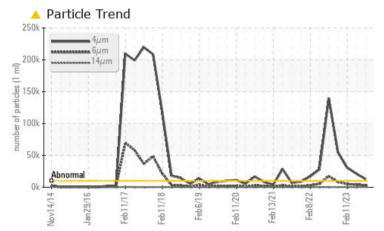


PROBLEM SUMMARY

Area **RP-101** Machine Id **B57020 CENTRIFUGE FINES CONVEYOR (S/N NO INFO ON BOTTLE)** Component **Gearbox** Fluid

PETRO CANADA ENDURATEX EP 320 (--- QTS)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS ABNORMAL Sample Status ABNORMAL ABNORMAL Particles >4µm ASTM D7647 >10000 12812 A 21152 ▲ 30484 Particles >6µm ASTM D7647 >1300 3187 4120 ▲ 5063 ASTM D7647 >160 Particles >14µm 241 71 137 Particles >21um ASTM D7647 >40 **^** 74 12 20 **Oil Cleanliness** ISO 4406 (c) >20/17/14 🔺 21/19/15 🔺 22/19/13 🔺 22/20/14

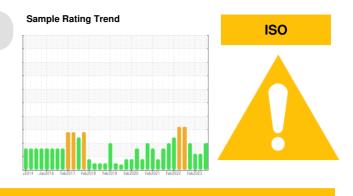
Customer Id: HORAUS Sample No.: WC0826156 Lab Number: 05927206 Test Package: IND 2



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			?	We recommend an early resample to monitor this condition.			
Information Required			?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.			

HISTORICAL DIAGNOSIS



07 May 2023 Diag: Wes Davis

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. 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. 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

11 Feb 2023 Diag: Wes Davis

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles $>4\mu$ m are abnormally high. Particles $>6\mu$ m 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 oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

29 Oct 2022 Diag: Wes Davis

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >14 μ m are abnormally high. Particles >21 μ m are abnormally high. Particles >6 μ m 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 oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.





OIL ANALYSIS REPORT

Area **RP-101 B57020 CENTRIFUGE FINES CONVEYOR (S/N NO INFO ON BOTTLE)** Component

Gearbox Fluic

PETRO CANADA ENDURATEX EP 320 (--- QTS)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

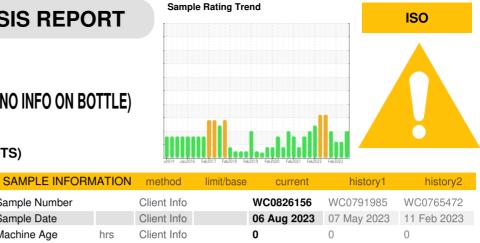
All component wear rates are normal.

Contamination

There is a 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

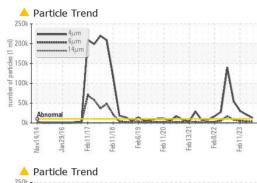
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

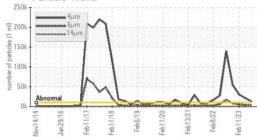


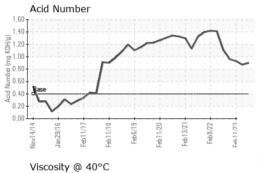
Sample Number		Client Info		WC0826156	WC0791985	WC0765472
Sample Date		Client Info		06 Aug 2023	07 May 2023	11 Feb 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	15	13	5
Chromium	ppm	ASTM D5185m	>15	<1	0	0
Nickel	ppm	ASTM D5185m	>15	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	0	0
Lead	ppm	ASTM D5185m	>100	0	0	0
Copper	ppm	ASTM D5185m	>200	<1	0	0
Tin	ppm	ASTM D5185m	>25	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	55	15	11	8
Barium	ppm	ASTM D5185m	0	0	2	0
Molybdenum	ppm	ASTM D5185m	0	0	0	0
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	3	<1	0
Calcium	ppm	ASTM D5185m	0	3	2	1
Phosphorus	ppm	ASTM D5185m	240	431	381	421
Zinc	ppm	ASTM D5185m	1	27	20	15
Sulfur	ppm	ASTM D5185m	13700	6045	5430	6297
CONTAMINANTS	S	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	24	8	6
Sodium	ppm	ASTM D5185m		2	0	0
Potassium	ppm	ASTM D5185m	>20	2	2	0
FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		<u> </u>	A 21152	a 30484
Particles >6µm		ASTM D7647	>1300	<u> </u>	4 120	5 063
Particles >14µm		ASTM D7647	>160	<u> </u>	71	137
Particles >21µm		ASTM D7647	>40	<mark>/</mark> 74	12	20
Particles >38µm		ASTM D7647	>10	5	1	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>20/17/14	A 21/19/15	2 2/19/13	▲ 22/20/14
FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	0.90	0.87	0.93

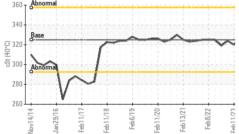


OIL ANALYSIS REPORT

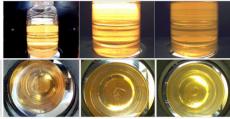






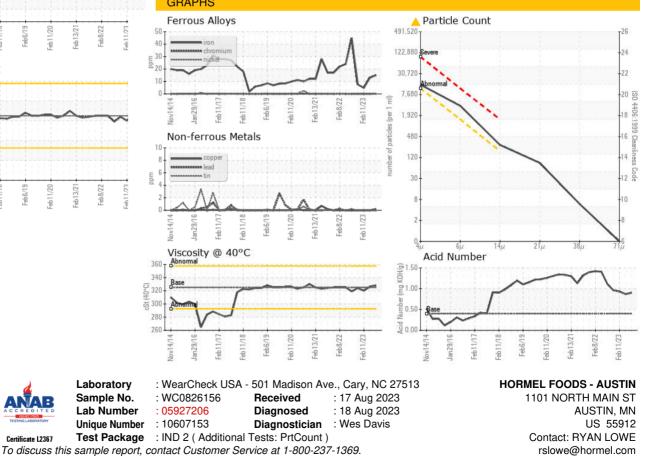


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	325	328	326	320
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						



Bottom





* - 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)

Certificate L2367

Contact/Location: RYAN LOWE - HORAUS

T: (507)437-5674

F: (507)437-9805