

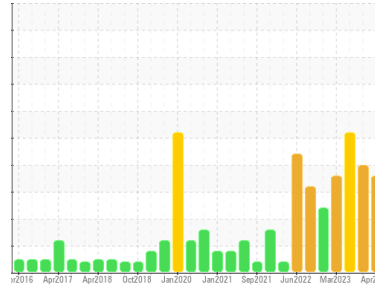


PROBLEM SUMMARY

Sample Rating Trend

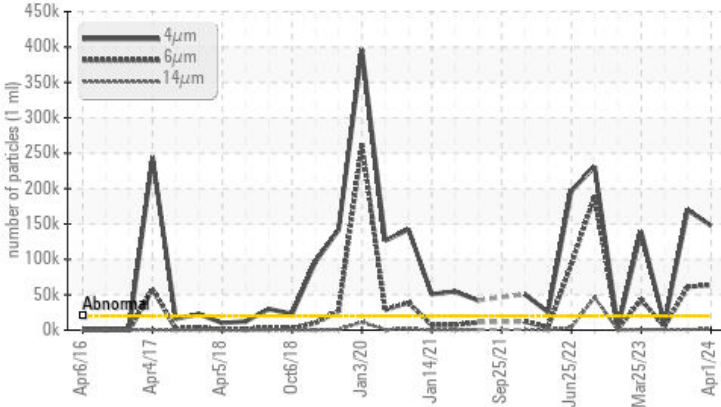
ISO

Area
FP-106 [10024086368]
 Machine Id
B23337-1 - AUGER 3 (SW) BIN RAW MATERIAL
 Component
Gearbox
 Fluid
PETRO CANADA ENDURATEX SYNTHETIC EP 320 (--- QTS)



COMPONENT CONDITION SUMMARY

▲ Particle Trend



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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	SEVERE	SEVERE
Particles >4µm	ASTM D7647	>20000	▲ 147598	▲ 169758	9335
Particles >6µm	ASTM D7647	>5000	▲ 63546	▲ 61132	● 5085
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 24/23/17	▲ 25/23/17	● 20/20/17

Customer Id: HORAUS
 Sample No.: WC0907917
 Lab Number: 06136344
 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.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
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

21 Dec 2023 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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness code is much higher than 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



01 Jul 2023 Diag: Jonathan Hester

WATER



We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of particulates present in the oil. There is a high concentration of water present in the oil. The AN level is acceptable for this fluid.

view report



25 Mar 2023 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. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. Particles >6µm are severely high. Oil Cleanliness are severely high. Particles >4µm are abnormally high. Particles >14µm are notably high. The system cleanliness code is much higher than 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





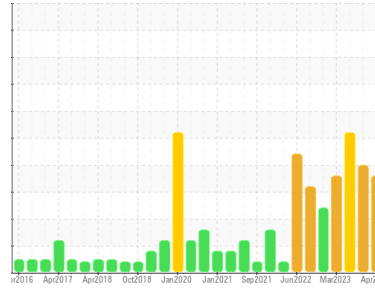
OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
FP-106 [10024086368]
 Machine Id
B23337-1 - AUGER 3 (SW) BIN RAW MATERIAL
 Component
Gearbox
 Fluid
PETRO CANADA ENDURATEX SYNTHETIC EP 320 (--- QTS)



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. 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 high amount of silt (particulates < 14 microns in size) present in the oil. 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		WC0907917	WC0872443	WC0820568
Sample Date	Client Info		01 Apr 2024	21 Dec 2023	01 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			SEVERE	SEVERE	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	102	84	36
Chromium	ppm	ASTM D5185m >15	<1	<1	<1
Nickel	ppm	ASTM D5185m >15	<1	<1	<1
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	2	2	1
Lead	ppm	ASTM D5185m >100	<1	<1	<1
Copper	ppm	ASTM D5185m >200	2	<1	<1
Tin	ppm	ASTM D5185m >25	1	<1	<1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 33	11	10	27
Barium	ppm	ASTM D5185m 5	0	7	0
Molybdenum	ppm	ASTM D5185m	<1	<1	0
Manganese	ppm	ASTM D5185m	1	<1	<1
Magnesium	ppm	ASTM D5185m 5	<1	<1	2
Calcium	ppm	ASTM D5185m 5	7	3	9
Phosphorus	ppm	ASTM D5185m 437	456	423	448
Zinc	ppm	ASTM D5185m 5	6	2	24
Sulfur	ppm	ASTM D5185m 5000	6697	6118	7399

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	2	<1	<1
Sodium	ppm	ASTM D5185m	3	0	7
Potassium	ppm	ASTM D5185m >20	4	3	11

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	▲ 147598	▲ 169758	9335
Particles >6µm	ASTM D7647	>5000	▲ 63546	▲ 61132	● 5085
Particles >14µm	ASTM D7647	>640	● 1283	● 893	● 865
Particles >21µm	ASTM D7647	>160	171	158	● 292
Particles >38µm	ASTM D7647	>40	4	2	● 45
Particles >71µm	ASTM D7647	>10	1	0	5
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 24/23/17	▲ 25/23/17	● 20/20/17

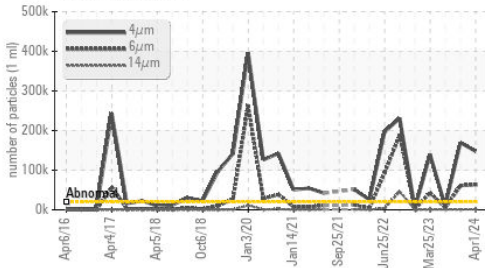
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.7	0.76	0.71	0.96

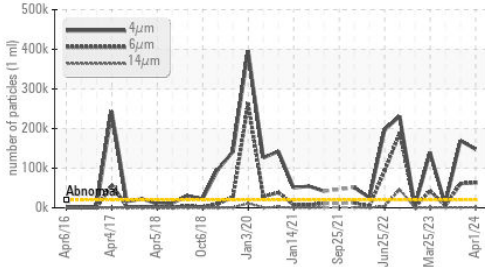


OIL ANALYSIS REPORT

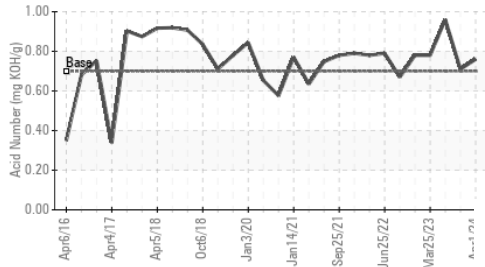
Particle Trend



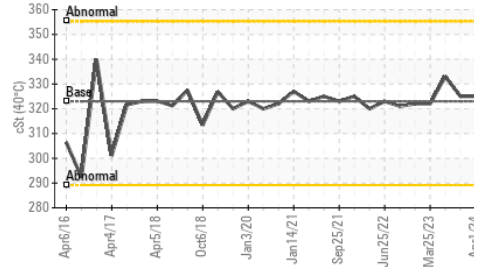
Particle Trend



Acid Number



Viscosity @ 40°C

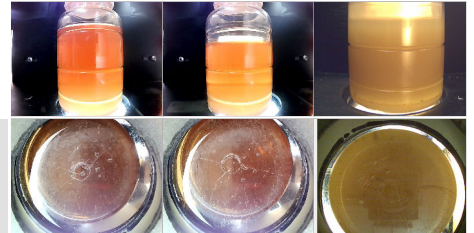


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	▲ 0.2%
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 323	325	325	333

SAMPLE IMAGES	method	limit/base	current	history1	history2
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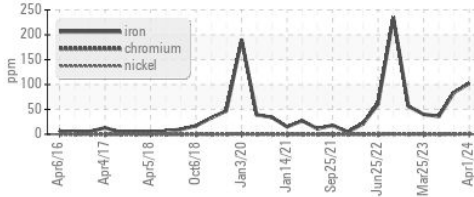
Color



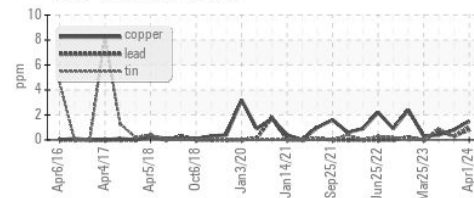
Bottom

GRAPHS

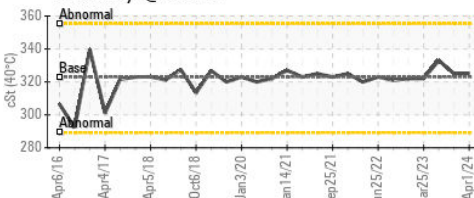
Ferrous Alloys



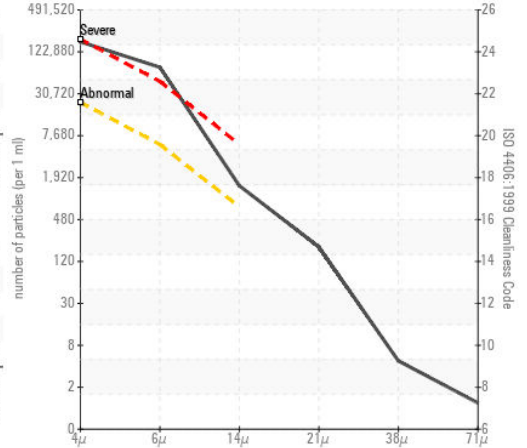
Non-ferrous Metals



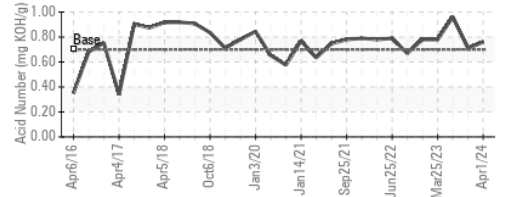
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0907917 Received : 02 Apr 2024
 Lab Number : 06136344 Tested : 03 Apr 2024
 Unique Number : 10955809 Diagnosed : 03 Apr 2024 - Wes Davis
 Test Package : IND 2 (Additional Tests: PrtCount)

HORMEL FOODS - AUSTIN
 1101 NORTH MAIN ST
 AUSTIN, MN
 US 55912
 Contact: RYAN LOWE
 rslowe@hormel.com
 T: (507)437-5674
 F: (507)437-9805

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)