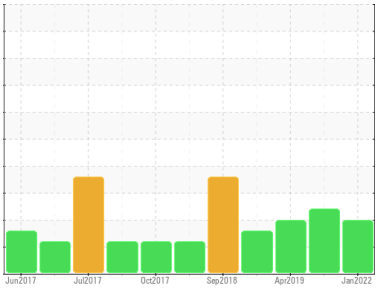
PROBLEM SUMMARY

Sample Rating Trend

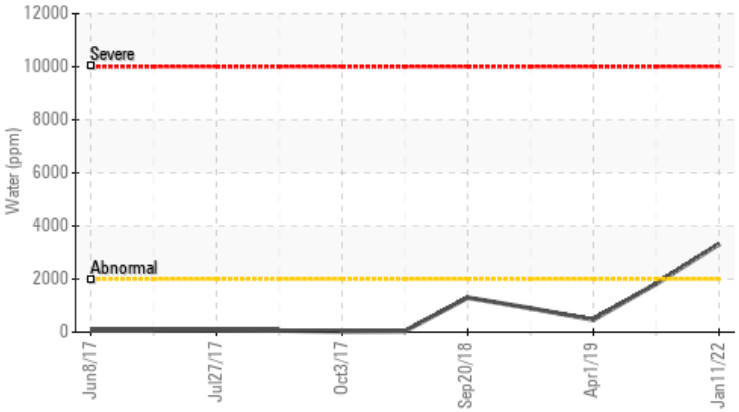


WATER

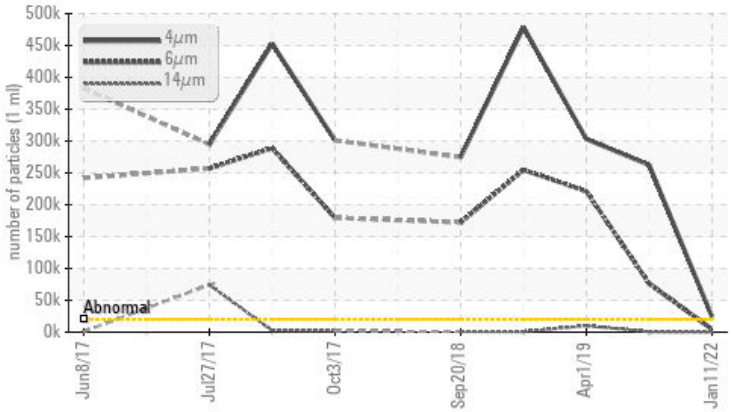
Machine Id
GEA SEPARATOR 1
Component
Final Drive
Fluid
SHELL MORLINA OIL ISO 320 (1 GAL)

COMPONENT CONDITION SUMMARY

▲ Water (KF)



▲ Particle Trend



RECOMMENDATION

We advise that you check for the source of water entry. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Water	%	ASTM D6304	>0.2	▲ **0.332**	0.182	0.047
ppm Water	ppm	ASTM D6304	>2000	▲ **3320**	1820	470
Particles >4µm		ASTM D7647	>20000	▲ **24511**	▲ 262415	303199
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **22/19/15**	▲ 25/23/16	▲ 25/25/21

Customer Id: KRABEA
Sample No.: USP229831
Lab Number: 05442324
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Check Water Access	---	---	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

29 Aug 2021 Diag: Jonathan Hester

WEAR

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.Bearing and/or bushing wear is indicated. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

---

01 Apr 2019 Diag: Doug Bogart

CONTAMINANT

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

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04 Jan 2019 Diag: Doug Bogart

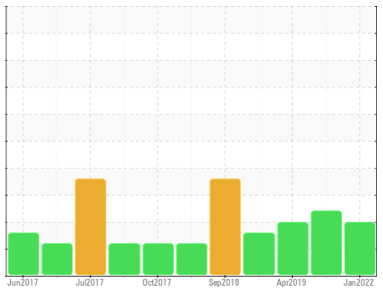
CONTAMINANT

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. 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



WATER

Machine Id
GEA SEPARATOR 1
Component
Final Drive
Fluid
SHELL MORLINA OIL ISO 320 (1 GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of silt (particulates < 6 microns in size) present in the oil. There is a moderate concentration of water present in the oil.

Fluid Condition
The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP229831**	USP224739	USP181207
Sample Date		Client Info		**11 Jan 2022**	29 Aug 2021	01 Apr 2019
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**850**	850	750
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	>500	**5**	39	103
Chromium	ppm	ASTM D5185m	>10	**0**	<1	<1
Nickel	ppm	ASTM D5185m		**0**	2	<1
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**0**	<1	0
Lead	ppm	ASTM D5185m	>25	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>50	**4**	▲ 94	14
Tin	ppm	ASTM D5185m	>10	**2**	▲ 12	2
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		**<1**	<1	<1
Barium	ppm	ASTM D5185m		**0**	<1	3
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**0**	<1	0
Calcium	ppm	ASTM D5185m		**1**	0	0
Phosphorus	ppm	ASTM D5185m		**205**	73	387
Zinc	ppm	ASTM D5185m		**0**	0	11
Sulfur	ppm	ASTM D5185m		**422**	1944	45

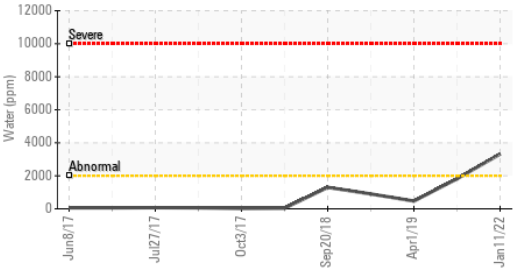
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>75	**11**	17	71
Sodium	ppm	ASTM D5185m		**0**	<1	<1
Potassium	ppm	ASTM D5185m	>20	**0**	0	<1
Water	%	ASTM D6304	>0.2	▲ **0.332**	0.182	0.047
ppm Water	ppm	ASTM D6304	>2000	▲ **3320**	1820	470

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **24511**	▲ 262415	303199
Particles >6µm		ASTM D7647	>5000	**4535**	▲ 76228	▲ 221116
Particles >14µm		ASTM D7647	>640	**173**	562	▲ 10044
Particles >21µm		ASTM D7647	>160	**29**	62	▲ 369
Particles >38µm		ASTM D7647	>40	**3**	3	1
Particles >71µm		ASTM D7647	>10	**1**	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **22/19/15**	▲ 25/23/16	▲ 25/25/21

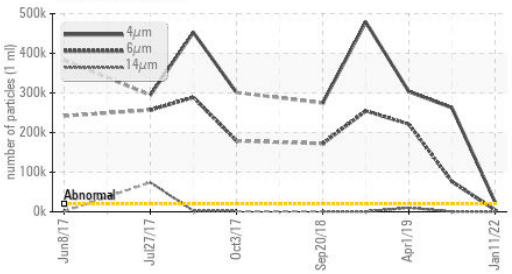
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.16	**0.666**	0.126	0.448

OIL ANALYSIS REPORT

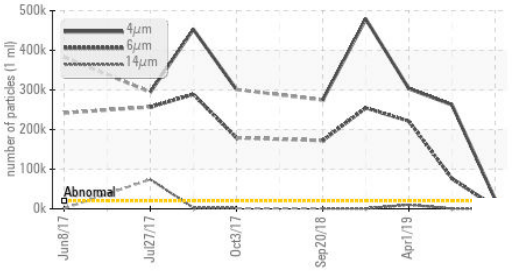
Water (KF)



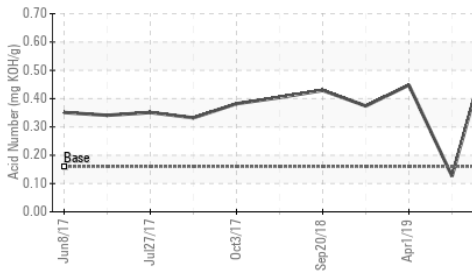
Particle Trend



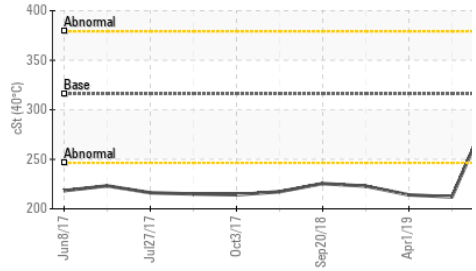
Particle Trend



Acid Number



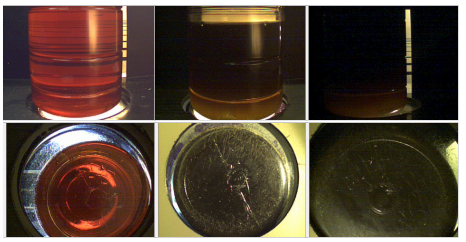
Viscosity @ 40°C



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

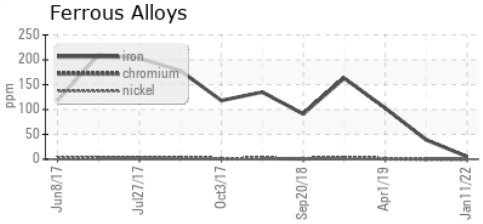
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	316	**312**	212	214.1

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

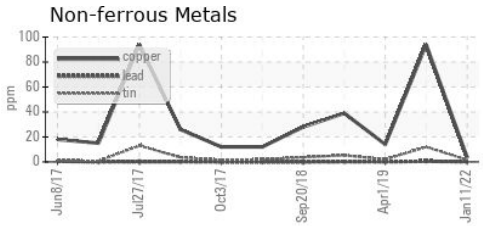


GRAPHS

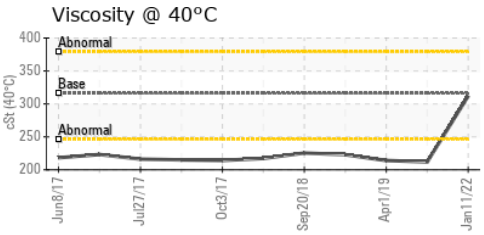
Ferrous Alloys



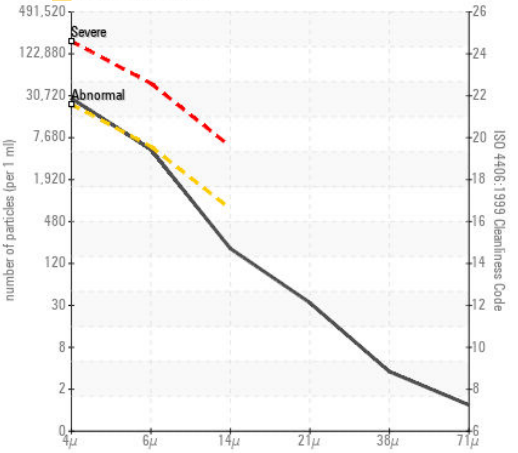
Non-ferrous Metals



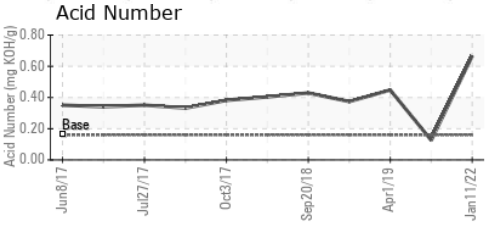
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP229831
Lab Number : 05442324
Unique Number : 9811518
Test Package : IND 2

Received : 12 Jan 2022
Diagnosed : 13 Jan 2022
Diagnostician : Jonathan Hester

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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